QUALIFYING POLITICAL BUSINESS CYCLE MODELS:
THE PARTISAN INDICATOR MODEL

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January 1996
This thesis is dedicated to my wife, Heather, and to my parents Jack and Georgina.
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The thesis begins by considering the established political business cycle models. There are five such models: (i) the pure political business cycle; (ii) strong partisan theory; (iii) conventional weak partisan theory; (iv) rational partisan theory; and (v) the rational political business cycle. We consider carefully the assumptions upon which these models are based, particularly their modelling of the government's objective function. This function is typically characterised as either opportunistic or ideological. Only conventional weak partisan theory attempts to analyse the switch mechanism between opportunism and ideology.

There is little empirical evidence to support the belief that either opportunism or ideology alone has consistently affected economic outcomes and general government expenditures in the UK. Therefore, we focus on the trade-off between opportunism and ideology and its effect on UK general government expenditures. We argue that in modelling the switch between opportunism and ideology we need to consider the components of a re-election index as well as a series of qualifying indicators. These combine to define values of a qualified differential. We, therefore, develop the partisan indicator model.

We stress that political business cycle theorists need to consider carefully what is meant by politically expedient behaviour. The creation of cycles need not equate with political expedience.

Our other main concern is the effect of economic and political interdependencies between nations, not only on the implications of established political business cycle models, but also on the partisan indicator model. Therefore, political business cycle theorists need to look at an internationalisation of the literature.
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INTRODUCTION

The title of the thesis, "Qualifications to Political Business Cycle Models: The Partisan Indicator Model," highlights two main areas of interest. The first is to consider the political business cycle model types. The second is to analyze their weaknesses and applicability to the UK and to suggest an improved model. This improved model is referred to as the partisan indicator model.

The emphasis in this thesis is on politico-economic models and in particular the motivations that lie behind the manipulation of general government expenditures. These models can contribute to an understanding of the deviations in an economy's output around its trend. These deviations give rise to the term "business cycle". Further, they can help to explain the pattern of other economic variables such as unemployment and inflation as well as policy instruments.

Political business cycle models allow us to consider how the incentives of political actors lead to economic manipulation. In concentrating on the motivations of political actors we acknowledge that political business cycle models are an important area of research in public choice. By attempting to analyze some of the aspects of the political process and by allowing the political and economic to interact we are offering something that a traditional economic approach cannot.

The political business cycle literature essentially identifies four model types: (i) the pure political business cycle; (ii) strong partisan theory; (iii) weak partisan theory; and (iv) the rational political business cycle model. Of these four, the pure political business cycle and the rational political business cycle types take politicians as opportunistic. Their motivation is to win elections. A critical difference between these two types is in the formation of expectations. With strong partisan theory the sole motivation of politicians is to enact ideology. This is also true of rational partisan theory although the assumptions of the model, and in particular those relating to the information set of individuals and the formation of expectations, mean that ideological influences on unemployment and output growth are transitory. Hence, we refer to weak as opposed to strong partisan theory. The final model type is the popularity lead indicator model which is the second form of weak partisan theory. It is an example of weak partisan theory in as much as ideology does not exert total control over the economy. The importance of ideology is not total.

Of the model types, the popularity lead variant is the only one that attempts to combine both the ideological and opportunistic motivations of politicians. In this
respect it is superior to the other politico-economic models. It is upon this that thesis builds.

Chapter 1 details the model types referred to above. It also acknowledges the importance of the work of Kalecki (1943) who appears to have been the founder of the term "political business cycle". It also refers to some of the mass of empirical analysis that has been conducted in relation to the political business cycle models.

The second chapter concentrates on two areas. Firstly, it looks at the validation of partisan theory whereby different political parties offer policies that attribute different weights to inflation and unemployment. The two means of validation are to see if we can identify whether different identifiable groups are affected differently over the course of the business cycle, or whether these groups express differing sensitivity to inflation and unemployment via opinion polls. The reason for considering the validation of partisan theory is that the model that we build encompasses a partisan dimension (as well as an opportunistic dimension). The second objective of the chapter is to discuss the categories of general government expenditures. There are essentially seven types: (i) public sector consumption; (ii) public sector investment; (iii) subsidies; (iv) current transfers; (v) capital transfers; (vi) debt interest; and (vii) net lending. Further, we describe the trends in general government expenditures in the UK in the last 100 years and more particularly since the Second World War. The attention paid to expenditures is important because in considering politico-economic models, including the partisan indicator model, attention focuses on the manipulation of general government expenditures. In so doing we offer explanations for essentially short-term fluctuations in expenditures, although short-term manipulations can have longer term effects.

Chapter 3 is essentially empirical. In analysing whether the implications of those political business cycle models other than the popularity lead indicator model have empirical support in the UK, use is made of dummy or patterned variables in regression analysis. Some dummy or patterned variables were either specific to each election (or election period) and, where appropriate, to political orientation. Alternatively they were all consuming in that one variable was used to represent all the elections (or election periods) and, where appropriate, political orientation. The variables followed directly from the politico-economic models. The regressions related not to UK general government expenditures but to UK economic outcomes, i.e. the unemployment rate, growth in real GDP, and to the rate of inflation. In the appendix to Chapter 3 these economic outcomes are pictured for those election periods between October 1959 and April 1992. The diagrams also show the world path of these economic outcomes.
Chapter 4 highlights weaknesses and limitations of the political business cycle models both generally and in relation to the UK. In particular, it explores how the issue of a flexible election date affects both the validity and the implications of the models. The most obvious of these is clearly seen in relation to the pure political business cycle where politicians in being motivated solely by opportunism have a particular incentive to shape the economy. However, with a flexible election date this incentive lessens. As well as considering the issue of election date flexibility, the relationship between the political and economic systems is explored. Particular attention is given to the role of the popularity function and the traditional belief that improvements in headline economic variables give rise to increases in government popularity.

In Chapter 5 we test the implications of the pure political business cycle, strong partisan theory and the popularity lead indicator model for five categories of government expenditures. The period of analysis is 1961(2) to 1993(1). We also introduce the concept of Baumol’s excess which is the excess growth of public sector consumption over private consumers' expenditure.

Chapter 6 questions the validity of the popularity lead indicator as that re-election indicator which switches government expenditure behaviour between being opportunistic and ideological. It considers the replacement of the popularity indicator with an expectations' indicator, an index of the perceived winners of the next election (the winner's index) or an index of leadership approval such as the PM approval index.

Chapter 7 considers further the alternative re-election indicators introduced in Chapter 6. After first looking at the indicators in isolation across individual election periods the chapter analyses how the re-election indicators form a re-election index which in conjunction with other indicators determine the type and magnitude of behaviour. The argument is made that the popularity lead indicator alone is inadequate as a switch mechanism. Indeed if one was to attempt to model expenditure behaviour with one re-election indicator alone there may be reasons for not choosing the popularity lead indicator.

The eighth chapter consider issues relating to the partisan indicator model as well as the concept of internationalisation. In considering those issues relating to the partisan indicator model we define opportunistic as opposed to ideological behaviour and develop the theme of information gaps within the partisan indicator model. The concept of internationalisation in respect of political business cycles refers to the need to address both political and economic interdependencies that exist between nations. This is done by considering how the relationship between a dominant and a weaker
economy within the context of overlapping or perfectly synchronised election periods affects the implications of political business cycle models.

Chapter 9 summarises the main arguments of the thesis and signposts future research within the political business cycle literature. It argues that an increasing focus be given to: (i) What constitutes ideological as opposed to opportunistic behaviour; (ii) What switches behaviour between the ideological and the opportunistic; (iii) The issue of internationalisation.
CHAPTER 1
A REVIEW OF THE LITERATURE

1.1 Introduction

The thesis will develop an aspect of the mutual interaction between economics and politics and, hence, of political economy. The denial of the interaction between politics and economics is a retreat to the wishful thinking of neo-classical economists. Their desire to look at the decentralised decisions and derive marginal conditions necessary for optima incurs a cost. This cost is the removal of institutions and politics. Terms like economic agents in themselves can be incredibly destructive. Economics must deal with individuals and the constructs of their environment. This implies that the scope of political economy is enormous, encapsulating numerous other areas of study.

We aim to review, reflect and expand upon those politico-economic models that are part of the political business cycle literature. All variants of the political business cycle attempt to attribute to business cycles political motivations. It is for this reason that individuals need to be portrayed as realistically as possible and that the causal links between politicians, voters and the macroeconomy be better understood.

From a public choice perspective the public sector must be seen as part of the social system. It is endogenous to the system. All individuals, whether in economic or political markets, have motivations and incentives and are subject to constraints such as those imposed by institutions. In combining the two fields of research, politics and economics, the concept of rationality has provided the basis for a unifying paradigm. Peter Ordeshook (1980) refers to the rational choice paradigm. Central to this paradigm are the ideas of self-interest and methodological individualism. The latter means that individuals are the best judge of their own welfare. An outcome is the result of motivated individuals acting subject to the constraints of their environment. This paradigm underlies welfare economics, however, its full potential requires that attention be paid to institutional questions.

Political economy is more than economic imperialism. Political science has important contributions to make. Its unique role is to consider in greater detail the role of institutions. Buchanan and Tullock (1962) developed the theme that institutions

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1 The term "political business cycle" was first used by Kalecki (1943).
2 This idea is expounded by Frey (1979,1982).
were a human creation and serve specific purposes. To understand them one has to appreciate the motivation of individuals. Similarly, when one is looking at social decisions we ought to be looking at the underlying institutional framework. Downs (1957) emphasised the connecting link between economics and politics by arguing that electoral competition occurs over "issue space". Consequently, we can depict social and political issues by looking at the difference between an individual's ideal policy and the policies available. Therefore, we have the development of a common framework in economics and politics to examine preferences for what is offered. Political science will explore the rational choice paradigm in the sense that it will consider how institutions translate preferences into an outcome. In so doing one considers the workings and the specific purposes of these institutions.

This chapter introduces the variants of the political business cycle literature. The literature is primarily classified along two lines. Firstly, politicians can be portrayed as opportunistic, ideological or both. The opportunistic motive is derived from the need for politicians to win elections in order to remain in power. The ideological motive views politicians as identifying with specific groups in society and so shaping policies and priorities accordingly. Secondly, the literature can be split between those models that assume that individuals hold rational expectations and those that typically assume adaptive expectations. We could further classify politico-economic models depending on whether their implications are of instrument cycles, outcome cycles or both.

The thesis seeks to empirically test the current political business cycle variants and to discuss their validity in the UK. It then concentrates on those aspects of the relationship between the economy and the polity that are believed worthy of further discussion and analysis.

1.2 Political business cycles

Frey (1979, 1982) describes three variants of politico-economic model. The distinction between these variants can be described by the power and authority of government. The median voter model is such that with single peaked preferences and simple majority rule government supplies what the voter in the median position desires. Hence, government is dependent upon the median voter. The spirit of the model of party competition comes from Downs (1957). Parties compete for votes while voters vote for that political party closest to their preference. If there exist two parties maximising votes then both parties will focus on the preferences of the median voter. There are two major areas of criticism here. Firstly, most countries have more than
two competing parties. Secondly, and crucially, the utility function of the political party is defined only in terms of the occupation of power. The enactment of ideological programmes is ignored. If government has a degree of monopoly power in the sense that being an incumbent holds advantages that opposition parties are unable to possess then this is inaccurate. It would appear that government does hold such advantages with one being the ability to manipulate the economy both for ideological and opportunistic reasons.

The monopolistic government model seems to be the more realistic politico-economic variant. Politicians will maximise utility like any individual subject to constraints. The most obvious constraint is the need to be re-elected but it is also constrained by the nature of the economy, the legal and administrative system, public bureaucracy and the institutional framework more generally. These constraints are interdependent. Such constraints will define the monopoly power of government at any moment in time. Frey (1979, 1982), for instance, argues that when the re-election constraint is strong the government must act opportunistically to increase its popularity. Conversely, when the re-election constraint is not binding government may feel able to act ideologically.

This literature review will look at the development of politico-economic models. The focus will be on how variants of these models view the relationship between politicians and voters, how the economy affects voters and how government in turn reacts and affects the economy. Moreover, the concern will be on the directions of causation and the causal mechanisms in the interaction between the economic and political systems.

1.3 Kalecki

The earliest mention of "political business cycles" was by Kalecki (1943). Kalecki argues along class lines and talks of the political problems in the achievement of full employment. At the time of the article there was growing consensus amongst economists that full employment was an achievable goal if government implemented demand management policies. However, the question posed by Kalecki is why in the Great Depression of the 1930s big business consistently opposed experiments for increasing employment by government in all countries except Nazi Germany.

Kalecki identifies three reasons. The first is the opposition of the "captains of industry" to government intervention. This is because of the importance of confidence
in the private sector which is important in determining output and employment in a laissez-faire economy. Government will not want to adversely affect this. However, once government realises that its own purchases can increase employment the indirect control device of entrepreneurs is loosened. Secondly, there is a dislike of government intervention in the form of public investment because this may encroach into a growing number of areas. Furthermore, subsidising mass consumption breaks with the capitalist ethic of earning your wealth.

Kalecki identifies a third and more pressing reason. This is that the maintenance of full employment causes social and political changes that would give a vigorous impetus to the opposition of business leaders. Under a regime of full employment "the sack would cease to play its role as a disciplinary measure ...and the self assurance and class consciousness of the working class would grow" (1943, p.326). Strikes for better pay and conditions would create a political tension. The rise in wage rates resulting from the stronger bargaining power of workers is less likely to reduce profits than to increase prices. However, capitalists place an extremely high weight on the discipline of workers and on political stability. Class instinct tells the entrepreneurial class that lasting full employment is not in their own self-interest.

While there may be agreement that something should be done in slumps there is no consensus over the nature of any intervention. Furthermore, entrepreneurs would wish for any intervention to be confined to the slump. Attempts to maintain high levels of employment into the subsequent boom causes strong opposition from business leaders. The effect is to induce government into cutting the budget deficit or enacting deflationary policies. Kalecki describes this pattern as the political business cycle.

In Kalecki's opinion economic conditions are able to undermine social and class interests and thus government acts accordingly. Hence, Kalecki separates the social and political dimensions from those economic dimensions. However, as Boddy and Croddy (1975) note, and as discussed in Chapter 2, class conflict is supportive of the economic dimension of the business cycle. The resultant goal of macroeconomic policy would then be to guide the cycle in the interest of class orientation. This view of the relationship between class interest and economics is the foundation of the partisan school.
1.4 The pure political business cycle

A major expansion of the political business cycle literature occurred during the 1970s. The themes of opportunism and partisanship were developed. We begin by considering the former of which Nordhaus (1975) and MacRae (1977) are the classic expositions. Their contributions deal with the pure political business cycle where the sole interest of politicians lies in the winning of elections.

1.4.1 Nordhaus

Nordhaus describes an intertemporal choice model set within the Phillips curve relationship depicting the trade-off between unemployment and inflation. This trade-off is greater in the short-run than in the long-run. Changes in prices following manipulative fiscal or monetary policy affect employment via adaptive expectations and by individuals suffering from temporary money illusion.

The electorate are assumed to prefer stable prices and low unemployment rates. Households are ignorant of the macroeconomic trade-off. Nordhaus comments that "it should be stressed that ignorance of the structure of the economy is extremely important for the behaviour we are about to describe" (1975, p.172). Given this ignorance, households will rely on past experience to form their expectations of what is the usual behaviour of political parties. They therefore act retrospectively. Nordhaus makes the crucial assumption that voters' knowledge about feasible policies is "negligible" so that they do not seriously reflect upon party platforms. Consequently, voters compare the economic performance of the incumbent during the last electoral period with some subjective standard concerning the usual behaviour of political parties. Nordhaus ignores the separate identity of political parties assigning their role to winning elections rather than enacting ideology.

Nordhaus (1975, p.174) refers to political parties maximising their plurality at the next election. Schlesinger (1975) reminds us that maximising votes and one's plurality are in fact distinct policies. Only in the case when all citizens vote are the two equivalent. He examines articles by Downs (1957) and Riker (1962). The point of issue between them is the size of the electoral margin which the political party seeks. One can view Downs as the theorist of the candidate. He saw the political party as a team of people seeking to control the government apparatus by gaining election. Riker on the other hand can be seen as the theorist of the voter. If the party properly follows

\[ \text{See also Hinich and Ordeshook (1970).} \]
the minimal winning strategy they no longer need to be ambiguous which arises if political parties bid to gain as many votes as possible. In so doing one has maximised the number of marginal voters and as a consequence increased the claims upon the office holder. By encompassing the voter the political party will derive utility from being able to implement certain policies and benefits for its members. Thus, there are two different goals. One is being an office-seeker the other is being a benefit-seeker.

Schlesinger (1975) identifies four strategies which are a combination of maximising or minimising the party's plurality and maximising or minimising the party's vote share. The benefit-seekers best strategy is minimising its plurality while maximising its vote while that for the office-seeker is maximising both the number of votes and its plurality. The other strategies are mixed strategies. Schlesinger argues that the distinctions are more useful in determining how political parties are organised than in explaining their behaviour since competition and uncertainty will lead political parties to broaden their appeal. However, it is equally true that politicians are unlikely to be concerned solely with office as is the case in the Nordhaus model.

In the Nordhaus model voters in comparing the economic performance of the incumbent during the last electoral period with some subjective standard judge expected performance use an extreme form of adaptive expectations. An individual's expectation of this year's performance is equal to last year's expected performance, where expected performance is defined over inflation and unemployment. Consequently, in any period an individual's voting intention, recorded as +1 for a vote for the incumbent or -1 for a vote for the opposition, is simply a function of policies in that period. The social welfare function is taken with reservations¹ to be the discounted value of the aggregate voting function. Thus, any plan will be judged by the number of the electorate who vote for it, discounted over time at a rate $r$. The social welfare function is assumed to be well behaved, hence quasi-concave, over inflation-unemployment space.

The first problem considered by Nordhaus is the optimum levels of unemployment and inflation if there exist no political constraints. We can view this in terms of a planning agency constructing a medium-term plan for the economy. Figure 1.1 replicates Nordhaus, investigating the possible outcomes under certain assumptions. Firstly, it is assumed that the planners do not discount between generations in allocating resources. This solution leads to the golden-policy rule. This is achieved where the long-run Phillips curve, LRPC, is tangential to the social welfare function. This is at point G. The opposite extreme is where the planners apply infinite

discount rates in evaluating policy such that future generations are ignored. This is the purely myopic policy which takes advantage of a greater trade-off between inflation and unemployment that exists in the short-run. This will occur where the aggregate voting function or the social welfare function is tangential to the short-run Phillips curve. This is found at point M in figure 1.1 and leads to higher inflation and lower unemployment than golden-rule policies. The third case is what Nordhaus refers to as the general welfare optimum and is illustrated at point W. The slope of the social welfare function is between that of the long-run and short-run Phillips curves.

Figure 1.1: No political constraints: optimal levels of inflation and unemployment

The second problem considered was the long-run choices in democratic systems. In a two-party system the incumbent will choose policies that are consistent with the relevant short-run trade-off. We now treat the aggregate voting function as generating isovote lines. These are the rates of unemployment and inflation that generate a certain level of support. Figure 1.2 combines the isovote lines with the short-run and long-run Phillips curve. Given that the appropriate short-run Phillips curve is S₁S₁, in order to maximise votes the incumbent will choose E₃ and receive 53% of the votes and win the election. The point E₁ is not sustainable since it does not lie on the long-run Phillips curve. As expectations are adjusted upwards the short-run Phillips curve also moves upwards. The system can only be in equilibrium at the point E₃ where the election outcome line (OO) intersects the long-run Phillips curve. This is equivalent to point M,

[^5]: In reality the required number of votes needed is dependent upon the voting system employed.
the purely myopic solution, in figure 1.1. Inflation is higher and unemployment is lower than is optimum in the long-run. Even if the long-run Phillips curve is vertical the political system chooses not the welfare optimum but a point with a higher than optimum rate of inflation. The welfare optimum would lie between the myopic solution and the golden-policy rule solution of zero inflation.

**Figure 1.2: Long-run choices in democratic systems**

![Diagram](image)

The third part of the Nordhaus (1975) article considers short-run behaviour. Thus far what has been considered is where the political system achieves a stable outcome. Each electoral period was in effect considered to be homogeneous. The economic constraint of inflation as a function of unemployment is made more dynamic by allowing for random fluctuations to feed into the system. Furthermore, it is realistic to assume that voters will have decaying memories and, thus, do not simply take an average of inflation and unemployment over the electoral period. It is taken that that this memory extends only over the length of the electoral period. The electorate are therefore portrayed as myopic.

The task of the policy-maker is to maximise this decaying vote function subject to the more dynamic constraint. As the election draws nearer the shadow price of inflation falls. Conversely, the further away from the election the more important is the choice of inflation because it will have an important bearing on the relevant future expectations-augmented Phillips curve. The typical cycle that results begins after the election with the victor raising unemployment to combat inflation. The lower the rate
of inflation prior to the election the greater is the support and the popularity generated from an expansion. As election day approaches, the unemployment rate will be lowered to the purely myopic point.

Nordhaus, in performing tests on his hypothesis, assumed that the chance of the rate of unemployment falling or rising in any one period was one half. Furthermore, successive occurrences are independent of one another. Annual data was gathered for nine countries from 1947 to 1972. The test involved calculating the probability that the observed behaviour occurred by chance by using $n$ successes in $m$ trials of the binomial distribution. The number of elections varied between nine and fifteen. The probabilities of the observed behaviour occurring by chance for Australia, Japan, Britain and Canada were, 0.696, 0.696, 0.623 and 0.867 respectively. This points to a lack of evidence for political business cycles for these countries. In the case of Sweden and France there is moderate evidence of political business cycles with the respective "chance" probabilities being 0.387 and 0.254. For America, New Zealand and Germany there is "very marked" evidence of policy cycles. The respective probabilities being 0.011, 0.029 and 0.090.

1.4.2 MacRae

The approach of Nordhaus refers to political business cycles that are applicable to all governments. This is the pure political business cycle. Party identity and ideology are overlooked. Another major exponent of this line of argument was Duncan MacRae (1977). Vote-maximising behaviour is seen to occur over a finite period between elections and accompanies a trade-off between inflation and unemployment. Again the electorate is myopic. The problem is viewed as a quadratic vote-loss function with a linear constraint between unemployment and inflation of which there exists a short-run trade-off. There is thus potential for a politically motivated business cycle.

As in the Nordhaus model the solution for each year involves minimising a short-run vote loss function subject to the short-run trade-off between unemployment and inflation. In the election year the vote-loss function is defined over the rates of inflation and unemployment for that year which are dependent upon inflation in the previous period. In earlier years the vote-loss function includes not only the vote loss attributable to rates of unemployment and inflation for the relevant $i$th year, but also the loss for the remaining years as a result of the choice of inflation in the $i$th year. The government chooses a point on the relevant short-run Phillips curve which is tangential to the lowest isovote curve. Since the economic trade-off is dynamic the possibilities
available in the election year are very much dependent upon inflation in the preceding years. The problem of minimising vote loss during the entire period between elections is consequently a sequence of short-run problems.

MacRae describes the behaviour of the economy resulting from vote maximising politicians as "turnpike." The longer the period to go before the election the more important is the choice of inflation because of the bearing on the relevant expectations-augmented Phillips curves and on vote loss throughout the remainder of the election period. The nature of the vote-loss function means that the short-run inflation goal will always be negative except in the election year when it is zero. MacRae refers to deflation as an "investment" for election day success.

To generate the turnpike behaviour we have to consider that if we were to increase the number of years before an election, so that at an extreme it was infinite, vote-loss minimising behaviour would achieve the long-run optimum welfare for the electorate which accords with Nordhaus's golden-policy rule. The longer the period between elections the closer will be the rates of unemployment and inflation to their socially optimum values. Towards the election these rates will continually diverge from the social optimum until in the election year inflation has risen from a negative level to zero. On election day inflation is higher and unemployment lower than those rates at the social optimum. Moreover, since the time horizon of the political party in power extends only over the current election period economic policy will be devoted to minimising vote-loss in the next election. MacRae summarises:

Thus the economy displays turnpike behaviour, first moving towards the long-run optimal levels of $x$ (inflation) and $u$ (unemployment), and then moving away as the planning horizon of the party in power shortens with the approaching election year ... Then the party in power, whichever, it may be, determines unemployment and, hence, inflation during the next period so as to minimise vote loss in that election. The result is a repetition of the turnpike behaviour of every election period (1977, p.252).

Turnpike behaviour depends on the voter not being rational and not voting strategically. The voter is myopic. An indirect test is taken to see whether the government believes the voter is myopic since it is the expectations of government concerning the electorate that determine economic policy. The test hinges on the weights that government places on the costs of inflation and unemployment. Recalling

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*See MacRae (1977), p.252.
that each year government chooses a point on the short-run Phillips curve tangential to the lowest isovote curve we have a decision rule. Within the rule is embedded the relative weights given to unemployment and inflation in the vote-loss function and the parameters on inflation and unemployment in the Phillips curve relationship. Under the myopic hypothesis the ratio of these weights changes during the election period while under the strategic voting hypothesis this weight is invariant within the period.

The test initially involves the estimation of the Phillips curve for the period 1954 to 1973. Assuming government knows this relationship, the value of the ratio of the weight on inflation relative to unemployment can be inferred by determining such a value that minimises the sum of squared residuals between the actual unemployment rate and that predicted by the decision rule. Given different assumptions apply to the ratio under the two hypotheses separate relative values are calculated. Four American presidential elections were considered from 1957 to 1972. As expected the weight given to inflation relative to unemployment is higher under the myopic hypothesis. The results indicate that the myopic hypothesis is more appropriate for the Kennedy-Johnson and Johnson administrations and the strategic hypothesis for the second Eisenhower and Nixon administrations. The conclusions do no more than suggest a place for policy cycles. MacRae comments that we "... await further testing with more sophisticated models of economic and political behaviour..." (1977, p.263).

1.4.3 Further evidence on the pure political business cycle

The basic proposition of the Nordhaus (1975) and MacRae (1977) hypotheses\(^1\) is that unemployment will tend to fall and measures of real income growth increase as election day approaches. Chapter 3 will perform tests to look at this proposition regarding ultimate economic goals. The hypothesis has implications for changes in government instruments. This theme is pursued in later chapters. However, here we consider only some of the extensive list of tests for pure political business cycles.

The basis for the McCallum (1978) test for the pure political business cycle is the contrary implications of the Nordhaus hypothesis and the policy neutrality result of Sargent and Wallace (1975). Under the rational expectations hypothesis an individual's perception of the economic model coincides with the best model of the economy.\(^2\)

\(^{1}\) See MacRae (1977), pp.255-256.

\(^{2}\) From this point, the terms "Nordhaus hypothesis" and "pure political business cycle" will be used interchangeably.

\(^{3}\) This idea was expounded by Muth (1961).
Departures of unemployment from its natural rate are caused by errors in expectations. The effects of anticipated policy will be negated such that no money illusion occurs.

Sargent (1976) took the unemployment series to be generated by a stationary random process such that the variance of this time series is finite and the mean invariant with time. The disturbance term is white noise. The critical question is whether other variables can be added to improve least squares forecasts. The Nordhaus hypothesis believes that a description of the electoral cycle should provide additional explanation to the unemployment regression. McCallum constructed electoral dummies based around US presidential elections. As a basis for comparison unemployment is taken to be an autoregressive process of order three. The tests were on seasonally adjusted data from 1949 to 1974. Electoral variables were added separately. Only one electoral dummy came close to being significant. This variable captured the notion that the incumbent parties seek low rather than falling unemployment rates just before an election. A further test regressed the residuals from the estimated autoregressive model of unemployment on the various electoral variables. Results were similarly unfavourable to the Nordhaus hypothesis. There is however an important cautionary note regarding the electoral variables. McCallum summarises this cautionary notes by reflecting that

... it is possible for that the electoral variables provide no explanatory power in the various tests for the simple reason that the US administrations have not tried to affect unemployment in the manner hypothesised (1978, p.514).

Keil (1988) reconsiders the empirical evidence of McCallum for the case of the UK. Keil follows McCallum's methodology although corrects the election dummies for British purposes by assuming that the electorate believe in a normal government period of five years. Unlike the American presidential elections which fall at regular four-year intervals British governments in effect have an extra policy instrument. It can set the election date providing it is within a five year period from the previous election. Keil uses an autoregressive process of order four to model unemployment using data from 1957 to 1980. He expresses concern over the use of electoral variables in the manner employed by McCallum since this implies a continual electoral cycle in a fixed mode. It is a rigid modelling procedure which could, as a consequence, lead to inconclusive results. However, two electoral dummies are found to be significant at the 1% significance level. The first has unemployment increasing in the first quarter of the

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*The possible ramifications of a flexible election date are discussed extensively later in the thesis. Is the election date a function of the economy or the economy a function of the election date?
election period and then decreasing thereafter. The second has increasing unemployment up to the midpoint of the election period and decreasing thereafter.

Keil acknowledges the analytical problem that follows from British governments being able to manipulate the date of the election and thus waiting to some opportune moment before calling the election. If this is the case we would indeed find an increase in the unemployment rate in the early part of the electoral period and a decrease towards election day. This would be true even if government could not manipulate real economic variables using systematic policies. Keil thus repeats the above analysis for real government consumption. Three electoral variables are found highly significant, two representing a rapid increase in government consumption spending in the election year. We have a significant increase in a government control variable and a coinciding significant decrease in unemployment as we approach the election.

Tufte (1978) argues that US presidents manipulate real disposable income in election years by manipulating transfer payments. Brown and Stein (1982) disagree arguing that an increase in transfer payments is not the mechanism by which Presidents attempt to improve the economy. No systematic relationship was found between annual real changes in transfers and the occurrence of an election. Golden and Poterba (1980) in analysing the possible relationship between the electoral cycle and components of macroeconomic policy for the US from 1953(1) to 1978(4) regress such components on dummy variables indicating the number of years into the term of the presidency. Measures of fiscal and monetary policy are found statistically unimportant in relation to the effects on the electoral cycle.

Luckett and Potts (1980) test empirically whether the US Federal Open Market Committee develops a bias towards expansions monetary policy in the latter half of the presidential electoral cycle. Firstly, they classified monetary policy for each month from 1961 to 1976 as either tight or easy based on minutes from the Federal Open Market Committee. Secondly, they estimated discriminant functions using the classification defined over proxies for unemployment, inflation and economic growth. In the Kennedy/Johnson administration, the discriminant function for the two years before presidential elections gives the wrong sign to unemployment and is statistically insignificant with respect to economic growth. In the Nixon/Ford administration the unemployment variable is significantly negative in both the two years before and after presidential elections. The results suggest that the Federal Open Market Committee does not instigate expansions in monetary policy prior to presidential elections.

Beck (1982) directly tests the hypothesis that there are changes in the unemployment and inflation series around election day consistent with the pure
political business cycle hypothesis. The tests used seasonally-adjusted time series data from January 1961 to June 1973 for the US. Each time series was modelled as an autoregressive moving-average (ARMA) process and an intervention term to capture the effect of the position in the electoral cycle. The coefficients on the intervention terms for both series give little support to a pure political business cycle in the US.

Beck (1987) investigates the existence of a political monetary cycle in the US. Using an autoregressive model and adding electoral cycle dummies for the period 1961(1) to 1984(3) evidence was found of a monetary cycle coinciding with the electoral cycle. The money supply as measured by M1 was seen to grow more rapidly before elections than otherwise. This collaborated the findings of Grier (1987). However, given the likelihood that cycles in M1 may to a great extent be independent of the Federal Bank if M1 is endogenous, Beck estimates reaction functions for changes in the Federal Funds Rate. There was no evidence that the Federal Funds Rate followed an electoral cycle. The explanation for the apparent paradox appears to be derived from the fact that the cyclically adjusted surplus as a proportion of cyclically adjusted GDP when added into the autoregressive model of M1 reduced the significance of the electoral dummies. The conclusion is that the observed cycle in M1 is due to the Federal Bank's failure to offset politically motivated fiscal policy. Laney and Willett (1983) in estimating a reaction function for annual data on M1 from 1960 to 1976 similarly conclude that the election cycle component to monetary policy works via the presidential electoral cycle effect on the full employment government deficit. However, Laney and Willett conclude that the Federal Bank operates to accommodate the politically induced component to the deficit while Beck concludes that monetary policy passively responds to fiscal policy.

Alesina and Roubini (1992) use a dynamic panel OLS regression technique for 18 OECD nations. Either the rates of unemployment and real output growth themselves are taken as the dependent variable, with the inclusion of an OECD average so as to control for the effect of the global economy on domestic economies, or alternatively the difference between their values for the specific countries and the OECD average. The regressors were the dependent variable lagged twice and a political dummy. The dummy took on a value of 1 in the N-1 quarters preceding an election and in the election quarter itself and 0 otherwise. Values of 4, 6 and 8 were chosen for N. In regressions relating to unemployment we are looking for a negative coefficient on the electoral dummy and a positive coefficient in the output regression equations. In the majority of regressions over the period 1960 to 1987 the political dummy was the

10 Second differences were taken of each series.
wrong sign and otherwise statistically insignificant offering no support to the pure political business cycle hypothesis. A similar autoregressive model was used to test the hypothesis for monetary policy in Alesina, Cohen and Roubini (1992). The dummy took a positive value for the last three or five quarters before an election. The results for pooled cross-section time series regressions support the implications of the political business cycle model that money growth is higher before an election. However, country by country results were not compelling with best results for Australia, New Zealand and Germany. The pure political business cycle hypothesis implies fiscal deficits before elections. Alesina, Cohen and Roubini (1992) following the work of Roubini and Sachs (1989) use pooled cross-section time series regressions where the dependent variable is the change in the debt-GDP ratio. The explanatory variables include the lagged deficit, change in the rate of unemployment and GDP growth, change in the real interest rate minus the GDP growth rate then multiplied by the lagged debt-GDP ratio, a dummy for political stability and an electoral dummy. The political stability dummy was first employed by Roubini and Sachs (1989). It varies between 0 and 3 with 0 representing strong government, for instance one-party majority parliamentary government, and 3 minority or weak government. Again empirical analysis reveals that after controlling for the economic determinants of deficits a greater degree of political instability leads to higher budget deficits. The pure political business cycle has nothing to say on this. The electoral dummy, however, which takes on a value of 1 in election years and 0 otherwise, does confer with the pure political business cycle hypothesis that fiscal deficits are higher in the year leading to an election.

Tests on the pure political business cycle hypothesis present mixed conclusions. There is scant support in the literature for cycles in economic outcomes consistent with the hypothesis with marginally more for support cycles in monetary and fiscal policy. Alesina, Roubini and Sachs (1992) make the essential point that although they have ascertained that fiscal and monetary cycles occur they do not do so in every election and are indeed relatively moderate cycles. Therefore, part of the task of those researching into political business cycles is to understand the mechanisms that generate cycles and to understand both the desire for opportunistic manipulations as hypothesised in the pure political business cycle and for partisan manipulations in accordance with the various strands of partisan theory.

The results relating to New Zealand and Germany collaborate the findings of Nordhaus (1975). The two countries are interesting in that their respective central banks were widely seen as dependent and independent of political persuasion in the period of analysis.
1.5 Partisan theory

The pure political business cycle takes politicians to derive utility from maximising their vote share in order to stay in power. Partisan theory recognises the dimension of ideology in the utility function of politicians. The degree to which this dimension dominates the desire to maximise votes is one distinction between strong and weak partisan theory. When partisan considerations completely dominate all others then partisan theory is strong. In the case where there is a trade-off between opportunistic and partisan considerations partisan theory is weak. Using this distinction we can identify strong partisan theory with the works of Douglas Hibbs (1977, 1982, 1986) and weak partisan theory with the works of Frey (1978) and Frey and Schneider (1975, 1978, 1981). We can also view weak partisan theory as transitory partisan theory and strong partisan theory as persistent partisan theory. This classification allows us to include the works of Alesina (1987) and Chappell and Keech (1988) in weak partisan theory. In these models the incorporation of rational expectations renders effects on economic outcomes as transitory.

1.5.1 Strong partisan theory

Partisan theory is based on the idea that each political party appeals to its core constituents who tend to be grouped by income class. It is then argued that different income groups will be affected differently over the course of the business cycle and, thus, with changes in unemployment and inflation. In short, the waged sector as a group benefit from falling unemployment while those primarily concerned with the profit share benefit from reduced inflation. Given that political parties appeal to their core constituents there is a difference between the political parties. Strong partisan models take this difference to have persistent effects on the economy. As with the pure political business cycle model governments are able to consistently manipulate the economy. Hence, this theory is also known as the party control hypothesis. Partisan effects arise automatically from class interests.

Hibbs (1977) undertakes time series analysis on British and American unemployment rates. The research is intended to uncover whether there exist observable downward movements in the unemployment rate during Labour governments and Democratic administrations and upward movements during Conservative governments and Republican administrations. These movements should

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*See Hibbs (1977). Furthermore, this theme is pursued in detail in Chapter 2 so that only an overview is presented here.*
be net of trends, cycles and random fluctuations in the unemployment time series. To do this unemployment is taken to be a function of past rates with the error term appropriately specified and an intervention term which takes on a value of +1 during Labour governments and Democratic administrations and -1 during Conservative governments and Republican administrations. For the British case a second intervention term is added to allow for the unemployment compensation scheme introduced in October 1966.

Estimated using the Maximum Likelihood Method, the British evidence from 1948(1) to 1972(4) shows a difference of around 0.62% between the equilibrium unemployment levels associated with Labour and Conservative governments where the level was lower under Labour governments than under Conservative governments. This difference translates into about 149,000 jobs over the period. Hibbs argues that given international constraints the inter-party difference is not as modest as may be thought.

For the American case, Hibbs (1977) finds an inter-administration difference over the same period of about 5.46%. Although this appears implausible since the average rate varied between 2.6% and 7.4% this is a steady-state figure showing the net difference in unemployment if one party and then another was to govern for indefinitely long periods of time.

Hibbs (1986) develops a model for the American case where the Republican and Democratic parties are taken to have different unemployment targets that vary around the natural unemployment rate. Institutional and behavioural lags mean that the administrations adjust unemployment to the target level only partially each period. Allowance is made in the adjustment mechanism for the affects of economic factors such as OPEC I and II. Regression analysis for the period 1953(1) to 1983(2) reveals that unemployment tends to be 2.11% lower under typical Democratic administrations than under Republican administrations. The effect is smaller over the extended time period although this may reflect inadequate modelling of the economic climate of the 1970s and 1980s.

Alt (1985) stresses that we may appear to have transitory partisan effects because we can never model entirely the environment on which political and economic decisions are made. Hence, there may be a bias against strong partisan theory in a dynamic environment.

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21 The natural rate of unemployment is that calculated by Robert Gordon (1984).
Alesina and Roubini (1992) using the same autoregressive technique as described above for the pure political business cycle construct a political dummy which takes on a value of +1 in those quarters corresponding to a government of the Right and -1 for a government of the Left. Pooled cross-section time series regressions with unemployment and real output growth as the dependent variables reveal positive and negative coefficients respectively on the political dummy. Although this accords with theory the dummies were statistically insignificant. Therefore, the results of Alesina and Roubini conflict with those of Hibbs in that they provide no significant evidence of a persistent partisan effect. Chapter 3 will show results for the UK case following the simple but suggestive procedure of Alesina and Roubini (1992).

1.5.2 Weak partisan theory

There exist two strands of weak partisan theory. One uses the idea of an exploitable Phillips curve where government is consistently able to manipulate the economy as deemed necessary by the government's popularity in opinion polls. This is conventional weak partisan theory. The alternative incorporates the rational expectations hypothesis with election result uncertainty allowing for a transitory manipulation of the economy after the election. The extent to which blips in economic outcomes occur is dependent upon the polarisation of the political parties and the degree of uncertainty over the election result. This is the rational expectations augmented weak partisan theory.

(a) Frey and Schneider

The Frey (1978) and the Frey and Schneider (1978) models are the classic exposition highlighting the trade-off between an opportunistic and partisan environment. Government manipulation can occur whenever, but the type of manipulation can be categorised as either opportunistic (for electoral purposes) or partisan (for ideological purposes). The key to this choice is the popularity of the incumbent and in particular the degree to which the popularity is deemed as safe electorally. A popularity lead refers to the situation where the popularity of government in opinion polls exceeds that of the opposition parties. Frey and Schneider in relation to the UK make the simplifying assumption of a two party case, i.e. Labour and Conservative. The safety margin in terms of the popularity lead deemed necessary by the incumbent is the critical lead. This changes over the course of an election
period. A lead is necessary on election eve but a negative lead can be tolerated when there is some length of time before the next election. If the popularity lead is in excess of the critical lead the incumbent experiences a *popularity surplus*. A popularity surplus is synonymous with electoral safety and conversely a *popularity deficit* with electoral insecurity.

If there exists a popularity surplus the incumbent government is free to pursue ideology. It is free of the popularity constraint. If the incumbent experiences a popularity deficit then it pursues policies in accordance with opportunistic behaviour and thus increases government expenditures or reduces taxation in order to expand the economy. This is the essence of conventional weak partisan theory.

The Frey and Schneider proposition can be seen to be based around two links between the political and economic systems. The first is the *evaluation function* where it is taken that the rates of unemployment and inflation have a negative effect on the level of government popularity and the growth rate of real income a positive effect. The implication is that there exists a relationship between economic conditions and popularity and, therefore, a relationship between economic policy and popularity. Government would thus be able to use opinion polls of popularity as an indication of its re-election chances and will accordingly act opportunistically or ideologically.

The second link is the *policy function* whereby the political sector effects the economic sector. Government is constrained by the economy, for instance the balance of payments and the public sector budget, and by the institutional framework. Government policy is a satisficing policy contingent on two states of nature as defined either by a popularity surplus or deficit.

Frey and Schneider define ideological differences in terms of the effect on government expenditures and taxation. In the UK, a Conservative government if ideologically free would prefer to clamp down on government expenditures. In spending less it would require less tax revenues, reflecting concerns over the size and efficiency of the public sector and the macroeconomic consequences of expansionary government policy. Lower taxation is seen as allowing people to spend more of their own money. Labour if ideologically free has greater interest in pursuing policies for welfare, redistribution and unemployment reduction. It would thus spend more. This view of the ideology of the political parties is clearly linked to macroeconomic outcomes.

23 Chapter 4 will analyse simplistic popularity functions.
In empirically testing the policy function for the UK the first requirement is the calculation of the critical lead. Frey and Schneider (1978) took this to range from -8% immediately after election success to +8 if an election was imminent. The normal length of the election period was taken to be 16 quarters. The variability of the length of each election period makes this procedure somewhat imperfect. This is especially the case where there were short periods between elections. Noteworthy in this regard are the elections of 1964, 1966 and the two elections of 1974. Given the small margin of the "victories" in October 1964 and February 1974 and the likelihood of a short period before a further election, it does seem plausible to infer that government policy would have been more opportunistic than ideological. Nonetheless, given the institutional facet of flexible election dates we are accepting the debatable assumption that election dates condition the behaviour of politicians in relation to the economy rather than the assumption that election dates are a function of the state of the economy.

Frey (1978) uses a variation on this approach by assuming that the critical lead is constant at -5%. To allow for the fact that the importance of a popularity deficit varies over the course of the electoral cycle a variable indicating the time between the last election and the extent of any popularity deficit is included.

The general format of the Frey and Schneider politico-economic model used in empirical testing will now be presented. It follows closely Frey (1978) which focuses on government expenditures. A popularity deficit exists in period t if the lead in period t-1 over the main opposition party is less than the critical lead for the government in period t. The lag of one quarter reflects lags in government's perception of the implications of opinion polls. A surplus is indicated by a dummy variable, S, which takes on a value 1 when there is a popularity surplus and 0 when there is a popularity deficit and is accordingly lagged by one quarter. A "political colour" dummy variable RW indicates when the Conservatives were in power and a dummy variable LW indicates when Labour were in power.

Two variables IDL and IDC represent the occasions when Labour and Conservative respectively were free to pursue ideology. They are derived by taking the popularity surplus (PS) and multiplying it by the appropriate political colour dummy variable and by the surplus dummy S. Thus,

\[ \begin{align*}
(1) & \quad IDC_t = RW_t \ast PS_t \ast S_{t-1} \\
(2) & \quad IDL_t = LW_t \ast PS_t \ast S_{t-1}
\end{align*} \]

\(^{17}\) Frey and Schneider (1977), p.247 comment that different definitions of the critical lead did not change the results qualitatively.
In a regression equation where the dependent variable is a category of government expenditure the coefficient on IDL is expected to be greater than that on IDC.

The effect of popularity deficits on government expenditures is captured by two variables. The first reflects the magnitude of the deficit and can be labelled the *popularity expansion variable* (PE). This is simply the extent of any popularity deficit when and can be defined by PS*(1-S_t). Secondly, the time from the last election shows how much time the government has to lift popularity. This is captured by a variable that can be labelled the *time expansion variable* (TE) and is the time from the last election multiplied by (1-S_t).

The greater the magnitude of the deficit the greater the desire to increase government expenditures. Likewise, the greater the time that has elapsed since the last election the greater is the desire to increase expenditures. Hence, the coefficients on PE and TE in empirical testing ought to be positive.

The general form of the equation for empirical testing can be written as:

(3) \[ GEX_t = \alpha_0 + \alpha_1 GEX_{t-1} + \alpha_2 IDC_t + \alpha_3 IDL_t + \alpha_4 PE_t + \alpha_5 TE_t + Z_t \]

where GEX_t is the magnitude of a component of government expenditures and Z_t captures economic and cost constraints. In this regard the PSBR, the current balance on the balance of payments, the rate of unemployment and the level of real wage rates were considered. The latter attempts to account for Baumol’s Disease\(^\text{a}\) whereby a productivity differential between the public and private sectors, with wage rates rising at the same rate in the two sectors, results in it being increasingly more expensive for the public sector to produce the same amount.

Frey (1978) estimates the above regression equation for UK general government consumption and investment expenditures over the period 1962(2) to 1974(4) using OLS. The coefficients on PE and TE are both positive and statistically significant at 2.5%, using a one-tailed test, in the two regressions run. The coefficient on IDL has the correct positive sign in both cases and is significant at 2.5%. The coefficient IDC has the correct negative sign in both cases reaching the 10% significance level in the regression relating to consumption expenditures and the 5% level in the regression relating to investment expenditures. The past level is seen to have a large and

\(^{a}\) See Baumol (1967).
significant effect in both regressions. The results appear favourable to the conventional weak partisan theory in the UK case.²⁶

The Frey and Schneider (1978) model used in empirical testing differs from that of Frey (1978) in three regards. Firstly, as already noted, it incorporates the increasing importance of the popularity deficit into the re-election constraint by using a non-constant critical lead. Hence, in effect the PE and TE variables become a single re-election variable. Secondly, ideological behaviour is captured by the dummy variables IDC and IDL for the respective parties multiplied by national income lagged one quarter. Each party is assumed to have a target share of government expenditure and tax receipts in national income. The coefficients on the ideological variables of the two parties are expected to be greater than zero since spending and receipts increase in line with past levels but that relating to Labour is expected to be greater than that of the Conservatives. Thirdly, the past level of the government instrument is reflected by two dummy variables weighted by the level of the instrument in the previous quarter. One dummy operates when their is a popularity deficit and the other when there is a popularity surplus.

The policy function of Frey and Schneider (1978) was estimated for the UK over the period 1962(2) to 1974(4) for components of real government expenditure and real government receipts. All coefficients had the expected sign. The re-election variable was statistically significant and illustrated that the higher the popularity deficit the more expansionary government policy. Hence, government expenditures increase and tax receipts fall the higher the popularity deficit.

The ideological variables were significant at the 5% level in half the regressions run with the Conservatives appearing to have a lower target share of expenditures and taxes than Labour. However, the coefficients on the party specific ideological variables were not significantly different. Moreover, the past level of the government instrument has a smaller weight when there exists a popularity deficit and government is thus more concerned with re-election than ideology. Therefore, Frey and Schneider conclude

There are thus good grounds for assuming that governments perceive the re-election requirement to be more pressing than the pursuit of ideological goals and therefore adjust their policy instruments more quickly in the former than in the latter case (1978, p.250).

Chrystal and Alt (1981) discuss problems with the Frey and Schneider approach that relate to the evaluation and policy functions. With respect to the former they point

²⁶ Similar favourable results are also reported in Frey (1978) for the US and Western Germany.
to the fact that the estimation of popularity functions is time-dependent. In particular high levels of inflation and unemployment experienced in the 1970s are seen as disturbing the previous relationships that held between economic outcomes and popularity. Likewise we would expect relationships estimated into the 1980s to be affected by the persistently high levels of unemployment through the decade. These themes will be pursued in Chapter 4.

With respect to the policy function three main problems are defined. Firstly, the treatment of the Labour Party under the situation of a popularity deficit and a popularity surplus is not distinct. When Labour incurs a popularity deficit it is deemed to pursue expansionary policies thus increasing government expenditures and when it incurs a popularity surplus it too increases government expenditures. Why should Labour have a target share of national income when it is electorally unconstrained and not when it is constrained? Moreover, should we distinguish between the two parties’ re-election efforts and thus between both parties’ re-election efforts and Labour’s ideological policy? A second problem is that the ideological differences between the parties are assumed not to alter the relationship between instruments and targets. This is not true if the two parties place a different emphasis on economic outcomes and thus have different policy functions. Thirdly, the modelling of ideology in Frey and Schneider (1978) is seen as confused since one cannot discern whether the significance of the ideological terms is due to the effect of the income term. This is because the ideological terms are the product of the popularity deficit and national income.

(b) Rational partisan theory

Rational partisan theory (RPT) can be seen as an example of weak partisan theory to the extent that partisan effects are transitory rather than persistent. Their transitory nature is not the result of an apparent trade-off with opportunism as in the case of Frey and Schneider. Opportunism has no role in this explanation of political business cycles. Agents are deemed to be fully informed and rational.

The RPT is associated most closely with Chappell and Keech (1988) and particularly Alesina (1987). A partisan view of political parties is assumed. Political parties have different core constituents. In the two-party case the result is that there exists two identifiable objective functions. These functions are defined by the importance attached to the rates of inflation, output and employment. A right-wing party would place the emphasis on inflation while a left-wing party would place the emphasis on the growth in real output and on the rate of unemployment.
When individuals are fully informed and hold rational expectations only unexpected policy is significant. In a single party system with no elections policy neutrality will exist. What generates a policy surprise in rational partisan models is the uncertainty that prevails concerning the outcome of an election - election result uncertainty. In the simplest case wage contracts are signed annually. Wage bargainers in the period before the election face an election which has two possible outcomes. These outcomes can be assigned with a probability which is exogenously determined.

The models of Alesina typically assume a Lucas surprise supply function although this is not necessary:

\[ Y_t = \alpha (\Pi_t - W_t) + Y^* \]

\[ Y_t = \text{rate of growth of output (in period } t); \quad \Pi_t = \text{inflation rate}; \quad W_t = \text{rate of growth of nominal wages}; \quad Y^* = \text{rate of growth of output compatible with the natural rate of unemployment}. \]

Wage bargainers attempt to maintain the real value of their wage and hence set the nominal wage growth equal to the expected inflation rate. Wage contracts are set for the next period on the basis of rational expectations of inflation for the next period, \( tT \Pi_t \):

\[ W_t = tT \Pi_t = E(\Pi) \]

where \( E(\Pi) \) is expected inflation. If we substitute equation (5) into (4) then:

\[ Y_t = \alpha (\Pi_t - E(\Pi)) + Y^* \]

Given that the two parties have different core constituents the party of the left, party L, is more sensitive to unemployment and has a stronger incentive than the party of the Right, party R, to generate policy surprises and growth. There is also disagreement about the optimal rate of inflation. Party L believes in higher government spending so as to promote welfare and income and is willing to finance this by money creation. Hence, the time consistent rate of inflation is higher for party L.

The objective functions of the two parties are presented as cost functions. Assume that party L has an ideal inflation rate, \( c \), which is not affected by whether or not this is expected, and that party L penalises decreases in the rate of growth as

\[ \text{See Alesina (1987), p.256.} \]
indicated by the parameter \( b' \). The cost function for the US Democratic Party or the British Labour Party can be written as:

\[
Z^L = \sum q^t [0.5 (\Pi^t - c)^2 - b'Y_t]
\]

\( q \) is a discount factor which is assumed to be the same for both parties where the summation is over all current and future periods. To simplify the algebra output enters linearly into the cost function. Similarly, to reduce complexity it is assumed that the party of the Right attributes no value to unexpected inflation and that their optimal level of inflation is thus zero. The cost function for the US Republican Party or British Conservative Party can be written as:

\[
Z^R = \sum q^t [0.5 \Pi^t]^2
\]

Substituting (6) into (7) and assuming \( y^* = 0 \):

\[
Z^L = \sum q^t [0.5 (\Pi^t - c)^2 - b'\alpha (\Pi^t - E(\Pi))]
= \sum q^t [0.5 \Pi^t^2 + 0.5 c^2 - b'\alpha (\Pi^t - E(\Pi))]
\]

Given that we can write the infinite summation of \( q^t \) as \( 1/(1-q) \) and that \( b = b'\alpha \) we manipulate the cost function of party L such that:

\[
Z^L = Z^L' \cdot \frac{0.5 c^2}{1-q} \cdot \frac{1}{1-q} = \sum q^t [0.5 \Pi^t^2 - b(\Pi^t - E(\Pi)) - c\Pi_t]
\]

It is assumed that policy-makers can control inflation. The elected party chooses the inflation rate immediately after the election. There exists a probability distribution of electoral outcomes which is not dependent on either current or past economic performance given the assumption of rationality. The probability of party L being elected is \( P \) and the probability of party R being elected is, hence, \( 1-P \). The crucial point is that there is an element of uncertainty regarding the election result. This uncertainty only prevails for those contracts negotiated prior to the election for the period \( t \) when the election occurs. Polls are taken in period \( t-1 \) which reveal the value of \( P \) and wage contracts are then signed.

If elected either of the two parties will choose the rate of inflation so as to minimise their respective cost functions. Assuming inflationary expectations are given the first order condition for the party of the Left is:

\[
\Pi^{L}_t = b + c
\]

\[
\Pi^{L}_t = b - c = 0
\]
Similarly, the first order condition for the party of the Right is:

\[(12) \quad I^R_t = 0\]

In period t-1 wage setters set:

\[(13) \quad W_t = E(I_t) = P \{E(I^L_t) + (1-P) \{E(I^R_t)\} = P (b+c)\]

If party L is elected in period t there is unexpected inflation and output growth is above the natural level \(Y^*\):

\[(14) \quad Y^L_t = \alpha(I^L_t - E(I)) = \alpha [0 - P (b+c)] = \alpha P (b+c)\]

If party R is elected in period t there is a recession:

\[(15) \quad Y^R_t = \alpha(I^R_t - E(I)) = \alpha [a - P (b+c)] = -\alpha P (b+c)\]

We can view c as the distance between the optimal rates of inflation for the party of the Left and that of the Right. The larger is c the greater is the political polarisation and the greater are economic fluctuations as can be seen from equations (14) and (15). The lower is the probability of the left-wing party being elected the higher is the output growth determined by party L and the smaller the recession of party R. The higher is the probability of party L victory the lower any party L growth and the greater any party R recession. Inflation is always higher under a party L government because of the stronger incentive to generate policy surprises and the higher optimal rate for this government.

The duration of a post-election blip is dependent upon the extent to which wage contracts have to run when the election occurs. This is most straightforward when all wage contracts are signed simultaneously.

In empirical testing Alesina and Roubini (1992) construct a dummy variable DRPTN which takes on a value of +1 in N quarters starting with a change of government toward the Right and -1 with a change toward the Left. The pooled cross-section time-series regression technique was applied to 16 OECD countries with Switzerland and Japan omitted from the data set of 18 countries since no political change occurred for the period of estimation, 1960 to 1987. N was chosen to be 4, 6 or 8 since the average length of a wage contract is 1 or 2 years. It is important to note
that the political dummy deviates from zero only in the case of a change in the political orientation of government following an election. Alesina and Roubini argue that in those countries which have experienced long periods of continuous rule by one particular party, such as Conservative rule in the UK, elections have involved "virtually no political uncertainty" (p.669). Given that greater uncertainty relating to the election outcome results in greater economic blips, "virtually no political uncertainty" implies virtually no economic blips. However, the implication is not one of an absence of economic blips. The absence of modelling uncertainty renders the test of Alesina and Roubini (1992) a weaker test of RPT.\footnote{This is discussed in Chapter 3 where an index of uncertainty is constructed.}

The Alesina and Roubini test relates to unemployment and the real growth in output. These are modelled as autoregressive processes. The political dummy is entered into the equation lagged by one quarter and ought to reveal a positive coefficient for unemployment and a negative coefficient for output growth. The results are favourable to the RPT for the two economic outcomes. It is also noteworthy that the results are particularly favourable for a subset of countries which have experienced political polarisation although in the pooled results the coefficients on the political dummies remain significant if one of the 16 countries was dropped in turn.

For inflation the implication is of permanent differences across governments. This is akin to strong partisan theory. A dummy RADM was constructed for inflation. This was +1 for an electoral period if there had been a change to a right-wing government and -1 for an election period if there had been a change to a left-wing government. The dummy, which again enters the equation lagged one quarter, is expected to be negative. The dummy is correctly signed and marginally insignificant when all countries are included. For the bi-partisan subset of countries the coefficient is larger and the dummy is significant at the 5% level.

Chappell and Keech (1988) build a simple macroeconomic model based on two equations. The first is a monetary policy rule containing a party specific dummy and the second relates deviations of the unemployment rate from its trend value to money growth forecast errors. The estimated monetary policy rule for M1 in the US from 1949 to 1984 gives support to the partisan hypothesis that money growth is systematically faster when Democratic presidents hold office. Probabilities of presidential electoral success were calculated for the Democrats and Republicans based on actual vote shares and pre-election incumbent popularity in order to generate estimates of money growth. One can then estimate the unemployment equation. The
results for the period 1960 to 1984 suggest smaller and less robust partisan effects with respect to unemployment differences than under strong partisan theory.

Paldam (1990) defines 1 and 2 year post-election blips for a data set of 17 countries from 1948 to 1985. Using a scoring system related to whether or not such a blip occurs and assuming one blip to be independent of another the scores are summed across all right-wing, left-wing and left-right coalition governments. The binomial distribution is used to test the significance of blips in these types of governments. The results suggest that there is evidence of one and two year blips in economic outcomes, although the results favour one year blips. Moreover, blips are strongest for those governments experiencing their first period of rule.

1.6 Rational political business cycle

Rational political business cycle models are in effect a rational expectations augmented pure political business cycle approach. Their origin lies in the works of Cukierman and Meltzer (1986), Rogoff and Sibert (1988), Rogoff (1990) and Persson and Tabellini (1990). While based on the concept of opportunism the assumption that economic agents hold rational expectations infers that macroeconomic cycles and cycles in instruments of policy are only transitory. Therefore, in a sense just as we may be said to have weak partisan theory equally we have a weak pure political business cycle theory.

The following insights into the rational political business cycle theory follow the works of Rogoff and Sibert (1988) and Rogoff (1990). The implications in these models relate to cycles in policy instruments rather than in macroeconomic outcomes. Voters are seen as choosing between two parties where competence is a major factor in voters' decisions. Competence is defined as the revenue needed to provide a certain level of government services. The more competent is the incumbent government the less revenue is needed to deliver this level of services. There are two forms of taxation. The first is a non-distortionary poll tax and the second a distortionary seignorage tax. An individual's utility function depends on the levels of both forms of taxation, the distortions arising from the seignorage taxation and a party-specific non-economic preference shock. The latter may also be referred to as a "looks" shock and is uncorrelated with the administrative competence of managing public services.

Each party's competence shock is serially correlated so that there exists a reason to vote for a party that appears more competent today. The competence shocks for all
periods of the two parties are independent of one another. Competence varies over time since political leaders and economic prescriptions change over time. Voters can infer the competence of the incumbent from their performance. The incumbent has an incentive to signal that the recent competence level is high since it has an informational advantage. This is because citizens only observe the current competency shock with a one period lag.

The incumbent before observing its non-economic preference shock sets the level of the non-distortionary poll tax and the level of the public consumption good. The assumption is based on the fact that it takes time to collect taxes and deliver services while the "looks" shock is intended to capture information up to and including the election eve. This information might arise from election eve debates or last minute scandal. Any shortfall is subsequently made up via distortionary seignorage taxation. In period t, after receiving their tax bills and observing the government's non-economic preference shock, citizens cast their vote. At the end of period t government collects the poll tax and produces a level of government services using the seignorage tax if the poll tax is too low. By period t+1 voters directly observe the government's competence level of period t.

At time t citizens will vote for a particular political party if the expected utility during the periods t+1 and t+2, when the party would be in government, is greater than the utility that would be derived from the alternative party holding power for the corresponding period. The citizens' votes are cast given the set of public information known at time t. This information set relates to the competence level of the incumbent in the previous period, t-1, the poll tax set in period t, the level of government service provision in period t and the non-economic incumbent specific shock for periods t-1 and the current election period, t.

Each political party will aim to maximise a discounted function defined over the probability of being in office after the election and the social welfare loss due to the use of seignorage taxation. Signalling, which is likened to cheating, will involve the future use of seignorage taxation in order that the government may appear highly competent in the election period. As well as being dependent upon an informational asymmetry, signalling also requires that some weight, even if very small, is placed upon the loss of welfare from the use of distortionary taxation. If this was not the case then the incumbent would be willing to cause large macroeconomic distortions in order to improve the likelihood of being re-elected, however marginal this improvement.

Voters are assumed to know the model but it is prohibitively costly to monitor government and one individual's vote has on its own practically no weight. If voters
knew the competence level pertaining to the election period then cheating would not affect perceptions of competence and the only effect would be to lower social welfare via seignorage taxation. Voters can be manipulated by the level of the poll tax relative to the level of government provision as a result of the informational asymmetry. In deciding to pose as more competent the incumbent will compare the increased expectations of being re-elected with the marginal social cost from seignorage taxation. If the former is high the temptation to cheat is intensified.

If the incumbent has a low level of competence a rise in popularity for non-economic reasons will increase the temptation to cheat. A small amount of cheating yields larger and larger benefits in terms of increased re-election chances. However, if indices of competence and non-economic popularity collectively are greater than the expected level of competence, which is assumed equal for both parties, then the temptation to cheat is lessened and social welfare considerations dominate.

No gain is to be had from cheating in non-election years since the public is assumed able to observe the competence shock relating to the period t+1 in the period t+2.

Rogoff and Sibert (1988) see their model has being able to explain other related facets of government expenditure and taxation policy. For instance, while we could imagine voters observing taxes and government consumption spending prior to an election they are unable to observe the majority of government investment spending until some time later. Therefore, the incumbent has an incentive to bias pre-election fiscal policy towards easily observed consumption expenditures and away from government investment. This can be referred to as the visibility hypothesis. Government thus signals visibly.

Another noteworthy comment relates to countries like the UK, Canada and Japan where the timing of elections is flexible. Elections can be called when economic conditions and popularity dictate that the chances of re-election are more favourable. The government has in effect another instrument with which to act opportunistically. In such cases where elections are called early, the expectation is that pre-election fiscal policy distortions are of smaller magnitude than with end-of-term-elections. An early election is an additional signal.

In the cited empirical evidence relating to the pure political business cycle and unemployment and output growth, Alesina, Cohen and Roubini (1992) found only Germany and New Zealand to offer any support. However, evidence was found of electoral cycles in monetary and fiscal policy. Country by country results suggest,
however, that these cycles are not strong but nonetheless they do occur on occasions in many OECD democracies. Moreover, in Alesina and Roubini (1992) evidence of a post-electoral blip in inflation lasting for 4 quarters following the election quarter is presented. While this supports the implications of the pure political business cycle it is similarly supportive of implications discussed in the rational expectations augmented versions of Rogoff and Sibert (1988) and Persson and Tabellini (1990). Alesina, Cohen and Roubini argue that if voters are naive and politicians are able to manipulate easily the instruments of government we should observe more widespread cycles in instruments and evidence of cycles in economic outcomes. This can be seen as supportive of the rational expectations approach to modelling political cycles.

1.7 Summary

The literature review has described four variants of politico-economic models. These can be categorised as:

1. Pure political business cycle
2. Strong partisan theory
3. Weak partisan theory
4. Rational political business cycle.

Variants 1 and 2 of politico-economic models are orthodox in that voters are assumed not to hold rational expectations and government can continually effect the economy. The first variant is opportunistic in nature whereby political parties aim to maximise their vote share at an election which is affected by rates of unemployment and inflation. The prediction is that the incumbent creates a political business cycle with falling unemployment prior to the election and rising unemployment and falling inflation afterwards. The second variant is founded on the concept of partisanship with political parties representing specific class interests and holding different priorities relating to economic outcomes. The result is that the economy exhibits persistent partisan effects for each election period when a different party holds power.

In the third variant of politico-economic models partisan effects are transitory. There are two categories of weak partisan theory, one that incorporates rational expectations and one that does not. The latter is also distinct in that it views the possible trade-off between opportunism and partisanship. The rational expectations augmented weak partisan theory is known more commonly as rational partisan theory.
while conventional weak partisan theory is associated with the works of Frey and Schneider previously cited.

The fourth variant of politico-economic model is the expectations augmented pure political business cycle. The variant concentrates primarily on budget cycles where government attempts to signal administrative and financial competence in the delivery of services in the election period. To do so may involve cheating such that it provides more service provision in the election period than revenues would dictate. The cheating may also involve expanding the more visible services and those services which would have a more immediate effect on voters.

The aim of the thesis must in part be to improve our understanding of what dictates whether behaviour ought to accord with an opportunistic or partisan mode. Furthermore, how does this behaviour manifest itself in terms of effects on economic instruments and economic outcomes and how do possible economic effects affect political behaviour? Do their exist permanent or transitory economic effects in the UK, if there exist observable effects at all? Therefore, we need to understand the relationship between the economic and political systems and the mechanisms which drive this relationship.
CHAPTER 2

THE CONCEPT OF PARTISANSHIP AND THE COMPONENTS OF GOVERNMENT EXPENDITURES

2.1 Introduction

Throughout this thesis we will continually refer to the concepts of partisanship and to general government expenditures. Thus, this chapter looks firstly at the traditional methods of giving validity to partisanship. Secondly, it considers the components of government expenditures, to which reference is made, and to the secular trends of these components.

Validating partisanship is to rationalise the offering by political parties of a different prioritisation of economic variables. Most commonly this is the prioritisation of unemployment over inflation by a party of the Left and the prioritisation of inflation over unemployment by a party of the Right. In validating partisanship the literature offers two alternatives. The first is an economic validation. Much of this considers whether identifiable groups within society are affected differently over the course of the business cycle. In particular, much attention has been given to the movement of the profit to wages ratio over the cycle. The second method of validation makes use of the data from opinion polls. One of the simplest approaches is then to consider whether we can associate changes in popular support amongst social classes to changes in economic variables.

General government expenditures in 1993 totalled over £272 billion. This figure represented approximately 50% of factor GDP. In 1890 according to the data set of Peacock and Wiseman total expenditures comprised 8.9% of factor GNP. Thus, it is clear that the relative size of government in the UK has increased substantially in the last 100 years. We consider the components of this expenditure as well as the time pattern of both total expenditures and its components.

2.2 The economic validation of partisanship

Partisanship refers to the execution of partisan policies by political parties with different economic priorities. Further, partisan theory identifies different political parties as having different core constituents.
This definition of partisan theory stresses the importance of economic priorities. Therefore, are political parties reflecting the fact that identifiable groups are affected differently by changing economic circumstances over the course of the business cycle? An overview this question is found in Hibbs (1977). Hibbs gives prominence to the share of national income going to capital and labour over the business cycle. Evidence is cited that the ratio of profits to wages increases steadily after a trough in business activity, reaching a peak halfway through an expansion, before falling away. Unemployment typically lags output changes and will tend to fall as the profit to wage ratio also falls. This will occur at the same time as inflation rises suggesting that falling unemployment and rising inflation are associated with the improved economic position of wage and salary earners and in particular low and middle income groups.

2.2.1 Influences on the profits-to-wages ratio

It is important to determine the worth to individuals from political parties holding known identifiable economic positions. We begin by describing the literature that relates economic outcomes to the profits to wages ratio and, hence, the distribution of income. In particular, we consider those theories of the determination of labour’s share of income and influences on the profits to wages ratio.

(a) Marxist perspective

Marxist economics focuses on the pattern of property ownership. Class distinctions are the driving force with attention given to the falling rate of profit as the cause of the crisis for capitalist economies. There are variants on this theme which identify different sources for this decline. One variant associates the rate of profit with the labour supply via the reserve army of labour theory of crisis. Any reduction in the reserve army during economic expansion goes to increase the bargaining position of the working class, hence, increasing labour costs and driving down the rate of profit. When looked at from a distributional perspective this suggests that labour’s income share is inversely related to the rate of unemployment. A decline in the unemployment rate will tend to increase wages more quickly than productivity and the prices of output goods.

1 See Weisskopf (1979).
Evidence from Burger (1973) does suggest for the American case that unit labour costs while falling relative to output prices in the first part of an expansion typically overtake prices after the mid-point of an expansion. There exists a unique characteristic of labour that causes the profit to wage ratio to fall midway through the expansion. Weisskopf (1979) argues that this demonstrates the rising strength of labour hypothesis, although it is Reafflovich and Leight (1992) who use this exclusively with respect to the distributional perspective.

The reserve army thesis in its pure form implies that with falling unemployment and rising labour militancy wages will increase and productivity increases halted. Consequently, the wage share rises. So why might the wage share initially fall, rise in the late expansion and continue rising in the contraction although possibly fall in late contraction?

A more sophisticated reserve army theory introduces a lagged effect. In the early expansion workers will still be wary of the unemployment levels in the previous period and, hence, exhibit caution. They will want to gauge both the length and sustainability of any economic expansion. Furthermore, workers may be constrained by wage contracts.

A further Marxist perspective is offered by the realisation theory which associates declines in the profit rate in capitalist societies with either the over-production of commodities or an imbalance in the pattern of investment. The disproportionality argument centres on the lack of co-ordination of the investment decision making process. The result is imbalances in the pattern of new capital formation and capacity growth. The combination of surpluses and shortages leads to a fall in the aggregate rate of capacity utilisation and, hence, aggregate productivity. This has a negative impact on the profit share and is accompanied by inflation given limited downward price flexibility. The over-production theory is that the capitalist process of accumulation has a tendency for the demand of commodities to lag behind the capacity to produce commodities. Hahnel and Sherman (1982a,b) refer to this distributional perspective as the wage lag hypothesis.

The wage lag hypothesis asserts that productivity and prices rise rapidly in expansions. Wages rise much more slowly because of constraints, primarily institutional. Hahnel and Sherman refer to workers continually playing a game of "catch-up" during economic expansion despite their rising strength. The result is a falling wage share. In a contraction workers are able to stave off drastic real wage cuts.

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and have a rising wage share. This analysis suggests that the share to labour is inversely related to output growth.

Hahnel and Sherman (1982a) surveying American statistics find that the real hourly wage does indeed move slowly up in an average expansion and very slowly down in the average contraction. However, productivity is deemed to have a greater impact on the wage share. The wages share typically moves in an opposite direction to the real hourly wage. Productivity rises more rapidly in the expansion and falls more rapidly in the contraction. More precisely, Hahnel and Sherman (1982a) conclude from regression analysis that productivity varies positively with capacity utilisation and real national income. It also moves in a positive manner with unemployment after a time lag although the effect is not very strong. The real hourly wage is not significantly related to these variables. Combined these results undermine the strength of labour hypothesis suggesting that one ought to be interested in the relationship between productivity and the profit to wages ratio.3

(b) Neoclassical perspective

Neoclassical theory predicts that productivity is counter-cyclical. Marginal productivity decreases with output. Labour is deemed to be paid the value of its marginal product. Hence, in an expansion with a fall in the physical marginal product the real wage must also fall. However, evidence on real wages has failed to establish a counter-cyclical pattern while that concerning labour productivity has generally found the reverse to be true. The pro-cyclical nature of labour productivity has lead Costrell (1981-82) to talk of "the paradox" in short-run marginal productivity theory. If labour's average product is rising then the marginal product must be greater than the average product. Moreover, if labour is receiving its short-run marginal product, then its distributive share must be exhausting output.

Oi (1962) attempted to solve the paradox of short-run marginal productivity theory. Oi argued that it was more costly for a firm to hire some types of labour in a slump and re-hire them in the boom. Although the largest part of labour cost is the variable wage bill, a firm incurs a cost in hiring a stock of workers. This cost takes the form of an investment to the firm. Oi split the labour force into production workers and non-production workers or overhead workers. Overhead workers get paid more than production workers and their output is more constant. They are also a more scarce resource with high hiring and training costs. One can talk of this labour being a

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3 This conclusion is also drawn by Burger (1973).
quasi-fixed factor. Adjustments to the required level of effective demand will be made through production labour.

The marginal and average productivity of production workers moves countercyclically as is the convention in neoclassical theory. Since the level of overhead workers is relatively fixed the amount of total labour, which includes both types of worker, will vary less than output. However, the level of production workers can be expected to vary more than output, which in turn varies more than the level of overhead workers. During an expansion we would, as a result, see average labour productivity rising even though the marginal productivity and the real wage of production workers falls.

Costrell (1981-82) has in fact illustrated that Oi’s overhead labour hypothesis cannot reconcile the productivity pattern with the short-run marginal productivity theory since this requires production workers to get paid more than overhead labour. We are, thus, unable to say that employment is directly governed by the real wage. The case for a relationship between productivity and the utilisation of labour and between productivity and the wage share becomes stronger.

(c) The importance of productivity

Consideration is needed of how the investment cost embedded in labour affects a firm’s resource allocation policy over the course of the business cycle. In a down-turn firms are faced with falling demand but with uncertainty over the length of the down-turn. Initially, firms will make an adjustment, as far as is possible, in the form of a decrease in the utilisation rate of labour. There will come a point when cost dictates that the number employed should be adjusted. Conversely, during an upturn the utilisation rate of labour will initially be increased until it becomes more profitable to add more workers.

We are able to construct a relationship between measures of labour productivity and the wage share over the business cycle. An acceleration in output per person is associated with a decrease in the labour share relative to the profit share. Hahnel and Sherman (1982a,b) show that the profit share can be written as one minus the wage share. If one then divides both the numerator and denominator of the wage share by the number of hours expended in the economy then we are left with the wage share being equal to the hourly wage divided by the product per labour hour. The wage share moves typically in the opposite direction to the real hourly wage. The key is the
strength of productivity which outweighs movements in the real wage. Hence, in expansions with a rise in productivity due to increased capacity utilisation the wage share will fall and the profit share will rise despite a rise in the real hourly wage.

Weisskopf (1979) and Hahnel and Sherman (1982a,b) confirm that the increase in the rate of profit declines before the peak of the expansion as a result of a falling profit share. Unit costs are rising before the peak because of a combination of non-increasing labour productivity and limited demand. Given that the capitalist class have a lower average propensity to consume than the working class, during an expansion with an increase in the profit share demand becomes inhibited. To a lesser degree labour militancy at the peak will prevent productivity growth and possibly help to raise the wage share.

A fall in productivity is associated with a rise in labour share. The rate of profit falls primarily due to falling capacity utilisation.

As Boddy and Crotty (1975) comment the class conflict discussed by Kalecki (1943) can be seen as arising both from an economic and socio-political dimension. The two need not be distinct as implied by Kalecki. The fear of full employment by the capitalist class has economic underpinnings as discussed above. The profit share is at a maximum midway through an expansion and comes under pressure in the latter part of this expansion.

(d) Summary

Unemployment changes lag behind changes in effective demand as firms adjust utilisation rates given the uncertainty about the length of contractions or expansions. Unemployment will fall when it is profitable for firms to change employment levels rather than utilisation rates. This will lead the profit to wages ratio to fall. The share of income going to labour will increase coinciding with a fall in productivity. Hence, this analysis suggests that *falling unemployment benefits the waged sector as a group with an increased share of national income*. Conversely, rising unemployment is associated with a falling share of national income to the waged sector and a rise in both productivity and the profit to wages ratio.
2.2.2 Wage differentials

Thus far we have considered the labour market in relation to the cyclical effects on the wage share. Reder (1955) discusses the effect of lower rates of unemployment in his theory of occupational wage differentials. He argues that an alternative to adjusting wages is the adjustment of quality. If applicants become scarce employers may be able to lower the minimum standards they require for hiring a worker or filling a particular post.

Consider the possible outcome of an increase in the demand for all grades of manual labour which eliminates the labour slack from the market for every kind of job. Clearly competition amongst those able to meet the current requirements would tend to raise the wage rate. This rise would be dampened somewhat if those closest to these workers in terms of qualification began to substitute for those previously more skilled. This substitution in turn will reduce the number of persons with the minimum specified qualifications. The effect is to raise the equilibrium wage paid on jobs requiring less than the highest degree of skill since we can imagine a domino effect of substitution within the labour market. With full employment the supply of labour for the least skilled jobs could not be increased. The resultant effect is the narrowing of wage differentials. Increased employment would reduce the income gap of those previously employed and more generally by introducing new members into the labour market.

Reder's hypothesis only holds if labour demand increases enough to absorb the labour reserve and rests on the basis that increasing employment for all grades of labour reduces the amount available for unskilled jobs by more in relative terms. Furthermore, the hypothesis is not apparently reversible. Rider cites examples. The US depression of 1920-1921 did see a widening in of skill differentials but this was mainly due to skill differentials returning to pre-war levels. The skill differential remained fairly constant during the Great Depression of 1929-33. The cutting of wages particularly for low earners was condemned. The social climate in the 1920s raised what Reder refers to as the social minimum wage which he applies to business and government. Reder admits that to lean on the social minimum indicates a weakness in theory. The occupational wage theory is somewhat better for secular trends than short-run trends. Nonetheless, it is not to be dismissed. Certainly, Minsky (1966) saw the ascent to full employment as part of the big fight against poverty.

Thurow (1972) sees full employment as a powerful force leading to higher incomes of American blacks and more equal black incomes. Middle income groups, because of the composition of their wealth, are typically less exposed to inflation than the very rich and very poor. Since black incomes are primarily wages and salary
earnings and blacks are lower middle class in comparison to their white counterparts, the implication is that those people who are lower middle class by white standards gain relatively in inflationary periods. Thus, Thurow argues that growth and fuller employment would be appropriate for blacks and inflation a proper policy instrument for whites.

Perlman (1958) in addressing occupational wage differentials considered egalitarian sentiment and the confusion of monetary and real values. The latter has often dominated with a tendency for wage increases to be distributed in absolute terms. At the same time interest has been focused on the wage level rather than the structure of wages with more pressure on lower wages than on higher wages. The two mean a tendency for the percentage skill differential to narrow. Perlman queries the conclusions of Reder arguing that far from narrowing wage differentials full employment may widen them. The argument for this is that while the only immediate source of supply for additional skilled labour comes from those less qualified the source for unskilled labour under full employment becomes larger. Higher wages resulting from the pressures of an increased demand for labour will induce away agricultural workers to take on unskilled factory jobs and, thus, the work-force will expand beyond that associated with population growth. This benefits the pool of workers available for the less skilled jobs.

Phelps (1972) maintains that tightness in the labour market increases the relative wage earned by the poor. Increased labour tightness increases both investment and search costs so that the cost of maintaining the same ratio of skilled to unskilled workers increases. If the tightness continues it is the skilled who can be dis hoarded for they are hired ahead of demand. In this new situation there will be a shortage of skilled workers and vacancies will be higher than for unskilled workers. The worth of a skilled worker has increased proportionately more than that of a less skilled worker. However, this increase in worth is greater than the increase in the wage rate because of the increased costs in finding skilled workers. The effect can be reinforced by the wage of a skilled worker being stickier than a less skilled worker if skilled workers feel able to fix their price given their long-run worth to the firm and because they have the security of a greater number of rungs below them on the job ladder.

The narrowing of wage differentials with a tightening of the labour market as theorised by Phelps is subtly different to that of Reder’s rationale. The less skilled will fare better in getting jobs when the labour market is tighter because the cost of overlooking them or discriminating against them has increased. The mechanism through which this operates will involve upgrading.
Segal (1963) and Dunlop (1953) both argue that the interest of workers in the position of their wages to those of others will tend to reflect the economic circumstances of the time. Segal illustrates this by comparing the 1940s and 1950s in the US. The 1940s were characterised by a significant inflation and expansion of employment after severe depression. Workers were primarily interested in their absolute wage and rather less their relative wage. Wage increases were based on a flat amount. This worked to narrow wage differentials. Also the relatively large pool of unemployed and those who had previously been downgraded allowed for an element of upgrading.

The 1950s saw a change in aspects of the economic environment. Inflationary pressures had lessened with the price of necessities like food somewhat depressed which benefited the position of less paid workers. Wage increases were no longer based primarily on making up for changes in the cost of living. Attention had switched to percentage comparisons. Moreover, the job-mix of the economy and the reduced willingness of firms to train younger workers all helped to strengthen the position of the more skilled. Segal concludes that we any never have a full proof theory relating to short-run changes in the occupational wage structure. However, with inflationary pressures the cyclical expansions of employment may be expected to play more of a role in influencing wages structures. The cost of living is a significant factor but has to be gauged against a collection of considerations.

2.2.3 Inflation, unemployment and redistribution

The importance of employment over the business cycle and the state of the labour market has attracted most attention. They are of a greater quantitative effect than those stemming from inflation. However, they may be qualitatively different. Typically, welfare costs of inflation arise because inflation can be viewed as a tax on cash balances or as the opportunity cost of holding money. At the end of a year with inflation of 10% the amount £100 will be worth £90. If a bank charged £10 on bank deposits per annum as a holding fee you would also have £90 at the end of the year. An inflation rate of 10% per annum reduces the value of money by the same amount as a 10% fee on holding money.

The demand for money like any resource is a real demand. The movement towards bringing this demand into equilibrium with the stock of money balances will have effects on price levels, output, employment and interest rates. Inflation increases the cost of holding money and will reduce the real balances a community is willing to
hold if this inflation rate is anticipated. The effect of unanticipated inflation, or biased prices, is a net transfer of wealth from creditors to debtors. A simple example illustrates this point. Assume you borrow £10,000 and agree to repay the bank one year later with an interest charge of 10%, thus repaying £11,000. In a world of no inflation the bank will be able to buy the same real value of goods next year while the borrower forgoes £1,000 worth of goods. If inflation is 10% the bank in one year's time can only buy £10,000 of this year's goods. The borrower gains because the £10,000 borrowed is now worth only £9,000. The fall in value cancels out the interest paid. A similar analogy could be applied to the relation between worker and employer revolving around whether inflation was higher than wage bargainers had expected.

Kessel and Alchian (1962) develop an interesting theme of efficiency losses resulting from inflation. An increase in the cost of holding money induces a community to direct some resources to the production of money substitutes. There are near zero transaction costs associated with the exchange of money for other resources. Indeed money is relatively costless to society in the sense of its purchasing power to production cost. Hence, money is in part substituted by goods that have greater costs. These costs constitute the efficiency loss or welfare effects of anticipated inflation. Human capital is a poorer money substitute than non-human capital. This fact tends to suggest that the output of capital in non-human form rises and the output of capital in human form falls relative to the situation in which there was no inflation, particularly in the longer term.

Kessel and Alchian (1962) suggest a reallocation of resources towards less money intensive products and techniques. Money is just another input in the production process of an organisation. Those industries which tend to be money intensive as measured by the average cash balance to sales ratio similarly tend to be labour intensive, particularly service industries. An increase in the cost of holding money may mean increased output and employment of capital intensive operations in the long-run while in the short-run gains would be seen in profits. Kessel and Alchian point to the German experience of hyper inflation where the country expanded its manufacturing and productive base at the expense of food, clothing and other necessities.

We have highlighted the redistribution from creditors to debtors and the redistribution that may occur from the advantageous position of capital intensive operations over labour intensive ones. There is also the redistribution from those on fixed incomes to those whose incomes more readily keep pace with inflation and to those whose incomes may be indexed. Another major redistribution is that from the
private to the public sector. Peretz (1983) identifies two causes here. The first is brought about if one assumes the economy is at full capacity and the velocity of circulation of money is constant. Consider the issuing of new money. Those who are holding non-interest bearing forms of money will see over the course of time their assets lose value. The second cause is a progressive income tax system. The problem is of fiscal drag, or the bracket-creep effect, where an increase in real tax revenue results from higher inflation causing nominal incomes to rise pushing people into higher tax brackets.

One could argue that there is a redistribution from the poor to the rich if one accepts that the poor value more highly an extra pound and, hence, the marginal utility on their last pound is higher.

Inflation can be seen as providing positive gains. One may view inflation as a means of raising tax revenue. A clearer benefit derives from the property that inflation is an accommodating mechanism. Demand-push inflation is the result of the pressures of demand. The gains can be measured by consideration of the consequences of this mechanism not operating. These may be the avoidance of social and political disputes. Moreover, any reduction in inflation has inevitable effects by deflating the economy which may be deemed undesirable.

How does one go about determining the real redistributive effects from inflation? Peretz (1983) gives a concise review for the American experience. There appears to be two multivariate approaches, either based around the Phillips curve relationship or around the business cycle. Alternatively, there has been an attempt to control for the effects of inflation and evaluate in isolation.

The Phillips curve approach tends to give rise to evidence that the effect of inflation with regards to redistribution from the poor is not of any major significance. Thurow (1972) found that reduced unemployment and growth in output dominated effects from the associated higher levels of inflation on the incomes of wage-earners and the poor. Indeed while Thurow found that inflation led to further inequality of black incomes, the effect of higher employment was almost nine times more potent.

Bodkin (1969) found contrasting results from US and Canadian quarterly data, both historical and post-war. The unemployment variable was taken as the basic cyclical variable with interest in its relation with a trend adjusted wage series. The results from regression analysis and a relative frequency approach gave concurrent

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4 Thurow used the beta distribution to consider the income distribution for American households from 1949 to 1966.
results. For the US the influence of the rate of unemployment on trend adjusted wages is significantly negative, where the deflator was a consumer price index. Hence, *in a period of expansion with falling unemployment the real wage rises over and above normal trend rates.* When a wholesale price index was used as a deflator the negative association was no longer significant. Bodkin argues in favour of the use of the consumer price index on the grounds that it is the perceptions of the work-force that are of interest. No such significant relations were found using Canadian data, possibly because Canada is a more open economy and that several factors will impinge on the real wage.

The evidence of Bodkin (1969) and particularly Thurow (1972) suggests that the combination of low unemployment and high inflation has a net redistributive effect towards lower paid workers and the poor. Of the evidence that emphasises the business cycle approach we have already discussed the implications in some detail. Here the focus was on the profit to wages ratio and the importance of productivity and labour hoarding. Unemployment lags behind output changes and as unemployment is falling the profit to wages ratio will tend to be falling with a coinciding rise in the wage share.

The alternative approach attempts to disentangle the effects resulting in redistribution. Hollister and Palmer (1972) run regressions using US data for the period 1947 to 1966 in both level and difference forms. The dependent variable is the percentage of the population below the poverty line. The regressors were time, the unemployment rate and changes in a consumer price index. The equation in level form indicated positive autocorrelation. In the equation in difference form the price term appears with a statistically negative sign which suggests that after allowing for the direct effects of lower unemployment the secondary effects of tighter labour markets, particularly the narrowing of wage differentials and the increase in the share to labour, are significant in raising the incomes of the poor. An even more stringent test involved the time trend being replaced by the median family income which should pick up the effects of tighter labour markets. The price term remains negative and statistically significant in the equation in difference form such that higher inflation is associated with further reductions in the incidence of poverty. This reflects the comments of Minsky (1966) that "anyone committed to a successful war on poverty is also committed to the view that not all are inflations are bad".\footnote{Minsky (1966), p.297.}

Williamson (1977) argues that inflation cannot have different expenditure effects by socio-economic class unless the relative prices of consumption goods changes.
Jeffrey Williamson defines waged goods as those which have an income elasticity of demand of less than one. Therefore, they are necessities. With regards to the 1965 to 1973 trend of nominal income inequality in America, there is a corresponding rise in the prices of wage goods which would further punish the poor. Using a variant of the Atkinson index* of income inequality, price trends were found to contribute at least one quarter as much effect as nominal income trends to inequality movements. This leads Williamson to conclude that nominal and real inequality indicators do seem to move together and that the impact of prices by class, although not to be dismissed, has never had the impact that nominal inequality movements themselves had contributed.

Brimmer (1971) compared two periods, 1951 to 1965 and 1965 to 1968, both characterised by economic growth. However, in the second period this growth was accompanied by the acceleration of inflation. He describes an apparent paradox. While the real purchasing power of the representative factory worker failed to advance in the second period compared with 2.8% in the first period, the share of income received by the lowest two segments of the population had tended to increase. Two suggestions are offered. The first was the rapid upgrading of labour. As Reder (1955) argued quality is an alternative mechanism available to the employer by which to fill vacancies. The result is a narrowing of wage differentials. Secondly, a tighter labour market will result in families containing more than the solitary earner. The relative strengths of each alternative are dependent upon the factors pertinent to the time. With regard to the first period a pool of unemployed existed which could be used to fill vacancies as labour demand rose. This was less of an option in the period form 1965 to 1968. Hence, any excess demand for labour resulted in occupational upgrading of the available labour force. Equality of income improved because of the reduced number of the population deriving its income from lower paid occupations. A final observation relating to the tightening of the labour market was that non-whites as a group had benefited greatly from the high levels of economic activity while within the white community there was no trend towards further income equality.

Bach and Stephenson (1974) consider inflation and the redistribution of wealth in the US from 1950 to 1971. They find a dramatic shift in national income from business profits to wages and salaries over these two decades of inflation. Given the relative affects of unanticipated inflation on creditors and debtors interest is given to selected data on net debtor and net creditor groups. Data shows that households have consistently been net creditors. Of all households it has been the two extremes of the very rich and the very poor that have been most exposed to inflation. The very poor have few debts and few assets. The latter primarily in money form. The rich also have

few debts since they can afford not to, and hold a substantial part of their wealth in bonds. Middle income groups were seen as heavily in debt holding their assets in such forms as houses and cars.

The weight of evidence suggests that the impact of employment changes are greater than those of inflation in determining equality. Phelps (1972) argues that the effects of inflation would not exceed the gains to blacks and non-whites from a reduction in the unemployment rate since a larger number would become employed as the unemployment rate falls by an equal proportion in the various populations. It follows that the poor have a greater incentive to see a lower overall unemployment rate. The unemployment rates of poor persons and non-whites are taken to be some multiple of the general unemployment rate.

2.2.4 A British perspective

If equality is defined simply by the profit to wages ratio we can show pictorially for the UK that it is productivity that takes much of the strain lying as it does between changes in aggregate demand and changes in unemployment. The strength of aggregate demand is an important determinant of the wages share, but it is the timing of changes in productivity and unemployment that spark changes of direction in the wage share.

We will refer to data concerning the share of income from employment in Gross Domestic Product, the UK rate of unemployment, factor cost GDP measured at 1985 prices and output per person employed in the whole economy. The seasonally adjusted UK unemployment rate is defined by the new regulations that relate to claimants aged 16 or over. A consistent series is available back to 1971. For the quarters prior to 1971(1) and back to 1959(2) we first calculated the unemployment rate derived from taking the total unemployed, excluding school leavers, as a proportion of the working population for the period 1959(2) to 1987(2). We then calculated the difference between the two series for the period 1971(1) to 1987(2) to arrive at the average difference between the two series. We then used this average difference to adjust the derived unemployment series prior to 1971(1).

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1 Income from employment includes wages and salaries, forces' pay and employers' contributions. The data is seasonally adjusted.
2 All data is quarterly and from Economic Trends (various editions).
3 The working population includes all unemployed claimants, the self employed, HM Forces and employees in employment.
4 The data was obtained from the Economics Trend Annual Supplement (1987).
Figure 2.1 (in the appendix to the chapter) depicts the paths of the UK unemployment rate and the annual percentage changes in the average product of labour and the wage share from the coinciding quarter of the previous year. It is immediately apparent that there is a close inverse relationship between changes in the wage share and changes in productivity as measured by the average product of labour. If the wage share happens to fall from its level four quarters earlier then productivity typically shows a corresponding rise. Secondly, the magnitude of changes in both series appear to reflect one another. Further, there appears to be something of a negative relationship between the wage share and unemployment. Given the clear inverse relationship between productivity and the wage share, the implication is of a positive relationship between productivity and unemployment. However, after a fall in aggregate demand productivity initially falls and conversely after a rise in aggregate demand productivity initially rises. We thus need to consider the workings of the mechanism by which the negative relationship between unemployment and the wage share arises.

We can illustrate that short period in the initial phase of the economic cycle whereby there exists a positive relationship between unemployment and the wage share. For instance, in 1980(1) real GDP in the UK grew at an annual rate of 2.28%. A quarter later it was actually falling at an annual rate of 2.75%. Real GDP continued falling up to, and including, 1981(3). The biggest annual fall was 4.77% in 1980(4).

At the onset of such an economic decline business men and women are unable to foresee the length and depth of the decline. Business will wait as long as is economically viable before dismissing too much of its labour force. The rates of capacity and labour utilisation take the strain of falling demand. However, there comes a point when the strain is not viable. At this point employment levels must change. This is confirmed by the fall in the average product to labour for the period 1980(2) to 1981(1) which coincides with reductions in real GDP, although the reductions in real GDP persisted for two further quarters. The magnitude of the fall in output was not immediately matched in full by the magnitude of employment changes. While unemployment began rising in 1980(2), a rise of 0.4% on the previous quarter, the rise was relatively less substantial than the fall in real output. This is the case up to, and including, 1981(1). In 1981(2) the average product to labour rose by an annual rate of 1.6%. Productivity gains were typically in the range of 3.2% to 5.4% throughout the rest of 1981 and throughout 1982 and 1983.

Since the wage share mirrors productivity, a fall in aggregate demand, such as the one in 1980, will initially be associated with an increase in the wage share. This is
predominantly because labour hoarding and decreases in productivity adversely affect the profit of firms. The share of income from employment in total domestic income shows annual increases from 1980(2) to 1981(2). Between 1980(2) and 1981(1) these increases were between 4.8% and 6.4% while that in 1981(2) was in the order of 0.95%.

Of the 32 quarters from 1981(3) to 1989(2) only six showed an increase in the wage share over the corresponding quarter of the previous year. Of these six only 1986(1) and 1986(2) show significant increases, where these increases were 3.7% and 3.28% respectively. The sub-period of 1981(3) to 1986(2) was characterised by almost continually rising unemployment with a short period after the 1983 election when the rate stabilised. The unemployment rate began falling after 1986(3), when it was 11.2%, to a low of 5.6% in 1990(2) before rising again. The rate stood at 10.7% in 1993(1). It, therefore, appears that we can identify one period of wage share behaviour between 1981(3) and 1985(4) when the wage share fell from 66.3% to 63.4% of total domestic final income, a fall of 2.9%. There are then the two quarters of 1986(1) and 1986(2) when the wage share was 64.9% and 65.2% respectively before a period of stability up to 1989(3), when the wage share was close to between 62% and 63% of total domestic income, before rising steadily to a peak of 67.2% in 1992(1). Figure 2.2 illustrates these trends in the wage share.

The direction of movement in the unemployment rate is important in that it is a determinant of the movement in the wage share. Rising unemployment implies a falling wage share so long as the magnitude of such movements reflects the magnitude of movements in output. The level of unemployment will have a bearing on the level of the wage share. The UK evidence in relation to the wage share and unemployment thus offers credence to the concept of partisanship.

The profit to wages ratio offers only a highly aggregated view of equality. Other various sources of data show that since the late 1970s Britain has experienced an increase in the inequality of income. An analysis of the Family Expenditure Survey conducted by Stark (1989) show that the top 10% of households through the years 1979, 1980 and 1986 took an increasing share of total income rising from 23.5% to 27.5%. The second highest decile group registered an increase of 0.5% while the third and fourth decile groups showed no great change in their distribution of gross normal weekly income. However, the bottom half collectively lost 3.6%. In simple terms the top 10% received eleven times as much gross weekly income in 1979 as the bottom

11 Within the period 1981(3) to 1986(3) the only recorded fall in the unemployment rate was in 1984(1) when the rate of 10.5% was 0.1% lower than the rate of the previous quarter.
10% and fifteen times as much in 1986. The findings remain unaltered when we consider real changes. Only the top 30% of households have maintained their real wage with substantial gains within the top 10%. Interestingly, concentration indices which consider how each type of income contributes to income inequality reveal that in 1986 wages and salaries account for 82% of the inequality in gross weekly income compared with 93% in 1980. Increasingly, incomes from self-employment, investment incomes and annuities and pensions contribute to inequality.

Adams, Maybury and Smith (1988) consider the structure of occupational wage differentials from 1973 to 1986 using figures from the New Earnings Survey. The findings reveal that for the whole period from 1973 to 1986 that all occupational groups received an increase in real earnings. If one takes the ratio of the highest decile point to the lowest decile point as a measure of dispersion of the distribution the ratio was significantly higher in 1986 than in 1973 for all groups except non-manual women. From 1979 the ratio indicates that the distribution widened significantly. In the sub-period 1973 to 1979 some occupational groups towards the top of the earnings distribution suffered a fall in real earnings. During the period from 1979 to 1986 when the distribution widened the real earnings of all occupational groups increased. Those groups at the top of the earnings distribution experienced significant increases in real earnings. The top five groups in terms of earnings in 1979 received the highest increases over the period 1979 to 1986. When the specific occupations that constitute the 17 groups were considered the occupations which did least well in the period 1979 to 1986 were concentrated at the middle of the distribution. Simultaneously, there was a growth in the numbers in the top occupational groups while there has been a decline from the middle. Thus, even if the groups at either end of the distribution had been unaffected the structural change in the economy would have meant that the distribution of earnings would have changed.

The findings of Adams, Maybury and Smith (1988) confirm that trends in income distributions need to be related to both economic and political considerations. The period from 1973 to 1979 was characterised by an incomes policy which led to a narrowing of the income distribution particularly in periods when there were flat-rate limits. Following 1979, when the Conservatives were elected, one may have expected a readjustment in the relative positions of different groups just as Segal (1963) noted for

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* A decile point divides the distribution into ten groups with an equal number of individuals.

* Those groups that suffered a fall in real earnings were: (a) Professional, management and administration; (b) Professional in education and health; (c) Literary, artistic and sport; (d) Managerial (excluding general management) and (e) Making and repairing (excluding metal and electrical).

* The Literary, artistic and sport and the Professional, management and administration groups experienced increases of 30% and 29% respectively.
the US in the 1950s. Clearly the economic and political considerations are entwined. A different philosophy pervaded after 1979. Stark (1989) points to the "market effect" playing a freer hand in the 1980s. The weakening role of trades unions, the fear of unemployment and the absence of incomes policies allowed the market effect greater scope. The growing numbers of the long-term unemployed has increased the dependence of the bottom half of the distribution on state benefits. Moreover, the rise in those in part-time employment reflects the market reaction to a general rise in unemployment. Stark concludes that the increasing unemployment in the "Thatcher years" has played a part in increasing inequality and thus again we have possible credence for the concept of partisanship.

2.3 Opinion poll validation

An opinion poll validation is distinct from an economic validation of partisanship. The economic concentrates on the rationality of an individual choosing one party's economic priorities over another. There are in fact two ways in which the opinion poll validation can typically proceed. Either it can look at how sensitive to economic variables different socio-economic groups are or it can consider whether voters both perceive and associate different parties with different economic priorities.

Hibbs (1982) reflects upon the sensitivity to unemployment of various occupational-class groups. Taking three moments in time - October 1964, September 1969 and May 1975 - use is made of data enquiring of either the most urgent problem facing the country or of the relative importance of unemployment to inflation. Two points are noteworthy. Firstly, there was a time dimension so that regardless of occupational class unemployment was regarded increasingly as a more important problem. Secondly, lower social classes showed a greater concern over unemployment as compared to higher social classes. For instance, in May 1975 in reply to the question "Do you prefer the government to control rising prices or prevent unemployment", 32% and 35% identified unemployment from social classes DE and C2 respectively. For classes C1 and AB the respective figures were 29% and 19%.

In the same article Hibbs estimates a political support model in the UK for the period 1962(3) to 1978(4). The dependent variable is the popularity of the incumbent party. The economic variables considered are the unemployment rate, per capita real income growth, the rate of inflation and the exchange rate. It was found that the effect on the support of the governing party varied most across the social classes for the rate of unemployment and least for inflation. A 2% change in the unemployment rate
reduced government popularity by 3.1% for the ABC1 class, by 6% for class C2 and by 5.7% for DE.

After identifying what it is that UK voters perceive to be the most urgent problem we can rank the relative importance of inflation and unemployment. We have a consistent data series for the period 1970(4) to 1994(2). In this period of 95 quarters unemployment was identified as a more urgent problem than inflation on 56 occasions. Thus, inflation was ranked above unemployment on the other 39 occasions.

If we look at the 56 occasions when unemployment was ranked above inflation only two occurred during Labour incumbency. Labour occupied government for 20 out of the 95 quarters which is close on 21% of the time. Of those occasions when unemployment was ranked as relatively more important than inflation only 4% were under Labour. Thus, there is clear evidence that a disproportionate number of occasions of relative unemployment importance have occurred during Conservative rule.

Of the 39 occasions when prices were ranked as relatively more urgent than unemployment, 21 occurred during Labour rule. Thus, 46% of these occasions occurred in the 21% of time that Labour held power. Again we observe a disproportionality. In this case a disproportionate number of occasions of relative inflation importance has occurred during Labour rule.

The observed disproportionalities give the concept of partisanship credence in two possible ways. Firstly, it appears that the Conservatives have prioritised inflation over unemployment and Labour unemployment over inflation. Secondly, voters have perceived this economic prioritisation in ranking the relative importance of these two economic outcomes.

It appears that opinion poll data can be supportive of the concept of partisanship. This being the case, it rationalises the offering by different political parties of different economic priorities. The possible economic validation rationalises the acceptance of these priorities.

2.4 General government expenditures

The final part of this chapter considers the secular trend of general government expenditure. Moreover, it defines the components of this expenditure and what constitutes government's financial deficit. The rationale behind this section is twofold.
First, we familiarise ourselves with the components of expenditures upon which much of the later analysis in this thesis concentrates. Secondly, it is important that in focusing upon cyclical fluctuations and manipulations we be aware of the longer-run trends in the variables themselves and of their relative importance.

In discussing government expenditures we will focus on those of general government which are the sum of those of central and local government. In terms of the period in question we will refer back to 1890. In so doing we will refer to the data set of Peacock and Wiseman (1961) while that data for the period from 1948 to 1993 is obtained from Economic Trends. In this chapter in order to focus specifically on secular trends the data used is annual. In later analysis quarterly data is used in order to ascertain whether political manipulation has caused fluctuations within expenditures.

Total government expenditures in 1993 were £272 billion. In 1890 this figure was £130.6 million. However, in looking at expenditures it is the relative size of government that matters. Figure 2.4 shows the time path of total expenditures to GNP or GDP at factor cost. The start and end figures are 8.9% and 50.4% respectively. The graph shows clearly the familiar displacements during the two world wars with the relative size of government higher after each war than before. Peacock and Wiseman (1963) have articulated that these social disturbances have a lasting impact on the public expenditure series by displacing upwards the tolerable tax burden and thus allowing for increased expenditures.

In addition to the displacements it is also evident that there has been a marked growth in the relative size of government expenditures since the second world war. More particularly, the relative size of government increases from around 1965. It peaks in the period 1974 to 1976 at between 52% and 54%. It is, however, important to note that this followed OPEC I which led to consecutive falls in real GDP in 1974 and 1975. This is equally true of a second peak between 1981 and 1983 when the relative size of government was again in the order of 52% to 54% of GDP (real GDP fell in 1980 and 1981). Although the relative size falls for a period between 1985 and 1989, cyclical factors have led to the relative size of government to again hit the magical 50% mark (real GDP fell in 1991 and 1992). In short, the relative size of government has increased by up to 10% of GDP since the last war.

Factor cost is preferred to market prices since using the latter is affected by the mix of direct and indirect taxes. For a contrary view see Musgrave (1969) and Bird (1971).
Central government expenditure is made up of seven components. The largest is public sector consumption. In 1993 this equalled £138 billion. Public sector consumption includes current expenditures on public sector output as well as the wages, salaries and NHS contributions of public sector employees. Between 1977 and 1992 wages and salaries averaged 60.4% of public sector consumption. Public sector consumption between 1948 and 1993 has typically been in the range of 45% to 50% of total expenditures. As a proportion of factor GDP it has increased slightly over the period from 17.6% in 1948 to 25.3% in 1993. This upward trend may reflect "Baumol's disease" whereby the private sector is deemed to obtain higher productivity growth than the public sector. If the money wages of the two sectors do not reflect this productivity differential then it becomes relatively more costly for the public sector to provide even the same output.

The second component of public expenditures is government investment. This is primarily expenditures on fixed assets less any sales of fixed assets. In 1993 investment expenditures totalled £11.25 billion. This is equivalent to 4.1% of total expenditures and 2.1% of factor GDP. There has been a noticeable decline in the relative amount of investment expenditures. In the period 1948 to 1974 investment expenditures typically ranged between 10% and 15% of total expenditures and 4% to 6% of factor GDP. Since this period investment expenditures appear to have been the easiest for government to cut. The fact that this cut is not observed with public sector consumption shows how governments have viewed the political risk of dismissing public sector employees and/or of a tight public sector wage policy. Investment has been seen as holding a lower price tag. Public sector investment is typically less immediate and visible to the individual and the potential gains from forgoing one capital project relative to the dismissal of one worker is high.

Subsidies are the third element of expenditures. They are unrequited payments on the current account to public and private enterprises alike. Current grants are a further transfer on the current account. They are primarily grants to the personal sector including unemployment benefit, pensions and other state benefits. Also included are grants abroad such as development aid.

Current transfers (subsidies and current grants) totalled £100 billion in 1993. Hence, it was the second biggest expenditure type after public sector consumption. It is the growing relative importance of current transfers that is particularly noteworthy. In the 1950s current transfers consistently amounted to between 22% and 24% of total expenditures.

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17 The seven components are discussed in Chapter 6 of Brown and Jackson (1990)
18 Figures from the National Income Accounts (various editions).
19 Unless specified otherwise the variables are in nominal terms.
expenditures and to around 9% of GDP. Indeed it is not until the late 1960s that these relative figures show marked change. Since this time current transfers have taken up to 13% more of total expenditures and a further 9% of GDP. Thus, from 1960 to 1993 current transfers have doubled in terms of their relative share in GDP.

It is evident that the growth in current transfers is crucial in explaining the growth in the relative size of government since the last war.

The fourth component of government expenditures is capital transfers. These are unrequited payments to both the private sector and abroad on the capital account and may take the form of loans and grants. Capital transfers in 1993 totalled £8.6 billion which is equivalent to 3.2% of total expenditure or 1.6% of GDP. There is no noticeable trend in capital transfers between 1948 and 1993.

Debt interest forms the sixth component. This is the payment of interest on public sector borrowing. In 1993 these interest payments amounted to £18.4 billion. This figure constituted 6.7% of total expenditures and 3.4% of GDP. Since 1948, the years 1992 and 1993 figure have seen the lowest relative shares of debt interest in total expenditures and GDP. More typically, debt interest payments have been between 9% and 12% of total expenditure and between 4% and 5% of GDP. In terms of its relative importance to GDP debt was greatest in 1982 when its share was 5.8%.

The final component of expenditure is net lending to the private sector and overseas. It is the drawings from UK subscriptions to international lending bodies such as the IMF and the EEC as well as further net lending and investment abroad and net cash expenditures. In 1993 net lending actually reduced total expenditures by £4 billion. The net lending component has been affected by the sales of public sector assets and thus by the receipts from privatisation and the sales of council houses. This has been taken as negative expenditure. Between 1948 and 1983 net lending averaged 4.5% of total expenditure and 2% of GDP. However, between 1984 and 1993 the respective figures for net lending were -2% and -1.1%.

Given the distortionary effect of including net lending in the total expenditure figures it may be wise to exclude this component. In so doing it makes both cross-sectional and time series analysis more valid. Further, it allows us to focus on those components that can be categorised as either exhaustive expenditures or transfer expenditures. Exhaustive expenditures are the public sector’s claim on the real resources of the economy. Thus, public sector consumption and investment are exhaustive expenditures. Transfer expenditures are those transfers from one group in
the economy to another. They are subsidies, current grants, capital transfers and debt interest payments.

Figures 2.5 and 2.6 show the proportion of exhaustive expenditures and transfers in GNP or GDP respectively. In 1890 government exhaustive expenditures totalled £96.9 million which was 6.6% of GNP. In 1993 exhaustive expenditures totalled £149 billion which is 27.4% of GDP. Figure 2.5 shows no major upward displacement after the First World War I whereas there is evidence of a more marked displacement after the Second World War. Between the two wars exhaustive expenditures have, however, shown no major secular trend. This again confirms that it is not exhaustive expenditures which are the primary factor in explaining the increase in the relative size of government after 1890 and more particularly that increase since the last war. It is transfers that are important in explaining this phenomenon.

Total transfers, including debt interest, amounted to £33.7 million in 1890 while this figure was £127.2 billion in 1993. In terms of the relative share in GNP and GDP the respective figures were 2.3% and 23.4%. Figure 2.6 suggests a marked displacement after the First World War whereas there is no obvious displacement after the Second World War. Thus, in respect of displacements it appears that the First World War is associated with increased transfer expenditures and the Second World War with increased exhaustive expenditures. In particular, the upward displacement in transfer expenditures associated with the First World War can be partly explained by the extension of unemployment insurance and the Unemployment Insurance Act of 1920 as well as the increased scope of health insurance. Thus, after the First World War governments appear to have been more willing to commit their successors to contingent social benefits, while after the Second World War the focus was on infrastructure and development. For instance, between 1938 and 1954 expenditures on health increased six fold in money terms.

In mentioning health we illustrate the ability to consider the composition of public expenditures in terms of various functions or services. Other examples include defence, public order and safety, social security, education, housing and community amenities and defence. Figure 2.7 illustrates for each of these functions their relative share of total expenditures\textsuperscript{29} for the period 1977 to 1992. There are noticeable upward trends in social security, public order and health. Defence, on the other hand, has fallen in relative importance as a result of the "peace dividend" and there is also a noticeable fall in the share of expenditure on housing and community amenities.

\textsuperscript{29} See Chapter 5 of Peacock and Wiseman (1963)
\textsuperscript{31} Data from The National Income Accounts (various editions).
In order to summarise some of the observations in relation to the composition of expenditures we compare pictorially the composition of expenditures in 1953 and 1993 in figures 2.8 and 2.9. The comparison is made after the subtraction of net lending. Figure 2.8 shows how total expenditure less net lending is divided amongst public sector consumption, investment, current transfers (subsidies and current grants), capital transfers and debt interest. Figure 2.9 shows how total expenditures less net lending can be categorised as either exhaustive (consumption and investment) or as transfers (current transfers, capital transfers and debt interest). Both figures clearly show the growing relative importance of transfers and current transfers in particular.

In later chapters we will refer to the constraining features of the financial deficit on expenditures. The financial deficit of general government is the subtraction of total expenditures less net lending from tax receipts, trading income, rent and interest. Figure 2.10 shows the trend in the financial deficit between 1948 and 1993. It is noticeable that since 1972 a deficit has been a common experience, albeit with the exception of 1988 and 1989. In 1993 the financial deficit amounted to £48.6 billion. In order that we can judge the relative importance of the financial deficit over this time period we take the ratio of the financial deficit to total income excluding financial transactions. This is shown in figure 2.11. Again it is evident that the financial deficit has taken on greater significance. In the period 1948 to 1993 the financial deficit averaged 3.4% of government income. However, prior to 1972 this figure was -0.5% so that government's income had on average exceeded its expenditure. In 1992, the financial deficit was 16.7% of government income and 21.3% in 1993.

The relative growth in government is not simply a British phenomenon. Figure 2.12 uses OECD data and depicts the growth in the relative size of total government outlays in GDP from 1960 to 1993 and forecasts this size for 1994 and 1995. The OECD relative size has increased from 28.5% in 1960 to 42.0% in 1993. The figures for OECD Europe show a more marked growth from 30.9% to 52.1%. However, those countries termed "small" by the OECD show an even greater rise in the relative importance of government. Here the relative size of government has increased from 25.5% of GDP to 52.2% of GDP. The fact that small OECD countries have increased their public expenditures more than larger countries is also noted by Lybeck (1986). He also notes that Anglo-Saxon countries like the UK, the US and Canada have a higher composition of exhaustive as compared to transfer expenditures than do countries like The Netherlands, France and Belgium.

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33 It excludes financial transactions.
2.5 The next steps

In this chapter we have considered the validation of partisan theory either by using an economic analysis or by inferences from opinion poll data. The economic validation concentrates primarily on the rationale for individuals accepting political parties offering different economic priorities. The opinion poll approach validates the offering of different economic priorities by political parties. We have described the various components of government expenditures to which much reference is made in the remainder of the thesis.

The next chapter analyses four of the five political business cycle models by using simple statistical techniques. Chapter 4 then discusses some of the results that emerge from Chapter 3 as well as some fundamental problems with all five political business cycle models. The remainder of the thesis then attempts to modify the Frey and Schneider model. In particular, it considers the switch mechanism between ideological and opportunistic behaviour. In so doing much of the focus is centred on the role of government’s popularity lead.
APPENDIX TO CHAPTER 2

Figure 2.1  UK unemployment rate and annual changes in APL and wage share, 1959 - 1994.
Figure 2.2  Income from employment in total domestic income, 1958 -1993.
Figure 2.3  The most urgent problem, 1970 - 1994.
Figure 2.4  Proportion of government expenditure in GNP and GDP, 1890 - 1993.
Figure 2.5  Proportion of exhaustive expenditures in GNP and GDP, 1890 - 1993.
Figure 2.6  Transfers in GNP and GDP, 1890 - 1993.
Figure 2.7  Functional composition of total expenditures, 1977 - 1992.
Figure 2.8  Composition of expenditures, (six components): 1953 and 1993.
Figure 2.9  Composition of expenditures, (exhaustive and transfers) : 1953 and 1993.
Figure 2.10  Financial deficit, 1948 - 1993.
Figure 2.11  Financial deficit relative to government’s total income, 1948 - 1993.
Figure 2.12  Total government outlays in GDP, 1960 - 1995.

Sources:
Economic Outlook (Various Editions), OECD, Paris.
Economic Trends (Various Editions), HMSO, London;
Gallup Political and Economic Index (Various Editions), Gallup Opinion Polls Ltd, London.
United Kingdom National Accounts (Various Editions), HMSO, London.
FIGURE 2.1

U.K. UNEMPLOYMENT RATE AND ANNUAL CHANGES IN APL AND WAGE SHARE

- URATE
- CWSH
- CAPL
INCOME FROM EMPLOYMENT IN TOTAL DOMESTIC INCOME
FIGURE 2.3

THE MOST URGENT PROBLEM: INFLATION VS UNEMPLOYMENT

INFLATE
URATE

%

FIGURE 2.4

PROPORTION OF GOVERNMENT EXPENDITURE IN GNP AND GDP

- G/FGNP
- G/FGDP
FIGURE 2.7: FUNCTIONAL COMPOSITION, PERCENTAGE OF TOTAL EXPENDITURE

SOCIAL SECURITY

EDUCATION

DEFENCE  HEALTH

PUBLIC ORDER  HOUSING
FIGURE 2.8

COMPOSITION OF EXPENDITURES: 1953

- CONSUME: 51%
- INVEST: 14%
- CURTRAN: 11%
- CAPTRAN: 2%
- DEBT: 22%

COMPOSITION OF EXPENDITURES: 1993

- CONSUME: 50%
- INVEST: 36%
- CURTRAN: 7%
- CAPTRAN: 4%
- DEBT: 3%
FIGURE 2.9

COMPOSITION OF EXPENDITURES: 1953

35%

65%

EXHAUSTIVE ■ TRANSFERS

COMPOSITION OF EXPENDITURES: 1993

46%

54%

EXHAUSTIVE ■ TRANSFERS
FIGURE 2.10

FINANCIAL DEFICIT (CURRENT PRICES)

FIGURE 2.11

FINANCIAL DEFICIT RELATIVE TO GOVERNMENT'S TOTAL INCOME
CHAPTER 3
TESTING POLITICAL BUSINESS CYCLE MODELS
FOR THE UK

3.1 Introduction

Chapter 3 tests for the existence of politically induced business cycles in the UK. In particular we will focus on four variants of the political business cycle literature. A standard and simplistic technique will be used to test the validity of each model in turn involving quarterly data for UK unemployment, inflation and real output growth. The aim is to see if any of the existing models offer a general explanation of economic outcome deviations in the UK. An autoregressive model will be specified with the aim of seeing if political dummies can be added with additional explanatory power. The assumption is that unemployment, inflation and output growth can be expressed as a covariance-stationary stochastic process, such that the variance is independent of time. Such testing is used as a convenient starting point primarily to promote discussion.

Given the openness of the UK economy one needs to allow for the effect of the world economy in any testing procedures. It is suggested that this can be done by the inclusion of a time trend or the construction of a world average. We have constructed world averages for unemployment and inflation from OECD publications and used an index of world industrial production, from UN publications, as a proxy for world output.

The construction of the political dummies follows from the implications of each model of political business cycles. The analysis will consider the pure political business cycle (Nordhaus), strong partisan theory (Hibbs), rational partisan theory (Alesina) and rational political business cycles (Rogoff and Sibert). The Frey and Schneider model, will be empirically tested in Chapter 5. The briefest of overviews of the models to be tested will be given so as to explain the construction of the dummies.

1 This procedure follows McCallum (1978) and later Alesina and Roubini (1992) and Alesina, Cohen and Roubini (1992).
3.2 Models and political dummies

3.2.1 Pure political business cycle

The classic exposition of the pure political business cycle is associated with William Nordhaus (1975). Politicians are merely opportunistic and aim to maximise a vote function described over rates of inflation and unemployment. Each election period is independent of any other and voters have decaying memories\(^3\) and adaptive expectations. Given the existence of a greater trade-off between inflation and unemployment in the short-run the aim of the politician is to maximise the vote function, subject to the economic model, by choosing the appropriate level of unemployment.

A vote for the incumbent implies that the utility derived from their performance over the election period was greater than the voter expected. The incumbent can increase the likelihood of electoral success by expanding the economy prior to the election so as to move up the appropriate short-run Phillips curve. The shadow price of inflation is high after the election because the success from a pre-election expansion is greater the lower the rate of inflation at the initiation of this expansion. Thus, after an election the desire is to control inflation before the pre-election expansion. This is the classic pure political business cycle.

A political dummy variable, PBCN, is constructed so that it takes on a value of +1 in the N-1 quarters prior to the election and in the election quarter itself. The testing procedure consists of two parts. Firstly, a single dummy is constructed so as to represent all pre-election periods. Secondly, we have assigned a specific dummy to each election. For instance, the dummy CP64 is operative for the N-1 quarters prior to the 1964 election and in the election quarter itself.\(^4\) The C denotes that prior to the 1964 election the Conservatives were in power. LP70 works in the same way, the L indicating that prior to the 1970 election Labour were in government. Values of 4, 6 and 8 are used. The theory predicts falling unemployment and rising output growth prior to the election, hence, we would expect in either of the two tests for the political dummy to have a negative coefficient when applied to unemployment and, conversely, a positive coefficient when applied to output growth. All dummies are lagged by one quarter.

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\(^3\) This is known in the psychology literature as trace decay. This is due to certain knowledge or skills which if not used or practised for a substantial amount of time causing the associated memory trace to fade.

\(^4\) The election quarter is the quarter in which the election occurred unless it occurred more than half way through this quarter. In this case the election quarter is deemed to be the following quarter.
3.2.2 Strong partisan theory

The leading advocate of strong partisan theory is Douglas Hibbs. Political parties are seen as having different objectives, thus penalising differently unemployment and inflation. The legitimacy of this requires groups within society to be affected differently over the course of the business cycle and if political parties cater for these differences then the electorate has an incentive to vote in accordance with their own class interests.

Left-wing parties will pursue policies that result in higher inflation and output growth and lower unemployment than right-wing parties. "Strong" partisan theory indicates that partisan effects are persistent. There is no trade-off between ideology and opportunism and we do not rely on uncertainty and surprises to bring forth partisan effects.

The political dummy used in this case, PPT, takes on a value of +1 in the periods of right-wing government and -1 in periods of left-wing government. In tests involving unemployment we would expect a positive coefficient while we would expect a negative coefficient in tests involving inflation and output growth. We have also constructed a party and election period specific dummy, whereby a dummy relating to a particular government and election period takes on a value of one but is otherwise equal to zero. This allows us to view each government in turn rather than view a non-specific dummy over an extended time period. Again all dummies are lagged by one quarter.

3.2.3 Rational partisan theory

Rational partisan theory (RPT) may be seen as an example of weak partisan theory since partisan effects are transitory rather than persistent. Agents are rational and except for the probabilistic election result are fully informed. Political parties have different core constituents and, hence, different identifiable objective functions. In a single party system with no elections the policy neutrality result will hold. Since wage contracts are multi-period or can overlap elections, the uncertainty over the election result generates a policy surprise. This allows output to grow above the rate associated

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5 This was the core of Chapter 2.
6 Hibbs (1992), p.362, argues that the pure political business cycle and partisan theories are compatible. This makes for a weaker version of partisan theory.
with the natural level of employment under a left-wing government and below this rate under a right-wing government for a period after the election. This period will be dependent upon the time left to run on those contracts that overlap the election.

The greater the uncertainty surrounding the election result the greater any resultant boom or recession. The formation of price expectations would then inevitably involve a greater "edging of bets" and lead to a greater divergence between actual and expected inflation.

In testing the rational partisan theory we need to develop a political dummy that distinguishes between parties of the Left and parties of the Right. Moreover, it should only be operative in a period after an election when, because of uncertainty over the election result, changes in the rates of unemployment and output growth occur. The direction of these changes is dependent upon political persuasion.

Alesina and Roubini (1992) in testing rational partisan theory, create a dummy DRPTN which takes on a value of +1 for N quarters following a change to a government of the Right and -1 following a change to a government of the Left. Otherwise the dummy takes on a value of zero.

There are two important issues in the construction of their dummy. Firstly, the dummy is allowed to operate for four, six or eight quarters. In their study this is to be consistent with the average length of the wage contract in the 18 OECD countries surveyed. In Britain the norm has been for annual wage bargaining. A strict application of rational partisan theory would imply economic deviations of up to one year. Thus, in focusing upon the UK we should be looking for deviations of up to four quarters. In fact we choose to use dummies operative for four, six or eight quarters for several reasons. Firstly, we look for any asymmetry in those results relating to unemployment and output as referred to in Chapter 2. Secondly, a longer duration allows for the inefficiency of the economic and political systems, and in particular imperfections in the labour market. Thirdly, with those contracts covering a longer duration a year would be inappropriate. Fourthly, a learning period for wage bargainers in relation to government policy after an election could imply an extended period of economic deviations.

The second major issue relating to dummy construction concerns the operation of the DRPTN dummy only after a change in the political persuasion of the government. Alesina and Roubini argue\(^7\) that in countries such as Britain which have had continuous

\(^7\) See Alesina and Roubini (1992), pp.669-670.
rule for substantive periods of time\(^1\) this has corresponded to elections with little election-result uncertainty. However, this is not a one to one correspondence. Moreover, we ought, according to theory, to be analysing economic outcome deviations after allowing for the degree of election-result uncertainty.

Uncertainty in the British case not only stems from the probabilistic election outcome but also from the uncertainty arising from a flexible election date. The latter suggests further effects on macroeconomic variables.

The discussion concerning election result uncertainty has lead us to construct three categories of dummy. We replicate Alesina and Roubini (1992) and use their DRPTN variant, although this does not offer a strict test of rational partisan theory. Secondly, we construct a dummy that takes on a value of +1 for N quarters starting after Conservative electoral success and -1 for N quarters starting after Labour electoral success. This RPTN dummy specification is thus operative after each election. It does not require a change in political persuasion. It is operative for four, six and eight quarters.

So as to incorporate into our testing procedures recognition of the probabilistic election outcome we use Gallup opinion poll data.\(^2\) Given that not all groups sign their respective wage contracts simultaneously groups will have differing views on the election result. The winner's index refers to replies from the question of who individual respondents believe will win the next election, regardless of their own voting intentions. In the UK context we are interested in the percentage who believed the Labour or Conservative Party would win the next election. To create our uncertainty index we take the ratio of the average percentage of people questioned in the four quarters up to and including the election quarter who believed the actual election winners would indeed win to those who believed the losing party would win. The average of the four quarters was taken to represent the typical length of the British wage contract. The smaller the ratio the more uncertain the result over the four quarters. The index of uncertainty is thus shown in table 3.1.

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\(^1\) The Conservative Party held office from 1951 to 1964 and from 1979 to the present time of writing.

\(^2\) Data from Gallup Political and Economic Index (Various Editions), Gallup Opinion Polls Ltd, London.
Table 3.1: Index of uncertainty

<table>
<thead>
<tr>
<th>Date</th>
<th>Index of Uncertainty</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 8th, 1959</td>
<td>1.9506</td>
</tr>
<tr>
<td>October 15th, 1964</td>
<td>1.8541</td>
</tr>
<tr>
<td>March 31st, 1966</td>
<td>1.1810</td>
</tr>
<tr>
<td>June 18th, 1970</td>
<td>1.5362</td>
</tr>
<tr>
<td>February 28th, 1974</td>
<td>1.2712</td>
</tr>
<tr>
<td>October 10th, 1974</td>
<td>1.4769</td>
</tr>
<tr>
<td>May 3rd, 1979</td>
<td>1.4788</td>
</tr>
<tr>
<td>June 9th, 1983</td>
<td>3.8870</td>
</tr>
<tr>
<td>June 11th, 1987</td>
<td>2.2810</td>
</tr>
<tr>
<td>April 9th, 1992</td>
<td>1.5401</td>
</tr>
</tbody>
</table>

The index of uncertainty suggests that the election of March 1966 was the most uncertain of the ten elections while the most certain election result was that of June 1983. Since, the magnitude of output and unemployment deviations following an election ought to be a positive function of this election outcome uncertainty we took as weights one over the value of the election result uncertainty index. Thus, to derive our uncertainty derived dummy we took the product of the inverse of the index of uncertainty and the RPTN dummy.

All three specifications of the dummy should reveal a positive coefficient for the unemployment series and a negative coefficient for the output series. Again the dummy enters the regression analysis lagged one quarter.

With regards to inflation, which is part of the causal mechanism, the implication is that governments of the Left should exhibit a permanently higher level of inflation than right-wing parties. This is for two reasons. Labour is more sensitive than the Conservatives to the rate of unemployment and, hence, has an incentive to generate unexpected inflation to promote growth. Secondly, Labour is argued to believe in higher government spending so as to promote welfare and is willing to use money creation as a way of financing it. We can therefore test inflation in the manner described for strong partisan theory with the dummy PPT, lagged one quarter, that takes on a value of +1 when the Conservatives are in power and -1 when Labour is in power. We also make use of a party and election specific dummy which takes on a value of one for each election period.

3.2.4 Rational political business cycle

In the rational political business cycle approach, cycles may occur in government spending, public sector deficits and monetary growth rates. The models are non-partisan. An information asymmetry arises from the fact that government is aware of the revenue it requires to deliver a level of service and thus is immediately aware of its
competence. However, this is revealed to the public with a lag. The result is that the incumbent government has an incentive to signal competence. Individuals receive their tax bills before voting but do not see the level of provision until a period later. If the tax revenue is insufficient then further taxation or government expenditure cuts may follow after an election when their true competency is revealed.

Another variant is to imagine that voters can observe taxes and consumption spending prior to the election but only observe government investment spending after an election. The incumbent has an incentive to bias pre-election fiscal policy towards easily observed and visible consumption expenditures and away from government investment. In countries like Britain where the incumbent has the option of when to call the election budget distortions may be dampened.

The models of Rogoff and Sibert while making no associations between budget cycles and cycles in output and unemployment do, however, imply an increase in the rate of inflation around elections and, in particular, for a short period afterwards. This implication can be tested with a political dummy RPBC which takes on a value of +1 for the election quarter and the four subsequent quarters. Again a party and election specific dummy is also used. In both cases we are looking for a positive coefficient on the dummy. The dummies are lagged by one quarter.

3.3 Empirical results for the UK.

3.3.1 Nordhaus: Unemployment

The Nordhaus hypothesis is an ideologically free concept whereby political parties aim to minimise a loss function defined over rates of unemployment and inflation. In so doing the incentive is to bare down on inflation after the election, since the price of inflation is highest at this point, so as to enable a potentially more successful pre-election expansion. The economy, therefore, exhibits turnpike behaviour. The implication is that unemployment will fall prior to the election.

The testing procedure is to use a series of party and election specific dummies operative for four, six or eight quarters up to and including the election quarter as well as a dummy which consumes the specific dummies. These political dummies are entered into the equation lagged by one quarter to allow for inertia in the political and economic systems. The results for UK unemployment for the period 1959(4) to

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10 Tufte (1978) considers the timing of transfer payments in the same regard for US presidential elections.
1993(1) using the Ordinary Least Squares estimation method are shown in results table 3.1 in the appendix to the chapter. The expected sign on the dummies which accords with the Nordhaus hypothesis, irrespective of party, is negative.

Part (a) of results table 3.1 refers to those findings when use is made of the non-discriminating PBCN dummy. The political dummy is found to be negative for N = 4, 6 and 8 in accordance with theory. However, only in the case of the dummy being operative for four quarters is the variable statistically significant. The political variable PBC4(-1) reaches the 10% significance level for a one-tailed test. Therefore, there exists a 10% chance of wrongly rejecting the null hypothesis that the parameter is zero in favour of the null hypothesis that the parameter is negative.

Part (a) of the table thus suggests that pre-election cycles of four quarters have had a long-term impact on the UK unemployment rate for the period 1959(4) to 1993(1). However, there is no statistical evidence of Nordhaus outcome cycles of a longer duration.

Part (b) of results table 3.1 shows those findings for UK unemployment when use is made of election specific dummies. The results allow for the omission of the dummy relating to the period prior to the re-election of Labour in 1974. There were two elections in 1974. The first was on February 28th, and the second was on October, 10th.

There appears to be one pre-election period where the results imply significant evidence consistent with Nordhaus manipulations of economic outcomes. This is the election of 1979. This is particularly the case when the dummy is operative for the longer duration. The variable is close to the critical t-value at the 10% level of 1.289 when operative for four quarters while the dummy reaches the 10% and 2.5% levels when operative for six and eight quarters respectively.

This result is reflected by the fact that in 1977(3) the UK unemployment rate was 4.5%, it rose to 4.6% in 1977(4), fell back to 4.5% in 1978(1) before falling to stand at 4.1% in 1979(1) and 1979(2). This fall of 0.4% in the UK unemployment rate was matched by a fall of the same magnitude in the OECD rate which took this rate from 5.3% in 1977(3) to 4.9% in 1979(2). In 1979(2) the UK rate and the OECD rate were at their lowest levels for 12 and 17 quarters respectively. The OECD rate has never again achieved this "low" rate of unemployment since 1979(2) while the UK rate fell a further percentage point to stand at 4.0% throughout the rest of 1979 and the first quarter of 1980. Similarly, UK unemployment has never achieved these levels since.
With regards to all dummies the results are sensitive to the duration for which the dummies are operative. The political dummy for the pre-1992 election period is one such example. With a longer duration the 1992 case contradicts the Nordhaus hypothesis as opposed to the support that appears with a four quarter duration. The testing procedure cannot adequately deal with the flexibility of the length of the electoral period and the election date itself. Moreover, the hypothesis operates under the assumption that the economy is affected as a result of the election date. Clearly there is the possibility that the election date in the UK is affected by the state of the economy. Thus, although the pattern before an election could be of a more buoyant economy the degree of this buoyancy and the amount of time voters need to perceive and feel the effects might be indicated by the eventual election date.

With the dummies of a short four quarter duration there appears to have been downward displacements prior to the last seven elections, although significant displacements are only found for those periods corresponding to the 1979 and 1992 elections. Likewise, the dummy of six quarter duration is negatively signed in the last five elections, although the dummy representing the pre-election period of 1979 is the only significant one. These finding would seem to collaborate those in part (a) whereby the collective dummy operative for four quarters is significant at the 10% level while those operative for six and eight quarters are insignificant.

Finally, none of the specific dummies is both positively signed and significantly positive. Thus no election significantly defies the implications of Nordhaus. The question is why we do not observe several examples of significant displacements in accordance with Nordhaus. It would appear that we cannot use opportunism as the only motivating factor of politicians.

In short, there appears to be one significant example of the UK unemployment series fitting the Nordhaus hypothesis. This is the period up to and including the election quarter of 1979 where a dummy of eight quarter duration gives the most significant result.

3.3.2 Nordhaus: real output growth

Results table 3.2 performs the same tests as results table 3.1 using Ordinary Least Squares, but this time in connection with UK real output growth for the period 1958(3) to 1993(1). In order to accord with theory we are looking for a positive coefficient which would imply that governments attempt a pre-election expansion.
Part (a) of the table again uses the non-discriminating dummy. The dummy operative for four quarters is negative, contrary to theory, but statistically insignificant. The dummies of six and eight quarter duration do accord with theory but only the dummy of eight quarter duration is significantly positive. Thus, upward displacements, significant at the 10% level, are found in relation to real output growth which is consistent with the hypothesis of Nordhaus cycles.

Two elections show consistent evidence of Nordhaus output cycles. These are the elections of 1983 and 1987. They are statistically significant for all three duration of dummies. The displacement with respect to the pre-1983 election period appears greater than the equivalent period for the 1987 election. The 1983 dummy is significantly positive at the 10%, 2.5% and 1% levels when N takes a value of 4, 6 and 8 respectively. Likewise, the 1987 dummy is significantly positive at the 10%, 2.5% and 1% levels respectively. Thus, in both cases a dummy of eight quarter duration gives the most significant results.

Consider first the pre-1983 election period. The annual growth in real GDP was 1.7% in 1981(4), following a period when real GDP had been falling. Over the period 1980(2) to 1981(2) the mean annual decline in real GDP was -0.4%. The rate of growth in 1983(1) and 1983(2) was 3.5% and 3.1% respectively. The improvement in the annual growth rate was not mirrored in the world industrial production figures. Through the period 1982(1) to 1983(2) world industrial production fell by an average of 0.7%.

In the eight quarters up to and including the election quarter of 1987(3) the average growth rate in real GDP in the UK was 4.2%. In the previous eight quarters the same average growth rate was 2.4%. Correspondingly, the figures for world industrial production show a growth of 2.9% in the eight quarters prior to the UK election, but a faster average growth rate of 5.1% in the previous eight quarters.

There is some evidence that in the short period between the elections in February and October 1974 of an upward displacement in real output growth. However, the short period in question makes inferences relating to economic outcomes unreliable. The problem of interpreting behaviour in this period leads one to look at instrument cycles. Moreover, this upward displacement followed a fall in real UK GDP of 2.5% in the first two quarters of 1973. The tail-end of this decline is captured by the pre-February 1974 election dummy operative for four or six quarters. This decline in UK output is mirrored by a decline in the annual growth of world industrial production.

An investigation into Nordhaus instrument cycles is initiated in Chapter 5.
Comparing the first two quarters of 1973 and 1974 the respective annual growth rates were 9.5% and 5.0%.

Again the results are sensitive to the duration of the dummy. For instance, a significant upward displacement in accordance with Nordhaus outcome cycles is found at the 10% level for the 1959 election with a dummy of four quarter duration. Likewise, a cycle according with theory is found for the 1964 election when the dummy is of eight quarter duration.

In contrast to the findings from analysing the UK unemployment series, where a dummy of a short four quarter duration is preferable, the findings for real UK output suggest a longer dummy of eight quarter duration gives more significant results. This supports the implication of labour hoarding introduced in Chapter 2. This *asymmetry* of results between unemployment and real output growth is a factor of consideration for analysts and political business cycle theorists.

### 3.3.3 Strong partisan theory: Unemployment

Strong partisan theory implies persistent partisan effects while in contrast weak partisan theory implies that partisan policies have only transitory effects on economic outcomes. Thus, with strong partisan theory class interests always predominate. It is Douglas Hibbs who has long been associated with the idea of such permanent partisan effects.\(^1\)

Results table 3B.1 considers strong partisan theory in relation to UK unemployment. In part (a) the strong (persistent) partisan dummy, PPT, is used taking a value of +1 for periods of Conservative rule and -1 for periods of Labour rule. Thus in analysis of permanent partisan effects on UK unemployment we are looking for a positive sign on PPT. In part (b) we discriminate between the various electoral periods. The dummy relevant to each Labour (L) or Conservative (C) period of rule takes on a value of 1 when operative and zero otherwise. Hence, in relation to unemployment we are looking for a positively signed Conservative dummy and a negatively signed Labour dummy.

The dummy PPT, lagged one quarter, is found to be significantly positive at the 10% level when the unemployment equation in (a) is estimated for the period 1959(4).\(^2\) Interestingly, Hibbs (1992) considers the possibility of partisan effects being involved in a trade-off with opportunism towards the end of an election period.
to 1993(1). The implication is that partisan effects as measured by the Conservative-Labour dimension have had a long-term impact on the unemployment series.

Part (b) considers the effect of individual governments on UK unemployment. It is split into two sections. The first treats the two periods of Labour rule in the 1960s and the two periods in the 1970s as single periods given the short nature of the first periods before "second elections" were called. The second section treats them separately. However, it should be noted that the dummy for the period of Labour rule from February to October 1974 is exactly equivalent of the dummy used in the pure political business cycle test. Hence, interpretation of this dummy is complicated with no obvious way of distinguishing partisan behaviour as opposed to opportunistic behaviour.

In part (b) use is made of the Cochrane-Orcutt method with a first order autoregressive error mechanism specified with the Durbin-Watson statistic indicating that estimation using Ordinary Least Squares is subject to negative first-order autocorrelation.

Irrespective of the government and our treatment of Labour rule, each dummy is positively signed. The Conservative dummy for the period of rule from 1959(4) to 1964(4) reaches the 10% significance level in the first section and falls just short of this level of significance in the second section. The critical tabular t-value is 1.289. Likewise, the Conservative dummy representing the period of rule from 1983(3) to 1987(3) is close to significance. Thus, two periods of Conservative rule from 1959 to 1964 and 1983 to 1987 approximate the strong partisan hypothesis as it relates to unemployment.

In 1959(4) the UK unemployment rate was 1.5% which fell through 1960 to a low of 1% in the first two quarters of 1961. This fall was mirrored by the world rate which fell from 4.2% in 1959(4) to 3.8% in 1961(2). The sign on the dummy appears to reflect the drift upwards in the UK unemployment rate through 1962 to stand at 2% in 1963(1). It was to be exactly five years before this rate of unemployment was seen again in the UK. Although the UK rate fell towards the election standing at 1.1% in the election quarter of 1964, the world rate had continued to fall throughout 1962, 1963 and 1964. Hence, the election dummy implies that political manipulation, for the midterm of the election period at least, caused the UK rate to rise while the world trend was downwards. Furthermore, the direction of the world trend appears to explain why a significant Nordhaus downward displacement is not detected prior to the 1964 election. The UK rate could be said to have ridden on the back of the world trend.
With respect to the second Conservative government in question from 1983(3) to 1987(3) the trend in unemployment is an upward one. In 1983(3) the rate stood at 10.6% in the UK which rose without interruption to 11.2% in 1986(3), falling 1.2% in the next four quarters prior to the 1987 election. In contrast, the world rate stabilised at between 8.1% and 8.3% from 1983(4) and 1985(3) before falling to 7.3% in the first quarter of 1987. Thus, the UK rate only followed the path of the world rate in the period close to the proximity of the 1987 election. In essence, this story matches the previous discussion relating to the Conservative government of the early 1960s.

The Labour governments, however treated, are signed contrary to the implications of strong partisan theory. Indeed the Labour periods of rule in the 1960s are close to significantly contradicting the strong partisan hypothesis. Between 1964(4) and 1966(1) the UK rate fell by 0.2% from 1.1% to 0.9% while the world rate fell by 0.1% from 2.6% to 2.5%. In the second election period from 1966(2) to 1970(2) the UK rate rose from 0.9%, the lowest figure in the sample period, to 2.1% which at the time was the highest figure in the sample period. The world rate rose from 2.5% in 1966(2) to 2.9% in 1970(2). Therefore, the strong partisan theory appears in need of qualification. It may better be described in terms of an administration effect.

### 3.3.4 Strong partisan theory: Real output growth

The same analysis as previously applied to unemployment will now be applied to real output growth. Results table 3B.2(a) uses the dummy PPT, lagged one quarter, across all periods. Theory would predict a negatively signed political dummy to indicate that Labour has a greater incentive to promote growth. However, our empirical analysis for the period 1958(3) to 1993(1) finds a positive coefficient on the dummy contrary to theory. However, the parameter is a statistically insignificant variable in explaining the variation in UK real output growth. This is in contrast to that result for unemployment.

Part (b) of the same results table makes use of election and party specific dummies. Given the specification attributed to these dummies we are looking for a positive coefficient on those Labour dummies and a negative coefficient on those Conservative ones.

The dummies are typically negative, irrespective of party, and insignificant. The only dummy that is statistically negative is for the period of Labour rule from 1964(4) to 1970(2). During this period the annual growth rate in UK real GDP was 2.8% while
world industrial production grew annually at 7.1%. Hence, this period is a significant contradiction to strong partisan theory.

While all Conservative dummies are negative in accordance with theory none is statistically significant. Moreover, the result from part (a) implies that the long-run impact as been such that growth has increased under Conservative rule relative to periods of Labour rule. Nonetheless, we have to conclude that there is no substantial evidence of significant permanent partisan effects in the case of real output growth for the UK.

3.3.5 Rational partisan theory: RPTN dummy and unemployment

Results table 3C.1 makes use of the RPTN dummy which considers the realisation of possible unemployment effects after each election for the period 1959(4) to 1993(1). There is no incorporation of Alesina’s election-result uncertainty effect. The degree of any downturn in the economy following the electoral success of a right-wing party or upturn following the electoral success of a left-wing party depends in part upon the uncertainty regarding the electoral outcome. Greater uncertainty, ceteris paribus, will work to increase the magnitude of economic deviations. Moreover, the dummy does not allow for the extent of any political polarisation. The more polarised the political parties the greater is the potential difference between actual and expected inflationary expectations.

The election-result uncertainty effect and the degree of political polarisation are the two principal factors in determining the extent of economic deviations. Clearly, they can be either counteracting forces or alternatively they can work in the same direction in determining economic deviations.

With respect to the UK case there is the additional problem of the flexibility of the election date. The Alesina model assumes a fixed election date such that the only uncertainty is over the election result. In the case of flexible election dates wage-bargainers face the additional problem of gauging whether wage contracts will cover periods that will involve an election. Thus, the RPTN dummy can only offer a weak test of rational partisan theory.

Part (a) of results table 3C.1 uses a dummy, lagged by one quarter, which is operative after each election for either four, six or eight quarters. With the dummy taking on a value of -1 after a Labour election success and +1 after a Conservative election success the coefficient on the dummy needs to be positively signed with
respect to unemployment to accord with theory. Inspection for the period 1959(4) to 1993(1) confirms that the dummies are signed as theory would predict. However, none of the dummies is statistically significant. Therefore, while movements in unemployment after UK elections may accord with rational partisan theory, the long-run impact on the unemployment rate as measured by the significance of the dummy used to capture this effect is not significant.

Part (b) of the results table makes use of the specific election and party dummies. To accord with the implications of rational partisan theory the Labour (L) dummies should be negatively signed, indicating falling unemployment after the election of a Labour government, and the Conservative (C) dummies should, conversely, be positively signed, indicating that unemployment rises for a transitory period after the election of a Conservative government. The notation attached to the dummies also distinguishes between those cases where there was a change of government, denoted by a "C" after the party of government, and where there was no change in the party of government, denoted by "NC" after the party of government. This section of the results table also shows comparable results when the elections of March 1966 and October 1974 are omitted given their close proximity to the proceeding election.

The Labour dummies of the 1960s are positively signed contrary to theory and are statistically insignificant. However, the results suggest a significant downward displacement at the 10% level of eight quarters after the Labour election success in February 1974.

The aftermath of the Conservative re-election in 1959 contradicts the implications of rational partisan theory. The relevant dummy is close to being significantly negative at the 10% level for the four quarter case, while in the six quarter case the dummy is indeed significantly negative at the 10% level.

A further contradiction to the theory is the Conservative 1987 dummy. The dummies operative for six and eight quarters are significantly negative at the 10% level.

There are two examples of Conservative dummies according with rational partisan theory. The aftermath of the 1970 success as measured for four and six quarters is significantly positive at the 10% level. The second case is following the 1992 election. Our data sample considers only four quarters from 1992(2) to 1993(1) and the dummy is significant at the 10% level.
In short, we can find three cases with evidence to accord with rational partisan theory. These are the aftermath of the 1970, February 1974 and 1992 elections. Conversely, we find two significant contradictions to theory. These are the periods corresponding to the aftermath of Conservative re-election in 1959 and 1987. Finally, the results are clearly sensitive to the duration of the political dummy.

3.3.6 Rational partisan theory:
The CRPTN and WRPTN dummies and unemployment

Results table 3C.2 summarises the findings for unemployment when use is made of two alternative specifications of political dummy in testing for the implications of rational partisan theory.

The CRPTN dummy is that used by Alesina and Roubini (1992) and is only operative after a change in the political colour of the government. If the elections omitted could be said to have been relatively certain in terms of the election outcome then the CRPTN variant would be expected to out-perform the RPTN variant. However, the index of uncertainty shown in table 3.1 illustrates that this is not the case. While the 1983 election may be a case supportive of the Alesina and Roubini assumption, the 1966 election is a good example of the fallacy of this assumption. Hence, we derive WRPTN dummy which is the product of the inverse of the constructed election result uncertainty index and the RPTN variant.

Part (a) of results table 3C.2 refers to those results using the CRPTN variant. The dummy whether operative for four, six or eight quarters is found to be positive, which accords with theory. The dummy of four and eight quarter duration is statistically insignificant, however, the dummy of six quarter duration is significantly positive at the 10% level. Thus, after those elections that resulted in a change in the political persuasion, the long-run tendency has been for a decline in unemployment relative to trend for six quarters if the change was to a Labour government and a six quarter increase if the change was to a Conservative government. Thus, this significant result appears to confirm, in part, the findings of Alesina and Roubini (1992). However, it cannot be said that these findings confirm the implications of the theory as outlined by Alesina (1987). Given the fallacy of the assumption linking re-elections and election-outcome uncertainty this dummy is indeed less of a test of rational partisan theory than the RPTN dummy variant.
Part (b) of the results table refers to the WRPTN variant. The results again give rise to positive political dummies for four, six and eight quarters. The results are similar to those for the RPTN dummy. None of the dummies is significant. The results relating to the WRPTN variant suggest that the election result uncertainty-driven rational partisan theory is an insignificant factor in explaining the time series of UK unemployment.

There are acute problems in testing the rational partisan theory for the UK case. The flexibility of the election date introduces the uncertainty of when the election is to be held in addition to the uncertainty that prevails over the election result. While we have opinion poll data which the theory sees as helping wage-bargainers to gauge the likely winners of the election and, thus, to gauge the rate of inflation chosen, this is only part of the uncertainty in the case of the UK. Election date uncertainty allows for further economic outcome deviations from trend. Such deviations would presumably be later in the election period when the probability of an imminent election would tend to increase. Moreover, this probability would depend upon how government uses the same opinion polls as wage-bargainers to gauge its chance of winning.

In acknowledging this problems we accept that we can no longer claim to have a definitive test for the rational partisan theory in the UK case. This does not make our analysis futile and, in particular, some consideration of the unemployment data is necessary to understand the more favourable results of the CRPTN dummy. Here, we analyse various sub-periods in detail in relation to unemployment. To help in understanding the patterns we describe reference can be made to figure 3.1 in the appendix to this chapter. This shows pictorially the UK and world rates of unemployment.

We begin by considering the first three elections in our analysis. These are the Conservative victory in October 1959 and the Labour successes of October 1964 and February 1966. The RPTN election and party specific dummies in results table 3C.1(b) accord with each election aftermath with a dummy signed contrary to theory. The unemployment data can be seen to confirm these results.

The UK unemployment rate was seen to either fall or remain steady for seven quarters from the 1959 election. In 1959(4) the rate was 1.5% which fell to 1% in 1961(2). World unemployment fell from 4.2% to 3.8% over the corresponding period. The aftermath of the 1959 election does not accord with the strict rational partisan theory. Indeed there is evidence of a significant downward displacement in the UK unemployment rate.

13 See Chapter 4 for further discussion of this point.
unemployment rate. Further, the index of uncertainty suggests this was a fairly safe election for the Conservatives. Therefore, in omitting the 1959 re-election the results will be biased in favour of the implications taken to be supportive of rational partisan theory.

When the Labour government was first elected in 1964(4) the UK unemployment rate was 1.1%. It fell to 0.9% in the first two quarters of 1966. The world rate fell marginally from 2.6% to 2.5% in the corresponding period. After re-election in 1966 the UK unemployment rate began rising more quickly than the world rate. The UK rate was 0.9% in 1966(2), 1.8% in 1967(2) and 2% in the first two quarters of 1968. The Labour government had committed itself not to devalue the pound and this limited its ability to inflate. The world rate rose from 2.5% in 1966(2) to 2.9% in 1967(2) and up to 3.1% in 1968(1) before falling slightly to 3.0% in 1968(2). Thus, there is evidence of an upward displacement in the UK rate after the 1966 re-election of the Wilson government. This is particularly true of the first six quarters of rule by the re-elected government. Clearly, this is contrary to the implications of rational partisan theory and a second instant where omitting the aftermath of a re-elected government favours the CRPTN variant. The index of uncertainty clearly states that the reason for omission should not be based on the grounds of a lack of election outcome uncertainty.

If we take the periods relevant to the aftermath of the June 1970, February and October 1974 elections we find that the RPTN election and party specific dummies in results table 3C.1(b) are signed in accordance with theory.

The Conservative government elected in June 1970 presided over a period that saw the UK unemployment rate at 2.1% in 1970(3) and 1970(4). This increased to 2.6% in 1971(3) and rose steadily in late 1971 and early 1972 to be at 3.1% in 1972(2) before falling back to 2.8% in 1972(3). The world rate rose from 3% in 1970(3) to 3.7% in 1972(3). Thus, there is evidence of a significant Conservative partisan effect particularly for the period covered by the election and party specific dummies, lagged one quarter, operative for four or six quarters.

Labour formed a government in February 1974 and were then re-elected in October 1974 of the same year with a majority of three over all other parties. Under this period of Labour rule the UK unemployment rate did not show a fall until 1978(1) as seen in graph 4 of figure 3.1. The UK unemployment rate rose from 2.0% in 1974(2) and 1974(3) to 4.1% in 1976(2). The comparable world rate rose from 3.2% to 5.2% a rise of 2.0%, much the same as the UK rate.
The UK unemployment rate was 2.1% when re-elected in October 1974 and rose to 4.2% by 1976(4). The comparable world rate rose from 4% to 5.3% a rise of 1.3% as compared to a rise of 2.1% in the UK rate. The UK rate rose almost twice the amount of the world rate, however, if one studies this rise it can be seen that it is a more steady rise, but of a longer duration than that of the world rate. The world rate rises sharply relative to the UK rate in the last two quarters of 1974 and in the first quarter of 1975. This fact is reflected by the significant Labour dummy representing the eight quarters from 1974(2). It appears that this period following re-election is less supportive of rational partisan theory.

Finally, we consider those unemployment statistics relating to the last four Conservative election successes. The first of these successes was on May 3rd, 1979. In 1979(2) the UK unemployment rate was 4.1% as compared to the world rate of 4.9%. In 1980(2) the respective rates were 4.4% and 5.6%. The rise in the world rate was in excess of the UK rate so that the dummy of four quarter duration is incorrectly signed. In 1981(2) the UK rate was 7.7% and the world rate 6.4%. Thus, at the this juncture the world unemployment rate had risen by 1.5% since 1979(2) as compared to the rise in the UK rate of 3.6%. The substantive rise in the UK rate did not follow immediately after the Conservatives election success. It appears to have commenced in the middle part of 1980. Moreover, the UK rate continued to rise throughout the rest of the election period although this was reasonably true of the world rate which peaked at 8.0% in 1983(1) and 1983(2) before falling. Consequently, the causal mechanism of the upward trend in the UK unemployment rate may be more accurately described by strong partisan theory.

Consider now the election of June 1983. The index of uncertainty in table 3.1 shows this to be the most certain of election outcomes. Indeed the Conservatives were re-elected with a combined majority of 144 seats. While we have dismissed the Alesina and Roubini (1992) technique of omitting the aftermath of those elections following a re-elected government, the lack of election-outcome uncertainty does imply limited economic-outcome deviations. The unemployment series confirms this assertion. In 1983(3) the UK unemployment rate was 10.6% and the world rate 8.5%. In 1984(3) the UK rate stood at 10.7% and the world rate at 8.2% while by 1985(3) the respective rates were 10.9% and 8.1%. Hence, the magnitudes of change are not particularly large although the UK rate had risen relative to the world rate. Hence, this election could be said not to have contradicted the implications of rational partisan theory. However, we must be wary of falsely according explanation and causation to a theory on the grounds that the appearance of the available data does not contradict its implications. Indeed for this electoral period as a whole we are close to upholding the
strong partisan theory with respect to unemployment at the 10% significance level as noted in section 3.3.3.

The 1987 election is followed by a significant downward displacement of unemployment. This is shown in results table 3C.1(b) by the relevant election and party specific dummy when operative for six or eight quarters. This is also evident if one views graph 7 in figure 3.1. This downward shift is contrary to the implications of rational partisan theory.

After the re-election, the UK unemployment rate in 1987(3) was 10% and the world rate 7.3%. In 1988(3) the UK rate had fallen 2.1% to 7.9% and the world rate had fallen by 0.4% to 6.7%. By 1989(3) the UK rate and the world rate both stood at 6.2%. This was the first time since 1980(4) that the UK rate had not been above the world rate. The significant fall in UK unemployment is not only in the wrong direction to accord with partisan theory but the index of uncertainty suggests that this was the second most certain election result. More than twice the number of respondents correctly identified the election winner as opposed to the loser. Clearly, excluding this election and using the CRPTN variant biases the results of Alesina and Roubini (1992).

If the correct characterisation of the period between 1983 and 1987 elections is given by strong partisan theory, then how likely was a significant upward displacement in the UK unemployment rate after the 1987 election? Models must be able to deal with continuous periods of rule by one political party.

With regards to the aftermath of the 1992 re-election our data sample only allows us to consider the period up to 1993(1). From results table 3C.1 it can be seen that the relevant RPTN dummy is significantly positive. In 1992(2) the UK rate was 9.6% and had risen by 1.1% to 10.7% in 1993(1). The world rate rose from 7.4% to 7.6% in the corresponding quarters. This significant upward displacement would appear to accord with rational partisan theory. The omission of the dummy considering the period after the re-election of the Conservatives in April 1992 appears to be the one example which does not favour the CRPTN variant used by Alesina and Roubini (1992). Further, the index of uncertainty suggests that this was not one of those elections with virtually no uncertainty.
3.3.7 Rational partisan theory: RPTN dummy and real output growth

An alternative set of tests looks at the empirical evidence relating to rational partisan theory from time series data for the annual percentage growth in UK GDP at factor cost as measured at 1985 prices. Results table 3C.3 shows those results for real output growth for the period 1958(3) to 1993(1). It matches in all aspects of presentation results table 3C.1.

Part (a) makes use of the RPTN dummy. Given its construction we are looking for a negative coefficient since the aftermath of a Labour election success should, according to theory, be accompanied by an increase in output growth and the converse for a Conservative election success.

The results for dummies of four and six quarter duration are contrary to theory with both dummies positively signed. Neither is statistically significant. Only the eight quarter dummy is correctly signed, but it too is statistically insignificant. Therefore, there is no indication of a significant long-term impact on real output from post-election output deviations. This confirms the conclusions from the analysis of UK unemployment.

Part (b) makes use of the RPTN election and party specific dummies. Theory would dictate that the Labour dummies be positively signed and the Conservative dummies negatively signed.

There appear to be two significant results, but as with unemployment the results are sensitive to the duration of the dummy. The two elections in question are those of 1964 and 1979. The first is a significant contradiction of theory when the dummy is operative for eight quarters. For the post-election period of 1964 the dummy indicates a downward displacement in real output which does not accord with the partisan characteristics of the model. With respect to the post-election period of 1979 the dummy is significantly negative at the 2.5% level for the four quarter variant and at the 0.5% level for the six and eight quarter variants. This does accord with the partisan characteristics of the model.

Other than these two significant results, one in accordance and one in contradiction to theory, the election dummies do not indicate significant post-election deviations in real output. The only other result approaching statistical significance relates to the post-February 1974 election. Again this is contrary to theory with a negatively signed Labour dummy. Thus, results table 3C.3 offers no substantive support for the rational partisan theory in respect of output deviations.
As noted with respect to the Nordhaus hypothesis there is an asymmetry of results for unemployment and output in the UK. For the unemployment series three cases significantly accorded with the implications of rational partisan theory and two significantly contradicted such implications. None of the five significant results corresponded to the two significant results found in analysing UK real output.

3.3.8 Rational partisan theory:
The CRPTN and WRPTN dummies and real output growth

This section analyses those results for real output using both the WRPTN and CRPTN variants. Of interest is whether the CRPTN variant produces more significant results than the other variants for output growth just as it did in analysing unemployment.

Part (a) of results table 3C.4 is for those results using the CRPTN variant. All three dummies are negatively signed in accordance with theory. However, none is statistically significant.

Part (b) of the table makes use of the election result uncertainty dummy WRPTN. When we attribute greatest weight to the aftermath of those elections where there had been a high degree of election-outcome uncertainty we find that the dummy used is statistically insignificant. In the case where the dummy is operative for four or six quarters it is positively signed contrary to theory. Only in the case of an eight quarter variant do we have the negative dummy although it remains statistically insignificant. Hence, these results mirror those from use of the RPTN variant.

Although the CRPTN dummies are all signed according to theory and, hence, are an improvement on the other two variants there are no significant post-election displacements of real output. Hence, there is further evidence of an asymmetry between those results for unemployment and those for output growth. Nonetheless, the generality of results relating to economic outcomes is not favourable to rational partisan theory.

3.3.9 Rational partisan theory: inflation

The implications of rational partisan theory regarding inflation are somewhat different. Such implications lie in the causal mechanism of the theory. This involves
wage bargainers holding inflationary expectations for the next period in which the election is held. The two political parties have different class interests such that the party of the Left has a higher time consistent inflation rate than the party of the Right.

For the UK the implication is that inflation under Labour will be higher relative to that under the Conservatives since Labour are deemed to desire higher growth and welfare spending. In order to test this implication, which is equivalent to a strong partisan theory test, we analyse the UK inflation series for the period 1959(1) to 1993(1).

Results table 3C.5 makes use of the strong (permanent) partisan dummy, PPT, lagged one quarter. In part (a) we look at the long-run impact of ideology, as represented by the switch between Labour and Conservative rule, on UK inflation. Part (b) considers individual governments.

In part (a) the expected sign of the political dummy is negative while in part (b) we expect Labour dummies to be positively signed and Conservative dummies negatively signed.

The strong partisan dummy PPT is found to be negatively signed as expected, indicating relatively higher inflation under Labour than under the Conservatives. However, the dummy is not significantly negative and, hence, there is no significant support for the inflationary implications of rational partisan theory and strong partisan theory.

Consider the results from the use of the election and party specific dummies. The tables in part (b) are most noteworthy for their lack of any significant political dummies. Moreover, the Conservative dummies are predominantly positive contrary to expectation.

The results from the UK inflation series offer little support to the strong partisan and rational partisan theories. In the context of the latter this is an apparently damaging finding since the causal mechanism of rational partisan theory is based around the inflationary expectations of wage bargainers.
3.3.10 Rational political business cycle

The rational political business cycle literature does not assume that cycles will occur in unemployment and real output growth. It is predominantly an instrument cycle theory. While government knows of its own ability to deliver goods and services at a certain cost, the public view the government's competence with a lag. In all other respects the public are fully informed. The government has an incentive to create instrument cycles prior to the election in order to signal to the public its competence. Only after the election is the true competence revealed. An implication of this incentive is an increase in the rate of inflation around the time of the election and, in particular, following the election. It is also argued that government may prefer to raise those prices under their direct control after elections rather than before.14

The inflation hypothesis is not the strictest test of the rational political business cycle theory. The results have to be judged in the context of those from tests for output and unemployment deviations around election time since the rational political business cycle does not associate elections with deviations in these economic outcomes. Otherwise the inflation test could be seen as a test of the pure political business cycle. Furthermore, a comprehensive approach requires that we consider instrument cycles. In later chapters we discuss signalling in relation to government expenditures and the related concept of visibility which implies that government will signal with those forms of expenditures and taxation that have a more immediate and visible impact upon voters.

Part (a) of results table 3D.1 shows those results from applying the political dummy RPBC to the inflationary equation. This dummy is operative in the election quarter and the four subsequent quarters. It is non-partisan since all governments have an incentive to signal competence. The inflationary hypothesis implies that the political dummy should be positively signed. While the dummy for the period 1959(1) to 1993(1) is positive in accordance with theory it is, however, statistically insignificant.

Part (b) of the results table looks at the aftermath of each election. The notation used to represent each election specific dummy indicates the year of the election and the party in power prior to the election who had the incentive to signal competence. It further indicates whether there was a change in the party of government. Since this is a non-partisan theory we are looking for a positive dummy regardless of political party.

In interpreting the results we have to be aware of the problem that arises from the calling of an election soon after a preceding one. The classic case appears to be the

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two elections in 1974. The implications are not clear. It could be argued that the Labour government in the intervening period would have had an even greater incentive to manipulate government instruments given the likelihood of a second election. In this situation the flexibility of the election date may not have dampened the incentive to create instrument cycles as Rogoff (1990) and Rogoff and Sibert (1988) argue. On the other hand there may be a limit on any manipulations of instruments when such short periods of time are involved. In part (b) of the results table we therefore show the results with and without the re-election dummies of 1966 and 1974.

When all dummies are included five of the ten election specific dummies are positively signed in accordance with theory. Three of these are significantly positive. Of the five dummies signed contrary to theory none reaches statistical significance.

The three significant examples which accord with the inflation hypothesis of rational political business cycle theory are those elections of June 1970, October 1974 and May 1979. These are significantly positive at the 10%, 0.5% and 2.5% levels respectively.

To illustrate, in June 1970(3) the UK inflation rate was 7.1% which rose to 10.2% by 1971(3). The world rate rose from 5.1% to 5.7%. After the second election of 1974 the UK inflation rate rose from 18.0% in 1974(4) to 25.6% in 1975(4) while the world rate fell 4.6% from 15.5% to 9.9%. Finally, after the 1979 election UK inflation rate rose from 10.5% in 1979(2) to 21.6% in 1980(2). The corresponding world rate rose from 10.2% to 12%.

The inflation hypothesis could be said to offer only weak support for the rational political business cycle although no post-election period significantly refutes the hypothesis. However, it is important to restate that rational political business cycle theory relates primarily to instrument cycles and this should be our main avenue of research. Further, we have to recall that evidence relating to output and unemployment cycles since the current results from the inflation hypothesis can be interpreted as also offering weak support to the pure political business cycle.

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13 After the election on February 28th, 1974 Labour returned with 301 seats out of a total 635.
3.4 Summary

We have considered in relation to economic outcomes the Nordhaus hypothesis, strong partisan theory, rational partisan theory and the rational political business cycle. In this section we briefly summarise the findings for the UK case.

The Nordhaus hypothesis implies falling unemployment before the election, regardless of the political persuasion of the governing party. We have found that this behaviour has had a significant impact on the unemployment series when captured by a dummy variable operative for the four quarters up to the election quarter. However, when we examined individual governments only one had had a significant short-term impact on unemployment. This was the Labour government prior to the May 1979 election.

The Nordhaus hypothesis argues that opportunistic behaviour should lead to an increasing rate of real output growth prior to elections. There is significant statistical evidence of expansionary behaviour in UK output growth in the eight quarters up to an election. Hence, the opportunistic cycles in relation to output are found to be longer than those for unemployment, which could be consistent with the labour hoarding hypothesis. In looking at the individual governments three exhibit significant opportunistic behaviour. These are the Labour government between February and October 1974, the Conservative government prior to the 1983 election and again the Conservative government prior to the 1987 election.

Strong partisan theory is based on the relationship between class interests and economic outcomes as introduced in Chapter 2. Labour would desire lower rates of unemployment than the Conservatives while Labour would desire higher rates of output growth than the Conservatives. The evidence for unemployment found a long-term impact when a dummy distinguished between periods of Labour rule and Conservative rule. When attention was focused on individual governments there was weak support for the Conservative governments from 1959 to 1964 and 1983 to 1987.

No support was found from an analysis of real output growth for strong partisan theory in the UK.

The third hypotheses considered were those from the rational partisan theory. We attempted to replicate Alesina and Roubini's (1992) approach which looked at the aftermath of elections when a change of political control had occurred. The implication for unemployment is a fall after a change to Labour and a rise after a change to the
Conservatives. A significant long-term impact was found with a dummy of six quarter
duration.

With output growth the implication is of a decline after a change to the
Conservatives or a rise if there is a change to Labour rule. However, although the
dummies were correctly signed no significant impact was found.

Alesina and Roubini (1992) conduct only a weak test of rational partisan theory.
A strong test must look at the aftermath of each election and also allow for the
uncertainty of the election result. Our analysis for economic outcomes was not
supportive when allowance for election result uncertainty was made.

In terms of individual governments, transitory partisan cycles which accorded
with theory were found after the June 1970, February 1974 and April 1992 elections
for unemployment and after the May 1979 election for real output growth.

The rational partisan theory is based in part on political parties choosing different
inflation rates which are manifestations of class interest. This implication is also
applicable to strong partisan theory. No significant impact as measured qualitatively by
the Labour versus Conservative distinction was found for the UK inflation series.
Moreover, no individual governments had caused significant displacements of inflation.
Hence, this finding calls into question the causal mechanism of rational partisan theory.

Finally, we considered the inflation hypothesis of the rational political business
cycle theory. However, this theory is predominantly related to instrument cycles and,
hence, this is a weak test of the hypothesis. Furthermore, the results could be
applicable to the pure political business cycle unless one judges the results in the
context of those tests for output and unemployment cycles. Later chapters will
examine instrument cycles and the incentive of governments to signal competence by
delivering for a certain price a level of government provision. The implication of the
inflation hypothesis is of a rise in post-election inflation. While there was significant
evidence in relation to the June 1970, October 1974 and May 1979 elections the long-
term impact was not significant.
3.5 Conclusions

We have reviewed extensively a set of empirical results for implications on macroeconomic variables from four variants of the political business cycle literature. The overwhelming message is that no one theory describes convincingly the political manipulation of the economy. Furthermore, the economic outcome variable examined has important effects on the results. It is evident that we should be wary of talking about manipulating unemployment and output as if such manipulation affected the two similarly and simultaneously.

We should be aware that political business cycle theories can be compatible and that the same behaviour in macroeconomic variables will on occasions not contradict more than one of the variants. The most obvious example is the beginning of a period of right-wing government under the RPT and the beginning of an election period under the Nordhaus hypothesis. Both would predict a contraction of the economy although the causal mechanisms are different.

No one should doubt the incentives for politicians to manipulate the economy. These incentives are conditioned by the nature and fabric of the systems in which politicians operate. For instance, such manipulations are affected by the nature of institutions such as the Bank of England. They are affected by parliamentary and political procedures. The flexibility of the election date is an important example. The causal mechanisms we refer to are, thus, shaped and indeed determined by the widest possible spectrum of institutional considerations. Hence, in searching for an effective causal mechanism in the UK one has to explicitly acknowledge such considerations. It is, therefore, evidently true that the implications of the variants of the political business cycle literature will have some inherent uniqueness for different countries. It follows that students in different countries, when analysing these four political business cycle theories in the same way as we have done, will more than likely arrive at different of results.

Our results do not contradict domestic political manipulation, however, macroeconomic variables like inflation, output and unemployment. The contradictory and confusing findings coupled with external factors suggest that the causal mechanism is more likely to be found if we investigate the instruments of policy which government can more directly manipulate. It is the unravelling of the causal mechanism that can be attributed to changes in government instruments that is our core concern.
APPENDIX TO CHAPTER 3

Figure 3.1 UK and world unemployment rates for 7 electoral periods, 1959 - 1992.

Figure 3.2 UK annual growth in GDP at factor cost, 1985 prices and annual growth in world industrial production for 7 electoral periods, 1959 - 1992.

Figure 3.3 UK and world inflation rates for 7 electoral periods, 1959 - 1992.

Results tables 3.1 and 3.2 refer to tests conducted on the implications of the Nordhaus hypothesis.

Results tables 3B.1 and 3B.2 refer to tests conducted on the implications of strong partisan theory.

Results tables 3C.1 to 3C.5 refers to tests conducted on the implications of rational partisan theory.

Results table 3D.1 refers to test conducted on the inflation implications of the rational political business cycle.

Sources:


Gallup Political and Economic Index (Various Editions), Gallup Opinion Polls, Ltd, London.


OECD Main Economic Indicators (Various Editions), OECD, Paris.

### RESULTS TABLE 3.1

**TESTING THE NORDHAUS HYPOTHESIS FOR U.K. UNEMPLOYMENT, 1959(4)-1993(1)**

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#### (b) Election specific dummies

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## RESULTS TABLE 3B.1

**TESTING THE STRONG PARTISAN THEORY HYPOTHESIS FOR U.K. UNEMPLOYMENT, 1959(4)-1993(1)**

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| C-O(-1) | C-O(-1) | RBAR^2 | RBAR^2 | 0.9987 |
|--------|---------|--------|--------|
| DW | 1.9550 | DW | 1.9550 |
### RESULTS TABLE 3B.2

**TESTING THE STRONG PARTisan THEORY HYPOTHESIS FOR U.K. REAL OUTPUT GROWTH, 1958(3)-1993(1)**

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#### (b) Election and party specific dummies

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*Note: The table presents regression coefficients and other relevant statistics for testing the strong partisan theory hypothesis for U.K. real output growth.*
## RESULTS TABLE 3C.1

**TESTING THE RPT HYPOTHESIS FOR U.K. UNEMPLOYMENT, 1959(4)-1993(1)**

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## RESULTS TABLE 3.2

### TESTING THE RPT HYPOTHESIS FOR U.K. UNEMPLOYMENT, 1969(4)-1993(1)

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**Testing the RPT Hypothesis for U.K. Real Output Growth, 1958(3)-1993(1)**

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#### (b) Election and party specific dummies

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**TESTING THE RPT HYPOTHESIS FOR U.K. REAL OUTPUT GROWTH, 1959(3)-1993(1)**

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### RESULTS TABLE 3C.5

**TESTING THE RPT AND STRONG PARTISAN THEORY HYPOTHESES FOR U.K. INFLATION, 1959(1)-1993(1)**

**(a) PPT dummy**

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<th>INF(-2)</th>
<th>WINF</th>
<th>PPT(-1)</th>
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**(b) Election and party specific dummies**

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<th>L64-70(1)</th>
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<th>C83-87(1)</th>
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### RESULTS TABLE 3D.1

#### TESTING THE RPBC HYPOTHESIS USING U.K. INFLATION DATA 1969(1)-1993(1)

(a) RPBC dummy

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(b) Election specific dummies

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</table>

RBAR^2 | 0.9521

DW | 1.9536
CHAPTER 4

ECONOMICS AND POPULARITY

4.1 Introduction

This chapter aims to explore the assumptions and weaknesses of the current political business cycle models. Chapter 3 concentrated on the implications for unemployment, output growth and inflation of the pure political business cycle, strong partisan, rational partisan and rational political business cycle models. The empirical analysis suggested that the patterns in economic outcomes could not be found to consistently accord with these politico-economic models. This chapter considers some of the assumptions and weaknesses of these approaches as well as the Frey and Schneider model which can only be empirically tested on government instruments. The discussion relates to three themes:

(a) The flexibility of the election date
(b) The relationship between the polity and the economy
(c) Government's objective function

Chapter 4 stresses the importance of modelling more realistically the circumstances in which the opportunistic and partisan factors in the objective functions of politicians become operative. The final part of the chapter describes popularity trends in the UK. This appears to show that the relationship between government's popularity and the headline economic variables of unemployment, output growth and inflation is unstable and more complicated than implied by the score hypothesis.

4.2 The assumptions of current models

The belief that many of the current political business cycle models have underlying weaknesses arises from much of the evidence from the previous chapter. Chapter 3 was never designed to prove or disprove any one theory as was clearly stated from the outset. However, the procedures used to test the hypotheses, as well as nature of the results that emerged, helped to lay the foundations for the current discussion. In this section we explore some of the questions that emerged in Chapter 3 and consequently what we believe are some of the important considerations in the political business cycle literature.
4.2.1 Flexibility of the election date

A problem that faces political business cycle theorists is that many countries, including the UK, have a flexible election date. This has immediate implications for the Nordhaus hypothesis. The theory assumes that the election date is fixed. With the date fixed non-partisan tendencies exist to expand the economy prior to the election so that the likelihood of the incumbent being re-elected is increased. The economy will follow relatively symmetric patterns around the election date. However, if the election date is flexible it cannot be readily assumed that there exists a straightforward causal relationship between the economy and the election date. The election date itself could depend upon the state of the economy. The positioning of dummies around a flexible election date is no longer a strict test of the Nordhaus hypothesis. The manipulation of the election date is likely to dampen Nordhaus cycles.

Within the works of Frey (1978) and Frey and Schneider (1978) the question of a flexible election date relates to the critical popularity lead. If the election date is fixed then there is a determinate popularity lead at every moment in the election cycle. This is not so when the election date is flexible. It could be hypothesised that the degree of opportunism over the election period is lessened and that the ideological component becomes increasingly valuable in the understanding of time patterns of government instruments. Furthermore, at the beginning of an election period the critical popularity level would seem to be less relevant and there is even greater scope for partisan manipulation of government instruments.

The flexible timing of the election has especially interesting implications for the rational partisan theory. The probabilistic election outcome was deemed to generate transitory partisan economic outcome cycles. Economic agents are in fact faced with a second source of uncertainty which concerns when the next election will take place. This implies further economic outcome cycles. If it is believed that there is to be an imminent election, which in fact does not occur, then there may be effects on the economy which would depend on the state of the parties in the opinion polls and on the degree of political polarisation.

One could hypothesise that wage bargainers believe that the incumbent right-wing party are to call an election and after the election the left-wing party would hold power. If in fact the party of the Right calls no election and thus remains in power this

\[ \text{We should more accurately refer to risk since risk refers to probabilistic outcomes, such outcomes which cannot prevail in a situation of uncertainty.} \]
party could conceivably be faced with an economic downturn prior to the actual election date further increasing the likelihood and thus the expectations that the party of the Left would gain power! It appears that there are numerous possible scenarios for the rational partisan theory under a situation of flexible election dates.

Rogoff (1990) and Rogoff and Sibert (1988) view the manipulation of government instruments as an attempt to affect the perceptions of the public in relation to the competence of the incumbent. Such policy cycles are again likely to be dampened by a flexible election date. Since the election date is in effect another instrument of policy it reduces the necessary manipulations of other government instruments.

4.2.2 The relationship between the polity and the economy

A second issue for political business cycle theorists is the nature of the relationship between the polity and the economy.

The relationship between incumbent popularity and economic outcomes is crucially important in the pure political business cycle model. To increase pre-election popularity government manipulates instruments in order to affect economic outcomes. After an election government deflates in order that there exists the greater potential for a more successful pre-election manipulation of the economy and popularity. This hypothesis views agents as non-rational. Although the popularity level at any instant of one electoral cycle is causally unrelated to that of any previous electoral cycle, the implication of the Nordhaus model is that the popularity of the incumbent falls during the earlier part of the election cycle and increases during the latter part of the election cycle.

In the strict version of partisan theory the role of popularity is implicit in the nature of the partisan behaviour itself. As we explored in Chapter 2, the fact that we can identify two groups, the workers and the capitalists, which are affected differently over the course of the business cycle gives rise to class interests and class politics. Since class politics is based on the assumption that political parties represent identifiable class interests then popularity equates with government catering to its core constituents.

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See Rogoff (1990), p.34.
The Frey and Schneider variant of weak partisan theory is crucially dependent on the relationship between the economy and the polity as described by the score hypothesis. Economic manipulations are designed to induce positive effects on popularity in order to increase the likelihood of election success. Therefore, the most basic proposition is that there exists a positive relationship between voting intention indices and the degree of economic growth and prosperity. Conversely, there exists a negative relationship between popularity and the rates of unemployment and inflation.

Economic outcomes and popularity are taken to be causally related in the Frey and Schneider model as they are in the pure political business cycle model. However, the latter assumes that parties are non-partisan and geared to election day success. Popularity and economic outcomes thus have a relationship which is regular and independent of the party in power. However, in the Frey and Schneider model the pattern of government instruments is affected both by popularity and the position in the election period which combine to determine the so-called critical popularity level. The critical popularity level is the driving force of opportunistic or partisan behaviour.

In the rational partisan hypothesis price expectations and popularity combine to determine the magnitude of economic change. However, such change is transitory and arises via the uncertainty of the election result. Otherwise, there is policy neutrality. There is no behavioural function as such that exists between popularity and government policy. Political parties are deemed to be partisan. Popularity acts merely as a signal to wage bargainers in the pre-election period when wage contracts are being signed. Thus, the accuracy of opinion polls regarding the election outcome will help determine post-election economic deviations from trend along with the degree of political polarisation.

Chapter 3 attempted to model the effect of election result certainty on UK economic outcomes. However, those dummies designed to capture specific post-election partisan displacements were typically insignificant.

The only permanent effect in the rational partisan model relates to the rate of inflation which is higher during a left-wing government than a right-wing government. It is policy that determines the election result. The political effects on the economy can be described as partisan result-uncertain effects.

The relationship between the polity and the economy in the rational political business cycle theory is governed by the concept of rational expectations and the fact that government is able to manipulate its perceived competence level. Since an individual places a positive weight on a government's ability to provide a level of
public provision at the lowest possible tax price in determining whom to vote for, government by increasing its perceived competence increases the likelihood of election success. Furthermore, the government holds an informational advantage in that the public learns of the true competence level of government with a one period lag. The implication is one of budget cycles.

The relationship between perceived competence and re-election is one that is worthy of exploration. It needs careful consideration of what the public equate government competence with. How do the public assess competence and how important is competence in increasing the government’s re-election probability? We address the issue of competence below.

4.2.3 Government’s objective function

The work of Frey and Schneider in many regards contains the best descriptive relationship between the polity and the economy to date. It develops the interaction between the polity and the economy to a degree that other political business cycle models do not. It contains the only synthesis in the political business cycle literature of the opportunistic and partisan schools. We believe that it is appropriate to characterise government’s objective function by both ideological and opportunistic considerations. The other models simply model government as either purely opportunistic or purely partisan. In conventional weak partisan theory the weight attached to opportunism and ideology can be made to vary across the election period.

It is the modelling of the behavioural switch between opportunism and ideology that is at the core of the thesis. Moreover, the focus will be on government instrument manipulation and more particularly that of general government expenditures.

In exploring the trade-off between opportunism and ideology and its influence on UK government expenditures, we wish to consider how specific components of expenditures may be used differently for the sake of political expediency. While this is not pursued by Frey and Schneider in their model it does embrace the thinking of Rogoff and Sibert. They argued that in wishing to signal competence prior to an election government will tend to manipulate consumption and transfer spending before manipulating capital expenditures. This bias towards current expenditures is referred to as the visibility hypothesis.

If we were to transfer this idea to the Frey and Schneider model and assume that it was the opportunistic element within government’s objective function that was
operative in the behavioural function then there may be circumstances when the manipulation of current expenditures rather than capital expenditures is the preferred option. This would seem particularly true if the time to the election was short. Visible expenditures in being more immediate can thus affect voters more quickly. Further, current expenditures can be targeted at particular groups of individuals, such as public sector employees, the aged and the unemployed. Thus, in the short-run current expenditures can make a greater impact on an individual than capital expenditures. The benefits of the latter are spread across a larger group of people and take longer to manifest.

The relationship between ideology and competence could also affect particular expenditure types as well as the aggregate expenditure policy. We believe that there are two related meanings of competence. The first is economic competence and the second is party-specific. Rogoff and Sibert concentrate on the first definition insofar as their administrative competence relates to economic agents attempting to gauge from their tax burden the value for money of the public goods, services and transfers available. As well as implying that politically induced increases of expenditures would be concentrated on current expenditures, there is an implication that any decrease in the burden of taxation would stem from direct rather than indirect taxation.

Economic competence is more than administrative competence relating, as it does, to the wider macroeconomy. Moreover, one suspects that economic competence is ideologically related. Left-wing parties are deemed to have a higher optimal rate of inflation than those of the Right because of their prioritisation of unemployment over inflation. If we assume that unemployment is regarded by the electorate as the most urgent economic priority, then a left-wing party could benefit politically because they are seen as more competent in dealing with this issue. Conversely, if inflation is seen as the main economic problem then a right-wing party may benefit. Economic competence will depend upon the relative weights given to economic outcomes by both the political parties and the electorate.

Each party may have an incentive to demonstrate its ability to handle both sides of the Phillips relationship. The competence switch may cause parties to act contrary to their partisan nature. This demonstration effect would be manifestly opportunistic. This is an important consideration for conventional weak partisan because it expands our understanding of opportunistic behaviour. Indeed, it may help to define more carefully what constitutes opportunistic as opposed to ideological behaviour. While seeming to confirm that a right-wing party would be expansionary when opportunistic, it calls into question the behaviour of a left-wing party when opportunistic. If the left-wing party is
demonstrating its ability to be competent with inflation, and thus acting opportunistically in order to increase it likelihood of election success, then the implication is that it depresses the economy. If this demonstration effect is a variable within government's objective function it would be appropriate to model separately the opportunistic behaviour of a left and right-wing government.

Economic competence is likely to be related to the economic prioritisation of partisan political parties and thus have a party-specific component. Another variation of party-specific competence relates to the image and perception of the party and its leader. Party management is likely to be of increasing importance in the run-up to an election. The unity of the party and the ability of its leader will come under increasing focus. Thus, party management implies a concentration upon the internal constituents of the party.

Economic competence and party-specific competence are inevitably entwined. The self-interest of the internal constituents of a political party will determine the nature of partisan policies. If these economic policies are popular then there appears to be little contradiction between the interests of the internal and external constituents. This suggests that the importance of party management is a function of external popularity. If a major contradiction in interests does appear then the importance of party-specific competence would have increased in order to improve the perception of both party-specific and economic competence.

In short, it is the aim of the thesis to build upon the behavioural switch of the Frey and Schneider model. In particular, it will be concerned with what government reacts to and the way in which expenditures are politically expedient.

4.3 Popularity

4.3.1 The behavioural switch

This section focuses on the trends in popularity of UK political parties. In building upon Frey and Schneider the aim here is to show the weakness of doing so using a score hypothesis popularity function. In their model, Frey and Schneider describe the interaction of a score hypothesis popularity function with government's reaction function. The latter relates to its objective function which results in government switching between opportunistic and ideologically motivated expenditure behaviour. If the score hypothesis popularity function is stable and predictable, and if a popularity is a true guide to its re-election chances, then government could be
modelled as manipulating the economy to influence its re-election chances. Popularity would affect the economy and the economy would affect popularity.

We do not deny that government can affect the economy and that this in turn can affect the chances of re-election. However, we believe that the relationship Frey and Schneider describe between the reaction and popularity functions can be improved upon. This is not to say that popularity and the economy cannot move together. They can and do, but not necessarily in the way the score hypothesis predicts. If popularity does not behave according to the score hypothesis it would be surprising if after identifying popularity lead surpluses and deficits, and then hypothesising a specific partisan response from government, if the results were not disappointing. If the score hypothesis is unstable and unpredictable it would be foolish to model government's behavioural switch in the way that Frey and Schneider do.

Reinforcing the belief that government will not react solely on the basis of a voting intention index is the belief that the index is a poor guide to a government's re-election chances. Voting intention indices can be used by voters as a disciplinary device. It is a means of keeping the government "on its toes". For instance, if we were to take the two year period over 1990 and 1991, Gallup's voting intention index reveals an average popularity lead for the Conservative government of -6%. However, when voters were asked to name the party that was likely to win the next election, regardless of their own voting intentions, 37.7% identified Labour and 47.5% the Conservatives. This calls into question the use of a voting intention index to measure government’s likelihood of re-election. We may need to consider alternative re-election indicators or think in terms of a re-election index which comprises a series of indicators. This idea will be pursued in greater detail in subsequent chapters.

4.3.2 UK popularity

Popularity functions make use of opinion poll data relating to voting intentions. For instance, the Gallup organisation, amongst several, pose the question: "If there were a general election tomorrow how would you vote?". Figure 4.1 in the appendix to the chapter shows the support for the Conservative, Labour and Liberal1 Parties from 1959(4) to 1994(2) where the percentages refer to the whole sample. Figure 4.2 shows the support for the parties where the "dont knows" and non-voters are excluded.

1 The figures were taken from those results which included "dont knows" and non-voters.
2 The vote share for the "Liberals" in the 1980s is that of the Liberal and SDP alliance from 1982(1) and the Social and Liberal Democrats from 1987(2), later to become the Liberal Democrats.
for the same period. Figures 4.3 and 4.4 remove the Liberals to reveal more readily the symmetrical popularity ratings of the two main political parties. Excluding the "don't knows" and non-voters the average popularity of the three respective parties is 40.2%, 41.1% and 15.2%.

We can represent voting intentions in terms of those who replied that they would vote for the incumbent party and those for the main opposition party. Thus we treat the UK as a two-party case. Figures 4.5 and 4.6 show the intentions for the whole sample and after the exclusion of the "don't knows" and non-voters respectively. Again a symmetrical pattern emerges. Using the data relating to the exclusion of the "don't knows" and non-voters the peak support for a government party was for the Labour Government of Wilson when popularity reached 51.7% in 1966(2). By contrast the trough in government popularity was in 1993(4) under the Conservative Government of John Major when popularity stood at 21.8%.

The average level of government popularity for the period 1958(1) to 1994(2) was 39.1%, while that of the main opposition party was 42.2% and, hence, given that the Conservatives held tenure for 103 of these 146 quarters it explains why the Conservatives have a lower average popularity level over this period. Furthermore, it emphasises the point that voting intention indices are a poor indicator of government's re-election chances.

Given the popularity levels of government and the main opposition party we can now consider the popularity lead of government. A popularity lead exists when government has a voting intention index in excess of that of the main opposition party. A popularity lead is distinct from a popularity surplus. A surplus indicates the situation where the popularity standing of the government is in excess of a safety level. We will use the term popularity short-fall to indicate a negative popularity lead. Similarly, this is not to be confused with a popularity deficit which is where the popularity of government is below a perceived safety level.

Figures 4.7 and 4.8 graph the popularity lead or short-fall of the party of government. The average lead for the period 1958(1) to 1994(2) was -3.1%. Hence, government has typically experienced a popularity short-fall. Miller and Mackie (1973) consider the importance of electoral cycles in popularity which is then incorporated by Frey and Schneider (1977) in their estimation of a popularity function for the UK. Thus, in figure 4.9 we plot the popularity lead of government for each electoral period. The diagrams show the tendency for the popularity of government relative to

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1 The Labour periods of rule in the Sixties and Seventies are each shown as one period.
the main opposition party to decline after an election and to typically improve, albeit to
different degrees, with the approach of the next election. The implication of the latter
could support the Nordhaus hypothesis in that post-election austerity is followed by a
pre-election boom. The economic cycle would be reflected in causally related
popularity cycles of naive voters. However, the previous chapter offered little support
to the hypothesis of persistent cycles in economic outcomes.

Before analysing the relationship between the economy and voting intentions in
the UK we consider some important developments in the literature on popularity and
vote functions.4

4.3.3 Popularity and vote functions

The effect of economic variables on voting intentions as seen through opinion
polls leads to the consideration of popularity functions. The use of actual votes cast in
elections leads to voting functions. These are distinct in the sense that human
responses to opinion polls can never perfectly mirror the way votes would be cast in
elections. An opinion poll does not elect a government. Consequently, voting intention
indices are inherently flawed as a measure of re-election likelihood. This is important
when analysing the relationship between the economy and a voting intention index.

The debate about the effect of economic variables stemmed from articles by

Kramer sought to relate short-term fluctuations in the division of the national
vote for the US House of Representatives for the period 1896-1964. The equation
used in regression analysis took the following simplified form:

$$ V_t = \text{REP} + \delta_t(\alpha + \beta(\text{PER}_t - \text{PER}_{t-1})) $$

$V_t$ is the share of the vote for the Republican Party. The intercept REP captures the
normal long-run vote for the Republicans. $\alpha_t$ is a dummy variable which equals 1 if the
Republican Party holds the presidency and -1 otherwise. $\text{PER}_t - \text{PER}_{t-1}$ is the difference
between the actual performance of the incumbent and the expected performance for
the "just-ending term in office". This is measured by a series of economic variables.
The electorate are assumed to form expectations on the basis of the previous year's
experience. Thus, expectations are backward-looking. If the electorate expect an

4 A more detailed account is to be found in Nannestad and Paldam (1994).
economic variable to grow at a rate of $r$ percent then this year's expected level of income, $Y_t' = Y_{i+1}(1+r)$.

Kramer models the vote share as depending upon the percentage discrepancies between the actual and expected values of economic variables. For instance, in the case of income this would be: $(Y_t - Y_{t-1})/Y_{t-1}$. Given that $r$ is unknown the vote share is regressed on $(Y_t - Y_{t-1})/Y_{t-1}$ such that $r$ becomes consumed in the $\delta$ estimator. Also consumed in the $\delta$ estimator is $\alpha$, which is the measure of the institutional advantage of being the incumbent and cannot be identified. Therefore, $\delta$ is the net advantage of being the incumbent. This net advantage while increasing the greater the advantage of holding office, will decrease the higher are voters' expectations of economic variables such as income. The equation estimated, thus, takes the following form:

$$V_t = \text{REP} + \delta \left( \frac{Y_t - Y_{t-1}}{Y_{t-1}} + \frac{R_t - R_{t-1}}{R_{t-1}} + \frac{P_t - P_{t-1}}{P_{t-1}} + \frac{U_t - U_{t-1}}{U_{t-1}} \right)$$

where, $Y_t$ is per capita personal income in the year of the election and $Y_{t-1}$ refers to the preceding year. $R$ refers to real per capita personal income, $P$ the cost-of-living index and $U$ the rate of unemployment.

The estimated coefficient of the income terms are found to be positive in every equation and are highly significant. The price coefficients are negative as expected but generally insignificant. The unemployment coefficient appears with a positive coefficient but is never significant, a result contrary to expectation and described by Kramer as "somewhat puzzling" (p.139). Kramer hypothesises that this result may be because of the correlation between the unemployment and income terms or because at normal levels of unemployment those unemployed may typically be characterised as the least politically active. Nonetheless, Kramer concludes

Economic fluctuations, in particular, are important influences on congressional elections, with economic upturn helping the congressional candidates of the incumbent party, and economic decline benefiting the opposition (1971, pp.140-141).

Stigler (1973) offers possible explanations of the unemployment coefficient in Kramer's findings. Stigler questions the weight that an individual would give to short-run fluctuations in economic conditions since this depicts the individual as naive and unsophisticated. Moreover, it is reasonable to assume that not all those that are unemployed and have been made unemployed during the tenure of the incumbent party

---

1 Kramer also considers the coattail effect of success in the presidential election, see pp.136-137.
will simply vote against the incumbent. Firstly, there are partisan or core voters whose allegiance is guaranteed. Secondly, sophisticated voters would attempt to rationalise the current situation and government's role in it, as well as considering the future with an alternative party in power. For instance, sophisticated voters would not necessarily punish government for a rise in unemployment if this upward trend was part of a world-wide phenomenon. Stigler, thus, comments that "... one would expect the effects of moderate fluctuations in unemployment rates to be very small and even ambiguous as to direction" (1973, p.162).

Stigler's main conclusion is that the significant positive effect of income on the national share of the vote is not a robust result. For instance, Stigler in considering the effect of discrepancies between the actual and expected values of an economic variable on vote share uses two year changes in the variable. Over the period 1902-1970, ignoring all minor parties, the income variable changes sign to become negative, albeit statistically significant. The unemployment variable remains negative but is now significant. Stigler argues that to reward or punish a party for changes in real income over a two year period would be premature given that all parties will make mistakes in judgement and in the execution of policies.

If we consider the popularity function used by Frey and Schneider (1978) we see that many of the criticisms levelled at Kramer's analysis are also relevant. Their dependent variable is the popularity lead of the government over the main opposition party. The independent variables are the one quarter lag of the dependent variable, the seasonally adjusted rate of unemployment, U, the general index of retail prices, P, (seasonally adjusted by the authors), the rate of growth of seasonally adjusted real personal disposable income, PDY, a variable which increases linearly over the course of the election period, DEP, and a variable which captures the number of quarters to what is expected to be the nearest election NE.

DEP attempts to capture the tendency for government popularity to fall over the course of an election period, while the NE term attempts to capture both the fall and recovery in popularity over the election term. Thus, the popularity function can be expressed in the following form:

\[ \text{Lead}_t = \beta_0 + \beta_1 \text{Lead}_{t-1} + \beta_2 U_t + \beta_3 P_t + \beta_4 PDY_t + \beta_5 NE_t + \beta_6 \text{DEP}_t \]

The popularity function was estimated for the UK using Ordinary Least Squares on quarterly data from 1959(4) to 1974(4). The economic variables were correctly signed and reached the 5% significance level for a two-tailed test. The two electoral variables were both negative and similarly significant at 5%, hence, confirming the
implication of a fall over the electoral cycle of government popularity and a tendency for popularity to be lower the further away we are from the nearest election. Frey and Schneider conclude that "the equations suggest a government's lead over the opposition is determined by both the state of the economy and the election cycle" (1978, p.246).

A problem of conventional popularity functions noted by Chrystal and Alt (1981) is that they tend to be time-dependent. The post-1960's economic deterioration will have disturbed any relationship between economic variables and popularity. Previously determined magnitudes will not hold. Alt and Chrystal extended the empirical analysis that Frey and Schneider conducted on popularity functions by three years. While both election cycle variables remained highly significant the only economic variable close to significance was the growth in real personal disposable income.

Chappell and Keech (1985) make a distinction between naive and sophisticated voters. Sophisticated voters appreciate that inflation, unemployment and output growth are interdependent while naive voters are characterised as unable to determine the future implications of present economic policy. Indeed this characterisation is the very basis of the Nordhaus hypothesis that allows politicians in the second half of the election period to create combinations of output growth, inflation and unemployment that in the long-run are unsustainable. The sophisticated voter cannot be manipulated by unsustainable policies and indeed will penalise deviations in policy that cause the standard measure of economic performance to diverge from the optimal value for this standard.

Chappell and Keech assume that government can control real output. The indicator of policy stance, $Z$, can be written as:

$$Z_t = \left(\frac{Q_t}{QN_{t-1}}\right) - 1$$

where $Q$ is the actual real gross national product and $QN$ is the level of real output associated with full employment. If $Z_t$ is positive then the level of real output is greater than the natural level and the reverse holds if $Z_t$ is negative. Voters compare the current policy stance with an optimal policy stance, $Z^*$. It is assumed that the current policy stance is functionally related to the rate of inflation in period $t-1$ and that sophisticated voters would deem it optimal that the higher the rate of inflation in period $t-1$ the tighter should be demand management policies in period $t$. Therefore, the optimal policy stance is negatively related to the rate of inflation of the previous period. Hence, we can write $Z^*$ as:

$^4$ Data on the natural level of output was taken from Gordon (1981).
where $\delta$ is less than zero. The value of $\delta$ indicates the relative sensitivity of voters between inflation and recession. The greater is the weight placed on inflation the bigger is $\delta$ in absolute terms.

Sophisticated voters will compare the current policy stance in relation to their optimal stance. The performance measure taken by voters is:

$$S_t = \|Z_t - Z_t^*\| = \|Z_t - \delta\Pi_{t-1}\|$$

Since the performance measure penalises deviations from the optimum policy stance the lower the value of $S$ the more satisfied are voters.

The popularity function of Chappell and Keech takes the approval rating of the US President as the dependent variable while the independent variables are the square root of the number of quarters the administration has been in office, a vector of non-economic variables and the performance measure, $S$. The performance measure for any quarter is a weighted average of the absolute deviations of policy stance from the optimal policy stance over the course of that administration. The weighting is deemed of little importance because the performance measures automatically takes into account the relationship between the present and the future and, thus, what is feasible. However long the memory of a sophisticated voter, that voter is not open to manipulation by the vote-seeking politician as in the Nordhaus and Frey and Schneider political business cycle models.

Time series analysis by Chappell and Keech using non-linear least squares for the period 1957(1) to 1980(4) confirms that the coefficient on $S$ is negative in the popularity function. Thus, voters do punish deviations from an optimum policy stance.

A third consideration in the literature on popularity and vote functions is their relationship with the economic situation and the economic priorities of political parties. In short, a political party may benefit in terms of popularity or votes cast because it is deemed to lay more emphasis on the economic problem that predominates.

Balke (1991) develops a model which makes predictions about which political party will win the election. Agents sign wage contracts in the period prior to the election uncertain as to the winner of that election. These contracts are signed prior to the realisation of the supply and demand side shocks in the election period. Elections occur after these shocks have materialised. Voters then choose a partisan political party on the basis of expected utility.
In deciding how to vote any individual considers the economic consequences of their vote. This choice is dependent upon the expected utility in the election period when the shocks have materialised and upon the expected utility in the period after the election when agents cannot see the demand and supply shocks. Agents can use elections as a means to offset these shocks. Large positive supply shocks make the Conservatives more attractive to voters since they are less likely to create surprise inflation and will keep inflation low. The chances of electoral success for a party of the Right increase when the economy is doing well. Conversely, a party of the Left will stand a greater chance of electoral success when the economy is doing less well.

In Balle's analysis electoral success is a function of both the state of the economy and partisan parties. Thus, while voting is policy-based it is not independent of economic outcomes. It acknowledges the possibility of a party of the Left gaining in popularity if unemployment rises and a party of the Right gaining in popularity if inflation rises.

4.4 Empirical evidence of the score hypothesis

4.4.1 Introduction

This section empirically tests the traditional popularity function for the UK case. It shows that the results that Frey and Schneider found for a score hypothesis popularity function are unstable. It appears that the relationship between economics and popularity is more complicated than described by the score hypothesis and that politics is of increasing importance.

In analysing popularity we use Gallup data concerning voting intentions. This allows us to consider the lead of the government over the main opposition party, the popularity level of the government and the popularity level of the main opposition party. The data used excludes “don’t knows” and non-voters.

4.4.2 Government's popularity lead

We begin by taking as a measure of popularity the lead of the government party. Figures 4.10 to 4.13 depict pictorially the relationship between this lead and unemployment, inflation, real output growth and the real change in personal disposable income respectively.
In our empirical analysis we follow Frey and Schneider (1977) and apply the Ordinary Least Squares regression technique. We use the data period 1959(2) to 1993(1) and, hence, consider the score hypothesis for a total of 136 quarters. Taking the dependent variable to be government's popularity lead the regressors include the lag of the dependent variable, the UK inflation rate, the seasonally adjusted rate of unemployment, the annual change in real personal disposable income, the time to the nearest election and the time from the last election. Hence, the measure of popularity is deemed to be dependent upon economic outcomes, as in the score hypothesis, with the inclusion of electoral cycle variables. Three regressions are run. The first covers the entire sample period and the other two refer to the first and second halves of the sample period respectively.

For the whole sample period from 1959(2) to 1993(1) the following equation is obtained:

\[
\text{LEAD}_t = 1.2930 + 0.5922 \text{LEAD}_{t-1} + 0.3049 \text{U}_t + 0.0090 \text{Pi}_t - 0.0497 \text{PDY}_t
\]

\[
- 0.9038 \text{NE}_t - 0.0454 \text{TFE}_t
\]

\[
(0.77) \quad (8.25) \quad (2.04) \quad (0.09) \quad (-0.28)
\]

\[
(4.32) \quad (-0.44)
\]

\[
(R^2 = 0.6028, \ ADJR^2 = 0.5844, \ DW = 2.0282, \ D.F. = 129).
\]

The equation explains 58% of the total variation in government’s popularity lead as indicated by the adjusted $R^2$ statistic. Of the economic variables none has the correct sign and indeed the unemployment variable has a statistically significant positive coefficient at the 2.5% using a one-tailed test. Both electoral variables have the expected negative coefficient but only the time to the nearest election is significant, reaching the 0.05% level.

Let us now consider the two sub-periods. The equation for the period 1959(2) to 1976(1) is:

\[
\text{LEAD}_t = 4.4806 + 0.5337 \text{LEAD}_{t-1} - 2.5022 \text{U}_t + 0.2593 \text{Pi}_t + 0.2252 \text{PDY}_t
\]

\[
- 0.7843 \text{NE}_t - 0.1830 \text{TFE}_t
\]

\[
(1.92) \quad (4.72) \quad (-1.55) \quad (1.43) \quad (0.95)
\]

\[
(-2.93) \quad (-1.18)
\]

\[
(R^2 = 0.6924, \ ADJR^2 = 0.5844, \ DW = 2.0349, \ D.F. = 61).
\]

The figures in parentheses are t-ratios.

The null hypothesis is that the coefficient on unemployment is less than zero since under the score hypothesis unemployment and popularity are negatively correlated.
This equation explains 66% of the variation in government’s popularity lead. Of the economic variables unemployment and the change in real personal disposable income now have the expected sign with the unemployment estimate being significant at the 10% level. The inflation variable is significant at 10% but has a positive coefficient suggesting that higher inflation leads to increases in the government’s popularity lead. In this period it appears that the public expressed support for economic expansion that reduced unemployment regardless of the consequences of higher inflation. A 1% rise in the unemployment rate is seen to have reduced the government’s popularity lead by 2.5%.

Of the electoral cycle variables both have the expected negative coefficient with the time to the nearest election significant at the 0.5% level.

The estimated popularity function for the period 1976(2) to 1993(1) is:

\[
\text{LEAD}_t = -12.5462 + 0.4852 \text{LEAD}_{t-1} + 1.3382 \text{U}_t + 0.4699 \Pi_t + 0.1971 \text{PDY}_t \\
-1.0668 \text{NE}_t + 0.1539 \text{TEE}_t
\]

\[
(\text{-1.54}) \quad (4.37) \quad (2.25) \quad (1.34) \quad (0.60)
\]

\[
(\text{-3.01}) \quad (0.94)
\]

\[
(R^2 = 0.5578, \quad \text{ADJR}^2 = 0.5143, \quad \text{DW} = 2.0621, \quad \text{D.F.} = 61).
\]

In this sub-period the economic variables of unemployment and inflation have coefficients contrary to expectation in that they are both positive. Furthermore, they are significant at the 2.5% and 10% levels respectively. The change in real person disposable income has a positive but insignificant effect on the government’s popularity lead. Thus, this period refutes the score hypothesis.

With regards to the electoral variables the time to the nearest election is correctly signed and again significant at the 0.5% level. This appears to be a robust result. However, the time from the last election has a positive coefficient and is insignificant.

The results for the score hypothesis are particularly unfavourable in the second half of the sample period. The negative relationship between unemployment and government’s popularity lead observed between 1959 and 1976, which meant that government’s lead reduced when unemployment rose, is found to be reversed after 1976. The relationship between government’s popularity lead and headline economic variables is not the one that the score hypothesis describes. The one robust result that
does emerge is that the time to the nearest election is significant factor in determining government’s popularity lead and is consistent with the phenomenon of mid-term blues.

4.4.3 Government popularity

The second measure of popularity considered refers to the actual popularity level of the government. The estimated equation for the period 1959(2) to 1993(1) is:

\[
\begin{align*}
\text{GOVT}_t &= 22.0677 + 0.5334 \text{GOVT}_{t-1} - 0.1456 \text{U}_t - 0.0015 \text{II}_t + 0.0583 \text{PDY}_t \\
&\quad - 0.7236 \text{NE}_t - 0.0479 \text{TEE}_t \\
&\quad (6.41) (7.48) (-1.83) (-0.03) (0.59) \\
- 0.6361 \text{NE}_t - 0.0918 \text{TEE}_t \\
&\quad (-6.04) (-0.81)
\end{align*}
\]

\(R^2 = 0.6827, \text{ ADJ}R^2 = 0.6679, \text{ DW} = 1.9243, \text{ D.F.} = 129\).

The equation explains 67% of the variation in government's popularity. In this version of the popularity function all the economic variables are now correctly signed, although only the unemployment variable is significant reaching the 5% level for a one-tailed test. Even so a rise of 1% in the rate of unemployment reduces government popularity by only 0.15%. This fact along with the insignificance of two of the three economic variables does suggest that other considerations are relevant. So although the signs on the economic variables are consistent with the score hypothesis, the magnitude of their effect makes it questionable as to whether this could validate a reaction function based on the premise of increased support for improved economic conditions.

With respect to the electoral variables both have the expected negative sign although only the time to the nearest election is significant. Again this is significant at the 0.5% level.

The estimated equation for the period from 1959(2) to 1976(1) is:

\[
\begin{align*}
\text{GOVT}_t &= 19.7576 + 0.5900 \text{GOVT}_{t-1} - 0.2093 \text{U}_t - 0.0038 \text{II}_t + 0.0846 \text{PDY}_t \\
&\quad - 0.6361 \text{NE}_t - 0.0918 \text{TEE}_t \\
&\quad (3.67) (5.44) (-0.25) (-0.04) (0.62) \\
- 0.6361 \text{NE}_t - 0.0918 \text{TEE}_t \\
&\quad (-4.03) (-0.97)
\end{align*}
\]

\(R^2 = 0.7292, \text{ ADJ}R^2 = 0.7026, \text{ DW} = 2.0669, \text{ D.F.} = 61\).
The equation explains 70% of the variation in government popularity. While the economic variables are correctly signed none is close to significance offering no support for the score hypothesis. With respect to the electoral variables the time to the nearest election is significant at 0.5%.

The estimated regression for the period 1976(2) to 1993(1) is:

\[
\text{GOVT}_t = 28.7864 + 0.4123 \text{GOVT}_{t-1} - 0.3123 U_t - 0.0504 \Pi_t + 0.0628 \text{PDY}_t
\]
\[
- 0.8839 \text{NE}_t - 0.0087 \text{TEE}_t
\]
\[
(3.86) \quad (3.68) \quad (-0.94) \quad (-0.26) \quad (0.35) \quad (-4.23) \quad (-0.09)
\]
\[
(R^2 = 0.6150, \ ADJR^2 = 0.5771, \ DW = 1.8013, \ D.F. = 61).
\]

The explanatory power of the equation is lower for this second period. However, the results conform to the same pattern as in the earlier period. Thus, the economic variables are correctly signed but insignificant while the time to the nearest election is significantly negative at the 0.5% level.

There is scant support for the score hypothesis when estimating government’s popularity level. Although the sign of the coefficients on the economic variables are correct, unlike the case where the government's popularity lead was our measure of popularity, the estimates show that their affect is weak. Nonetheless, the results are interesting because they do suggest that politics is important. Economic conditions have affected government’s popularity and popularity lead differently, particularly in the later sub-period. In the UK the third political party plays an important role in illustrating the publics’ perception of the two main political parties and their willingness to switch between the Conservatives and Labour.

4.4.4 Main opposition party's popularity

A third measure of popularity refers to the popularity level of the main opposition party. Using the score hypothesis we would expect to see the popularity of the opposition party increase with rising unemployment and rising inflation and, conversely, to decline with increases in the annual change in real personal disposable income.
Consider now the electoral variables. Given the hypothesis that as the election period unfolds government popularity falls, then opposition support should increase. Likewise the further we are from any election the greater the support of the opposition with government subject to mid-term blues.

The equation for the whole sample period 1959(2) to 1993(1) is:

\[
\text{OPPOSE}_t = 13.2760 + 0.7007 \text{OPPOSE}_{t-1} - 0.3088 U_t - 0.0132 \Pi_t + 0.0755 \text{PDY}_t \\
+ 0.1901 \text{NE}_t - 0.0035 \text{TIE}_t
\]

\[
(4.34) \quad (10.61) \quad (-2.81) \quad (-0.23) \quad (0.74) \\
(1.66) \quad (-0.06)
\]

\[
R^2 = 0.7122, \quad \text{ADJR}^2 = 0.6988, \quad DW = 2.1954, \quad \text{D.F.} = 129.
\]

The equation explains close to 70% of the variation in the popularity of the main opposition party. Again the results seem to confirm the effect of the time to the nearest election on popularity. The time to the nearest election has a significant positive coefficient at the 5% level. However, the economic variables are wrongly signed with the unemployment variable significantly negative at the 0.5% level.

Consider now the first sub-period from 1959(2) to 1976(1). The estimated equation takes the form:

\[
\text{OPPOSE}_t = 16.1359 + 0.5815 \text{OPPOSE}_{t-1} + 1.9866 U_t - 0.2351 \Pi_t - 0.1020 \text{PDY}_t \\
+ 0.1228 \text{NE}_t + 0.0445 \text{TIE}_t
\]

\[
(3.80) \quad (5.57) \quad (2.18) \quad (-2.19) \quad (-0.82) \\
(0.86) \quad (0.63)
\]

\[
R^2 = 0.6539, \quad \text{ADJR}^2 = 0.6198, \quad DW = 2.0174, \quad \text{D.F.} = 61.
\]

In this sub-period the coefficients on the economic variables behave in the way that the government's popularity lead for this period would infer. Thus, while the unemployment and change in real personal disposable income variables are correctly signed inflation is wrongly signed. Furthermore, the real personal disposable income variable is again insignificant while the unemployment and inflation variables are both significant.

While a 1% rise in unemployment increases the popularity of the main opposition by close to 2% it reduces the government's popularity lead by close to 2.5%. These results would seem consistent with some support going to other opposition parties. A
1% rise in inflation increases the government's popularity lead by 0.26% while reducing the popularity of the main opposition party by 0.24%, the remainder attributable to the other opposition parties.

The electoral variables while positive as predicted are both insignificant. This coincides with the findings of Miller and Mackie (1973) who found that cyclical models predicted government's popularity share much better than that of the main opposition. Thus, in the period 1959(2) to 1976(1) while the time from the nearest election exerted downward pressure on government's popularity level and popularity lead there was no significant effect on the popularity of the main opposition. Thus, support appears to be going to the other opposition parties."

The estimated equation for the period 1976(2) to 1993(1) is:

\[
\text{OPPOSE}_t = 35.0389 + 0.5240 \text{OPPOSE}_{t-1} - 1.4894 U_t - 0.4796 \Pi_t - 0.1447 \text{PDY}_t \\
+ 0.2402 NE_t - 0.1428 \text{TFE}_t \\
(4.27) \quad (4.83) \quad (-3.51) \quad (-2.29) \quad (-0.76) \\
(1.24) \quad (-1.51)
\]

\[R^2 = 0.7069, \quad \text{ADJR}^2 = 0.6781, \quad \text{DW} = 2.2440, \quad \text{D.F.} = 61.\]

In this sub-period the signs on the unemployment and inflation variables are both negative, contrary to the implications of the score hypothesis, and significant at the 0.5% and 2.5% levels respectively. The annual change in real personal disposable income variable is correctly signed but insignificant. These results reflect the findings for this period for the government's popularity lead. A 1% rise in unemployment reduces the main opposition party's support by close to 1.5% but increases the government's popularity lead by 1.3%. A 1% rise in inflation reduces the main opposition party's support by close to 0.5% while increasing the government's popularity lead by a similar amount. It appears that worsening economic conditions in this period had little effect on government's actual popularity level. Government benefited from the fact that worsening economic conditions appear to have seen the

This was confirmed by regression analysis where the popularity of the other opposition parties was the dependent variable. In the whole period and the two sub-periods the time to the nearest election exhibited a positive coefficient and was significant at the 0.5% level in all cases. Furthermore, in this period from 1959(2) to 1976(1) a rise in unemployment had a significant negative relationship with the popularity of other opposition parties (at the 5% level). Support was transferred to the main opposition party at the expense of government and these other opposition parties. Conversely, a positive relationship was found with inflation, also at the 5% level, mirroring the pattern of government popularity for this period with the popularity of the main opposition party tending to decline.
other opposition parties gain support at the expense of the main opposition party. This again suggests that politics was more important in this period and, in particular, the perception of the main opposition party.\textsuperscript{12}

The variable capturing time to the nearest election has the expected positive coefficient but falls short of the 10% significance level. The time from the last election has an incorrect negative sign and is significant at the 10% level. Again it is evident that government's decline in support in mid-term benefits the other opposition parties. The fact that this support does not transfer in bulk to the main opposition does less damage to the government's re-election chances. If we couple this with the fact that worsening economic conditions benefited government indirectly because support was not transferred to the main opposition party, we see the apparently fortuitous position that government held in this sub-period. More specifically, it appears that Conservative governments have benefited from the unwillingness of voters to transfer support to Labour.

4.5 Summary

The chapter began by considering some of the problems of current political business cycle models. In particular, it focused on the problem of the flexible election date and how this affected the implications from these models. Further, it focused on how political business cycle models analyse the interaction between the economy and the polity. We strongly believe that in modelling the objective functions of politicians we need to focus on both opportunistic and ideological motivations. The only model that attempts to do this is the conventional weak partisan model of Frey and Schneider.

The particular focus in this thesis is on the indicator or indicators to which government reacts. We will concentrate on how this reaction affects government expenditures. Voting intention indices are a "noisy" indicator of government's re-election chances so that it would be inaccurate to model government reacting in a determinate fashion to a popularity surplus or deficit. Furthermore, the relationship between popularity and the economy is more complex and unstable than the score hypothesis assumes. Expanding the economy does not necessarily equate with an increase in government's re-election chances. We could imagine circumstances when the electorate punished government for expanding the economy and conversely

\textsuperscript{12} In this sub-period there is a significant positive relationship between the popularity of the other opposition parties and the unemployment and inflation variables at the 0.5% level. A 1% rise in inflation increases the support of others by close to 0.6% and a 1% rise in unemployment by close to 2%.
awarded government with increased support when contracting the economy. The
behaviour that the score hypothesis might imply for an unpopular government need not
be politically expedient.

The chapter found empirical evidence to refute the simple notion of the score
hypothesis. For instance, between 1976(2) and 1993(1) a positive relationship between
unemployment and inflation with the government’s popularity lead was found. At the
same time the main opposition party lost support with increases in inflation and
unemployment while the support of the smaller opposition parties increased. The fact
that a deterioration in economic conditions has not meant increased support for the
main opposition party implies that politics matters. Furthermore, the implication is that
the importance of politics and, in particular, the perceived competence of political
parties, has increased.

There is further reason to believe that politics matters. Government’s popularity
and popularity lead show significant electoral cycles so that the nearer one is to an
election the greater are these indices of support. The other smaller parties show a
tendency for support to increase in the middle of an election period in the three sample
periods considered. While the government’s mid-term blues is partly attributable to
some increased support for the main opposition party it is primarily attributable to
increased support for the smaller opposition parties. This indicates the unwillingness of
some voters to transfer support between the two main opposition parties. This
unwillingness appears to have been increasingly important in the second sub-period
since support was not being lost to the main opposition party as a result of worsening
economic conditions.
APPENDIX TO CHAPTER 4

Figure 4.1  Voting intentions (full sample): Conservative, Labour and Liberal, 1959 - 1994.

Figure 4.2  Voting intentions (excluding "don't knows" and non-voters): Conservative, Labour and Liberal, 1958 - 1994.

Figure 4.3  As figure 4.1 except Liberals excluded.

Figure 4.4  As figure 4.2 except Liberals excluded.

Figure 4.5  Voting intentions (full sample): Government and main opposition party, 1959 - 1994.

Figure 4.6  Voting intentions (excluding "don't knows" and non-voters): Government and main opposition party, 1959 - 1994.

Figure 4.7  Government popularity lead (full sample), 1959 - 1994.

Figure 4.8  Government popularity lead (excluding "don't knows" and non-voters), 1958 - 1994.

Figure 4.9  Government popularity lead (excluding "don't knows" and non-voters) over election periods.

Figure 4.10  Government popularity lead (excluding "don't knows" and non-voters) and unemployment, 1958 - 1994.

Figure 4.11  Government popularity lead (excluding "don't knows" and non-voters) and inflation, 1958 - 1994.
Figure 4.12  Government popularity lead (excluding "dont knows" and non-voters) and real output growth, 1958 - 1994.

Figure 4.13  Government popularity lead (excluding "dont knows" and non-voters) and change in real personal disposable income, 1958 - 1994.

Sources:


Gallup Political and Economic Index (Various Editions), Gallup Opinion Polls, Ltd, London.
FIGURE 4.1

VOTING INTENTIONS (Full Sample)

Conservative  Labour  Liberal

FIGURE 4.2

VOTING INTENTIONS (Excluding don't knows and non-voters)

Conservative  Labour  Liberal
FIGURE 4.3

VOTING INTENTIONS (Full Sample)

- Conservative
- Labour

FIGURE 4.4

VOTING INTENTIONS (Excluding don't knows and non-voters)

- Conservative
- Labour
CHAPTER 5
GOVERNMENT EXPENDITURE CYCLES

5.1. Introduction

This chapter focuses on the political business models and their implications for politically induced manipulations in general government expenditures. Sections 5.2 and 5.3 respectively consider whether we can categorise movements in expenditures as either purely opportunistic or as purely partisan. Therefore, using the techniques from chapter three we search for possible Nordhaus instrument cycles or strong partisan instrument cycles. There is no attempt in this part of the chapter at a synthesis of partisan and opportunistic motivations.

The results from section 5.2 may allow us to make some qualified statements about the visibility hypothesis. The visibility hypothesis states that in order to affect popularity and election success government will manipulate those components of expenditures and taxation that have the most immediate impact and/or a more concentrated impact. This infers a towards increasing current account expenditures and/or reducing direct taxation.

In section 5.4 we see whether there is a political dimension to Baumol's disease. One implication of Baumol's disease is that private consumers' expenditure will rise less quickly than government's consumption expenditures. Our aim is to see if this is more readily observable at and around election time or whether there is a partisan dimension to Baumol's disease.

In 5.5 we empirically test the Frey and Schneider model. In Chapter 4 we illustrated the weakness of a score hypothesis popularity function and suggested that a voting intention index is a poor guide to a government's re-election chances. Given this we do not expect the results from estimating government's reaction function, which incorporates the score hypothesis and a voting intention index in determining the values of the political variables, to be particularly successful. We believe that we can improve upon the modelling of the behavioural switch mechanism between opportunistic and ideological behaviour.
5.2 Opportunistic instrument cycles

5.2.1 Introduction

We now analyse extreme models of instrument cycles in order to see whether opportunistic or partisan motives alone may predominate. It is not our belief that opportunism or partisanship can continually predominate, rather we share Frey and Schneider's view that there exists a mechanism that causes political behaviour to switch between being opportunistic and ideological.

In this section we will refer to the concepts of competence and visibility. Competence is taken to be as defined by Rogoff and Sibert (1988) and Rogoff (1990). These concepts will be set in an opportunistic environment, but this is not a requirement. Competence and visibility are applicable in an ideological setting.

Rogoff and Sibert (1988) argue that government has an incentive to appear able to deliver a level of government expenditures as cheaply as possible. Moreover, government may deliver a higher level of provision relative to cost prior to the election. This may be evident in our time series analysis of components of government expenditures or in tax revenues.

Although visibility and competence are inter-related, visibility suggests that specific components of expenditures will be targeted. Visibility is the situation whereby government policy becomes more readily apparent to the voter. Government can mask the "medicine" of its policies. Raising indirect or spending taxes rather than direct forms of taxation may be one such example. Conversely, government can act to make seemingly voter-friendly policies more evident and more obvious to the voter. An example may be increasing current expenditures rather than capital expenditures. The concept of visibility may be thought of as a proxy for immediacy. Immediacy not only relates to the dimension of the time, but also the degree to which policy consequences can be felt by the individuals themselves.

In considering the visibility hypothesis in an opportunistic environment, we can compare the existence of any pre-election cycles in current expenditures and capital expenditures.1

The ability of government to successfully engage in pre-election signalling is in part due to the different characteristics of public as opposed to private goods. A voter-citizen is unable to purchase most public goods and services in a conventional market

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1 Further research would require that the focus be on narrower categories of expenditures.
where a price is paid to acquire the specific benefits of a good or service. With most public provision the individual is provided with a basket of goods for a given tax burden. This same voter-citizen when purchasing private goods during a shopping expedition can choose their purchases from what shops and stores have available. Moreover, the voter-citizen is also a price-taker for public goods. Their tax burden is a mixture of direct and indirect taxation which determines the so-called tax price. The tax price is not immediately calculable.

An individual’s calculation of their tax price relative to the level of provision contains an element of subjectivity. Given this subjectivity it is apparent that politicians can help to shape the perception of voters with regards to the relative cost of public good provision. Or, in the language of Rogoff and Sibert, the politicians or government can help to shape the perception of the competence of government.

This section employs those test procedures introduced in Chapter 3 in order to detect possible pre-election manipulations in expenditures. The Cochrane-Orcutt estimation technique of order 1 is used to for components of general government expenditures over the period 1961(2) to 1993(1).

In the regression analysis we control for economic and cost constraints. Allowance is made for the constraint imposed by the current account of the balance of payments. The expected coefficient on the deflated and seasonally adjusted current account (ACA) is positive since the greater any current account surplus the less the constraint imposed on any expansion of government expenditures. For similar reasons we include the financial deficit of general government which is the sum of expenditures, excluding net lending, minus the tax receipts and rental income of government. The expected sign on the financial deficit is negative. The regression equations also control for Baumol’s disease such that when the average wage level of the economy rises, and given the potential for greater productivity improvements in the private sector of the economy, the relative cost of government goods and service rises. This is captured by the variable WAGE which is equal to the total wage bill of the economy.

In the regression relating to current transfers, unemployment is also included as an independent variable. The government instruments were deflated by a seasonally adjusted GDP deflator. In the case of government consumption the seasonally adjusted

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3 Samuelson (1955), shows diagrammatically how an efficient provision of public goods requires individuals to be price-adjusters.

The data was from table 35 of Economic Trends Annual Supplement (1993), with revisions from later editions up to August (1993). This is the consistent approach throughout the thesis.
expenditures at constant prices available from Economic Trends were used. All the constraint variables are at constant prices, the total wage bill of the economy having been deflated by the retail price index.

Finally, an opportunistic dummy is included for each political administration operative for 4, 6 or 8 quarters up to and including the election period. The regressors are all lagged by one quarter.

5.2.2 Government consumption

The first component of expenditures considered is real government consumption. Results table 5.1 included in the appendix to the chapter shows the relevant results. The table is divided into three parts according to the number of quarters up to the election period that the dummies are operative for.

The first part of the table refers to dummies operative for four quarters. The notation is consistent with that in Chapter 3, and refers to the political party in question (L for Labour and C for Conservative) and the period prior to the relevant election. For a test of opportunism the dummies ought to show positive coefficients to imply that government consumption expenditures were pushed above trend. A pre-election expansion of consumption expenditures, rather than other expenditures, could lend itself to the concept of visibility.

The adjusted $R^2$ indicates that the equations explain 99% of the variation in real government consumption. The wage bill of the economy is significantly positive throughout as is the current account of the balance of payments. Both constrained government consumption. The financial deficit variable is, however, incorrectly signed although typically insignificant.

For those political dummies operative for four quarters prior to a general election, two are significantly greater than zero. These are the dummies operative for the three quarters from 1974(2) up to and including the election quarter of 1974(4) and that for the period prior to the June 1983 election.

The short-time span between any two elections, which characterises the two elections of 1974, is interesting in the sense that it may heighten the incentive to act opportunistically, appear competent and in particular to pursue the most visible of

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4 See Table 3 of Economic Trends Annual Supplement (1993).
5 The retail price index was seasonally adjusted following Frey and Schneider (1978).
policies. However, if we consider the period prior to the election in March 1966, which followed an election in October 1964, then the dummy is negative and insignificant. This is important since it causes one to consider what is that government reacts to and whether there really does exist a straightforward relationship between opportunistic behaviour and the time between elections.

When the analysis is extended to cover pre-election periods of six and eight quarters, the political dummies relating to the second election of 1974 and the election of 1983 continue to be significantly positive indicating expansionary expenditure behaviour. There is some evidence of a similar expansion in government consumption expenditures prior to the June 1987 election when the period analysed stretches back eight quarters. In all three cases the incumbent party was re-elected.

Two examples appear to refute a purely opportunistic hypothesis, although their significance is dependent upon the period analysed. These are the 1964 and 1970 elections, both of which resulted in election defeat for the incumbent party. Therefore, there is no strong empirical evidence from which to conclude that government consumption expenditures were manipulated according to opportunistic motives prior to each and every election, although on those occasions when there was evidence of a contraction of consumption expenditures the incumbent party lost the general election.

The long-run effect of Nordhaus-type behaviour on consumption expenditures is sought by consuming the election specific dummies into the dummy PBCN, used in Chapter 3. N took a value of 4, 6 or 8 for the N-1 quarters prior to the election and the election quarter itself. This procedure follows Alesina, Roubini and Cohen (1992). The economic variables were as in results table 5.1. Opportunistic behaviour is implied by a positive coefficient on the PBCN dummy which is lagged by one quarter. The coefficient on PBC4(-1) is negative, contrary to Nordhaus motivated behaviour, while PBC6(-1) and PBC8(-1) are indeed positive.\(^6\) However, none is close to statistical significance with respective t-ratios of -0.01, 0.59 and 1.03. Thus, the real government consumption time series shows no significant long-run effect from the political motivation of opportunism prior to elections.

The evidence obtained here relating to real government consumption appears to refute the belief that opportunistic behaviour is operative at the same moment in every election period and with the same degree of importance. It supports our belief that government expenditure policy is qualified by more than simply election timing and the persistent domination of opportunism over ideology.

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\(^6\) The respective coefficients on the dummies are -0.1913, 19.1058 and 32.1573. The respective adjusted R\(^2\) statistics are 0.9938, 0.9938 and 0.9939.
5.2.3 Government investment

The analysis is repeated for government investment. Opportunistic behaviour in relation to investment expenditures again implies a positive coefficient on the political dummies. The equations summarised in results table 5.2 explain only around 45% of the total variation in deflated government investment. The wage bill of the economy and the current account variables are significantly negative, contrary to theory. The financial deficit variable too is incorrectly signed, although typically insignificant as with consumption, so that all the economic variables are signed contrary to expectation.

The results suggest that there are two examples where investment expenditures have shown an upward displacement coinciding with a forthcoming election. These are the elections of 1970 and the first election of 1974, where in both occasions the incumbent party was defeated. In the case of the former this coincides with significant evidence of a downward displacement in the more visible component of consumption expenditures. There is evidence of an upward displacement in investment expenditures of up to eight quarters at the 5% significance level in the case of the 1970 election, and at the 1% level in the case of the first of the 1974 elections.

Most of the election dummies reveal negative coefficients and are statistically insignificant. Thus, again there is little support for the hypothesis of an opportunistic manipulations of a component of expenditures at all elections. The 1970 election can be described as contrary to the visibility hypothesis in so far as there is a significant downward displacement of consumption expenditures and an upward displacement of investment expenditures. The 1983 election may offer support of for the visibility hypothesis since there is a negative coefficient on investment expenditures, albeit insignificant, and a significant positive coefficient on consumption expenditures.

Again we concluded by using the dummies PBC4(-1), PBC6(-1) and PBC8(-1). The coefficient on these dummies were positive, with respective t-ratios of 0.40, 0.17 and 0.80. Hence, no support is found for the hypothesis that pre-election opportunistic behaviour had a significant long-term influence on deflated government investment. This confirms the general conclusions of results table 5.2.

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7 In all cases, however, it is possible to reject the null hypothesis that $R^2$ is zero at the 1% significance level.
8 The respective coefficients on the dummies are 37.2061, 13.9956 and 64.4701. The respective adjusted $R^2$ statistics are 0.4533, 0.4527 and 0.4554.
5.2.4 Current transfers

Current transfers are another example of a visible component of government expenditures. It comprises grants to the personal sector, and in particular national insurance benefits like unemployment benefits and pensions, but also includes subsidies by general government to the public and private sectors alike. The findings from the estimated regression equations are shown in results table 5.3. The adjusted $R^2$ shows that nearly 99% of the variation in the dependent variable is explained in the equations. All four economic variables, including the unemployment rate introduced in this expenditure model, are significantly positive so again expenditures rather than being constrained by the financial deficit appear to have added to it.

The analysis offers two significant politically-orientated results consistent in the first instant with opportunistic behaviour. These are the two elections of 1974. In 1972(3) the unemployment rate was 2.8%, in 1973(1) it was 2.4%, in 1974(2) it was 2.0% and in 1974(4) it was 2.1%. Hence, there was a fall and stabilisation in the rate of unemployment in the quarters prior to the two elections. Nonetheless, current transfer expenditures show an upward displacement. Thus, in this period government may have acted opportunistically and visibly.

Again, although there is evidence of specific pre-election periods that fit the opportunistic hypothesis we cannot generalise across all elections. The first election in 1974 confers with opportunistic behaviour of government investment expenditures and current transfers, while the second election in 1974 confers with all three components of expenditure, although less so with investment expenditures. The latter could thus fit the implications of the visibility hypothesis. However, for the four quarters analysed in the run-up to the June 1987 election current transfers show a significant fall. Interestingly, any pre-election emphasis at this election favoured consumption expenditures over investment expenditures and, more particularly, current transfers.

Finally, we employed the use of PBCN(-1) to consider the possible long-run impact of opportunistic behaviour on current transfers. The t-ratios found from estimating the equation in results table 5.3 are 0.65, 0.30 and 0.99 for N=4, 6 and 8 respectively. In all cases the political dummy is statistically insignificant. Thus, there is no support of repeated opportunistic behaviour in relation to current transfers.

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9. The coefficients on the dummies are 47.3432, 19.6911 and 62.1261 respectively. The respective adjusted $R^2$ statistic are 0.9861, 0.9860 and 0.9861.
5.2.5 Total government expenditures

The fourth expenditure type considered is total general government expenditures. The equations explain between 93% and 94% of the variation in total government expenditures. The analysis shows three elections where there is evidence of pre-election opportunistic manipulations of total expenditures. These are the elections of June 1970, although this is sensitive to the duration of dummy employed, and those of February and October 1974.

The dummy representing the 1970 election is a result of an increase in investment expenditures. In the case of the first election in 1974 the result stems from upward displacements in investment and current transfers, while in the case of the second election in 1974 this is due primarily to upward displacements in both visible components of expenditure, namely consumption and current transfers.

Of the other six elections, two give significant evidence contrary to the opportunistic hypothesis. These are the elections of 1964 and, in particular 1992. Thus, one needs to understand why late into these election period government may have been tightening expenditures. The answer must lie in other information that the Nordhaus model simply overlooks.

In short, we lack significant evidence supportive of pre-election opportunistic behaviour. This lack of significant Nordhaus-type cycles in total government expenditures is confirmed when the procedure of consuming the specific political dummies into PBCN(-1) is used. Again the Cochrane-Orcutt technique of order 1 is employed. The coefficients on the dummies are 126.0514, 76.0112 and 144.0107, while the t-ratios on the dummies are 0.60, 0.40 and 0.79 for N=4, 6 and 8 respectively. Therefore, although all coefficients are signed in accordance with theory, the political dummy shows no evidence of opportunistic behaviour significantly affecting the long-term pattern of total government expenditures over the period 1961(2) to 1993(1).

5.2.6 Net total government expenditures

Net lending is partly drawings on UK subscriptions to international lending bodies, but involves other net lending and investment abroad as well as net cash.

The adjusted R² figures are 0.9306, 0.9304 and 0.9307 respectively.
expenditures on company securities. However, this category has distorted trends in total expenditures with the inclusion of receipts from the sales of public sector assets such as council houses and previously nationalised industries. This has been treated as negative expenditure.

For the period 1961(1) to 1993(1) net lending as a proportion of total expenditures constituted an average of 2.81%. Between 1976(1) and 1993(1) net lending typically reduced the published total expenditure statistic with an average value of -0.22%. We refer to that expenditure after the subtraction of net lending from total expenditures as net total expenditures.

Results table 5.5 shows those results from a purely opportunistic analysis of net total expenditures. The equations explain between 96% and 97% of the total variation in net total expenditures. The four economic variables are positively signed with only the current account variable not consistently significant. Thus, the financial deficit variable remains wrongly signed and, consequently, has not acted to constrain expenditures.

With the removal of net lending from total expenditures we find that there are two elections with significant pre-election dummies. These are the two elections of 1974. The dummy representing the period prior to the 1970 election while positively signed is no longer statistically significant. There remain two examples where government appears to contract expenditures. These are the 1964 and 1992 elections. In both cases the duration considered is of importance. Thus, results table 5.5 shows no evidence of repeated pre-election expansions. This is confirmed further by the use of the all consuming PBCN dummy. The t-ratios on the dummy for 4, 6 and 8 quarters are found to be 0.15, -0.19 and 0.57 respectively.\textsuperscript{11}

5.3 Strong partisan instrument cycles

At either ends of the ideological-opportunistic spectrum lie the pure political business cycle (pure opportunism) and strong partisan theory (pure partisan). The latter implies that instrument manipulations conform to class interest and ideology. Our test is to see whether there exists partisan effects for each period of government. The regressors are as in section 5.2 except that the opportunistic dummies are now replaced by partisan dummies.

\textsuperscript{11} The respective coefficients and adjusted R\textsuperscript{2} values are 25.7552 and 0.9636; -29.3988 and 0.9636; and 86.2395 and 0.5685.
Results table 5.6 shows the estimations for our five categories of expenditures. The notation of the partisan dummies is consistent with that used in Chapter 3 so that each election cycle and the associated party in government is differentiated. The top half of the table treats the Labour periods of rule in the 1960s and 1970s as one election period, given that a second election in each case was called shortly after the earlier election which brought them to power. The second half of the table treats each election period separately.

If partisan differences have a persistent effect then we would expect to see significant expansions in expenditures during Labour governments and contractions in expenditures during Conservative rule. These implications would seem to be more valid where the political persuasion of government changed with each election. This has not been the case in the UK.

Consumption expenditures do not support the strong partisan hypothesis. Significant political dummies, at the 5% and 0.5% levels respectively, are found for the periods of Conservative rule from June 1983 to June 1987 and June 1987 to April 1992. The two Labour election dummies of the 1960s are negative albeit insignificant. Three of the five Conservative dummies are positive.

With the investment equation the two Labour dummies in the 1960s and 1970s are significantly positive and, therefore, consistent with strong partisan theory. However, the political dummy for the period of Conservative government from October 1959 to October 1964 and the period from June 1970 to February 1974 are also significantly positive at the 10% and 2.5% levels. The other three Conservative dummies are all insignificant.

The investment series appears to infer that in the period from 1964 to 1979 investment expenditures were viewed with greater relative importance than in more recent times. The recent rhetoric regarding the size of government has made investment expenditures a soft option in the desire to prune government expenditures.

Interestingly, the results for current transfers show that governments of whatever persuasion have made efforts to push down these expenditures. Most noteworthy in this regard is the Conservative government from 1987 to 1992. Only the dummy for the Labour government of 1974(2) and 1974(3) is found to be positive, although this dummy may be reflecting opportunistic rather than partisan motives.

The results from total government expenditures offer little support to the strong partisan hypothesis. Both Labour dummies of the 1960s are negative, contrary to
theory. The two Labour dummies for the 1970s, however, are both positive, although only the dummy operative for the short period between elections in 1974 is significantly so. The bottom half of the table reveals that the dummy representing Conservative rule from October 1959 to October 1964 is significantly negative at the 5% level. However, the remaining four Conservative dummies are all insignificant and indeed three of them are positively signed.

The fifth category considered was net total expenditures. The results refute the significance of ideology in determining net total expenditures. No dummy variable is statistically significant.

In order to consider the possible long-term impact of partisanship on government expenditures we consumed the specific dummies into one dummy, PPT. The dummy PPT takes a value of +1 for periods of Conservative rule and -1 for periods of Labour rule. The dummy is lagged by one quarter and the economic variables are as in results table 5.6. If partisan theory is operative PPT(-1) will be negatively, implying that Labour governments push expenditures upwards and Conservative governments downwards. The results are shown in table 5.1, where only the t-ratios and not the coefficients are reported.

Table 5.1: Long-term impact of ideology on general government expenditures

<table>
<thead>
<tr>
<th></th>
<th>CON</th>
<th>INV</th>
<th>CUT</th>
<th>GEX</th>
<th>NGEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>INT</td>
<td>3.39</td>
<td>3.04</td>
<td>-3.53</td>
<td>2.05</td>
<td>1.55</td>
</tr>
<tr>
<td>EXPS(-1)</td>
<td>21.73</td>
<td>11.27</td>
<td>8.05</td>
<td>13.00</td>
<td>10.83</td>
</tr>
<tr>
<td>ACA(-1)</td>
<td>1.82</td>
<td>-1.97</td>
<td>2.10</td>
<td>0.86</td>
<td>0.77</td>
</tr>
<tr>
<td>FDEF(-1)</td>
<td>1.33</td>
<td>0.60</td>
<td>3.93</td>
<td>3.05</td>
<td>2.91</td>
</tr>
<tr>
<td>WAGE(-1)</td>
<td>3.30</td>
<td>-1.71</td>
<td>4.27</td>
<td>2.92</td>
<td>3.34</td>
</tr>
<tr>
<td>URATE(-1)</td>
<td></td>
<td></td>
<td>3.35</td>
<td>0.77</td>
<td>2.30</td>
</tr>
<tr>
<td>PPT(-1)</td>
<td>0.30</td>
<td>-0.95</td>
<td>-1.36</td>
<td>-0.78</td>
<td>-1.07</td>
</tr>
<tr>
<td>RBAR²</td>
<td>0.9938</td>
<td>0.4567</td>
<td>0.9862</td>
<td>0.9307</td>
<td>0.9639</td>
</tr>
<tr>
<td>DW</td>
<td>2.0265</td>
<td>2.0545</td>
<td>2.0665</td>
<td>1.9568</td>
<td>1.9880</td>
</tr>
</tbody>
</table>

Table 5.1 shows that the partisan political dummy is correctly signed for all expenditure types other than for consumption. The positive dummy in the government consumption model implies that Conservative governments have increased consumption expenditures at a greater rate than Labour governments. Where the partisan dummy is negatively signed it is only significant in the case of current transfers. Thus, there is support for the hypothesis that political persuasion has mattered with respect to current transfers.
The result for current transfers is interesting given that all the specific political dummies exhibit negative coefficients. This implies that each government had attempted to put a brake upon the growth in current transfer expenditures. The growth saw current transfers rise from 9.9% of factor GDP to 18.4% between 1961 and 1993. Thus, it would appear that the collective political dummy is showing that Conservative governments have made the more assertive effort to slow this relative growth in current transfers.

5.4 A political dimension to Baumol's disease?

5.4.1 The productivity differential model

We saw in Chapter 2 that a large part of government expenditures is expenditure on inputs. This is in contrast to consumers' expenditure in the national income accounts which refers to expenditure on final output. Hence, absolute increases in public expenditure will stem from the rise in prices of inputs used in public sector production. Of particular importance for the relative size of government is the possibility that the public sector, which is largely characterised by the provision of services, may be unable to fully offset increases of cost against productivity increases, economies of scale and technological change. This was analysed by Baumol (1967). This relative price effect implies that the price of public sector output rises relative to that of private sector output.

Baumol argues that many of the activities provided by general government have an inherent technological structure that causes a progressive increase in the real cost of supplying them. Economic activities can be categorised as either technologically progressive or those which permit only sporadic increases in productivity. This division arises since the technological structure of the activity defines whether the productivity of its labour input will grow slowly or rapidly.

Labour plays a crucial role. In some cases labour is an instrument in the provision of the final product. In some activities labour itself is the end product. In manufacturing, for instance, labour is commonly an instrument. Baumol illustrates this by considering the case of an individual buying an air conditioner. This individual neither knows nor cares how much labour went into it, providing that its price and quality are unaffected.13

There are, however, those services in which the labour is both an input and an end in itself. Furthermore, the quality and nature of this service is judged by that labour. A reduction in the labour input actually changes the service being produced such that capital cannot be substituted easily for labour. This is not to say that productivity increases are impossible in the public sector, but that they take place more sporadically or a slower rate than in the private sector.

Important to the model is the existence of a differential between the public and private sectors in productivity increases. For simplicity it is assumed the public sector is characterised by no productivity gains, although the conclusions hold as long as the productivity differential occurs. Further assumptions need to be spelt out. Firstly, all costs other than labour are ignored. Secondly, the wages of the two sectors, the progressive private sector and the non-progressive public sector, move together. This will prevent labour from moving from the non-progressive sector of the economy in search of higher hourly wages. Thirdly, money wages rise as rapidly as output per man in the sector where productivity is increasing. Wages are, therefore, determined in the progressive sector. Since organised labour is not slow to learn of increases in productivity it is likely to adjust its wage demands accordingly.

In the non-progressive public sector the productivity of labour is constant, while in the progressive private sector output per man grows cumulatively at an exponential rate, $r$. Hence, the output of the rest of the economy grows at an exponential rate, holding constant the amount of labour employed.

The simple production functions can be written as:

1. $YG_t = \alpha LG_t$
2. $YP_t = \beta LP_t e^{rt}$

where $YG$ and $LG$ refers to output and labour employed by the government sector and $YP$ and $LP$ the output and labour employed by the private sector respectively.

Wages in the two sectors are equal and fixed at $W_t$ pounds per unit of labour, where $W_t$ grows in accordance with the productivity of the progressive sector:

3. $W_t = We^{rt}$

With the above assumptions it is straightforward to show that the average cost functions of the government and private sectors can be written as:

4. $ACG_t = We^{rt} / \alpha$
This illustrates the fundamental proposition of Baumol's model that the average cost of the government sector will rise without limit. Hence, unit costs in the public sector increase steadily with the rate of productivity in the private sector. The unit cost of the private sector will remain constant.

Further implications result from Baumol's analysis. Firstly, if the output of the public sector does not fall and if unit costs rise, the total costs of the public sector must also rise. It will cost more for the public sector to maintain the same output. Secondly, if the ratio of public sector output to private sector output is to remain constant, then labour resources must be transferred from the private sector to the public sector. Thirdly, public sector consumption expenditures will rise at a faster rate than consumers' expenditure.

In 1961 there were 5.9 million public sector employees which rose steadily to 7.4 million in 1979 before declining to 5.8 million in 1992. As a proportion of the total workforce in employment the public sector accounted for 24% in 1961, peaking at 29.6% in 1977 and 29.4% in 1983, before falling steadily to 22.8% in 1992. These trends are illustrated in figure 5.1 in the appendix to the chapter. The rise through the 1970s and the decline in the 1980s of the numbers employed in the public sector would appear to reflect ideology and in particular the privatisation policies of the Conservatives. Therefore, this implication of Baumol is clearly open to partisan influences.

5.4.2 Baumol's excess

Of particular interest in this chapter is whether politics affects the rate of growth of government consumption relative to the growth of consumers' expenditure. Figure 5.2 shows both the annual rate of growth of general government final consumption and private consumers' expenditure as measured at current prices. The average rate of growth over the period 1958(1) to 1993(1) is 10.9% for government consumption expenditure and 9.9% for consumers' expenditure. Figure 5.3 shows the trend in the excess growth of government consumption expenditure over consumers' expenditure. We will refer to this as Baumol's excess. The maximum value was 23.3% in 1975(1) and the minimum value was -7.5% in 1988(3). The average excess growth was 1.0%.

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(5). \( \text{ACP}_t = \frac{W}{\beta} \)

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14 Figures were obtained from "Employment in the public and private sectors", Economic Trends, No.471, January, 1993.
In particular, we focus on whether there are opportunistic or partisan influences affecting Baumol's excess. The test procedure will consider each influence in isolation to see if either has been predominant. The dependent variable is the excess annual growth of public sector consumption over private sector consumption (GEXTRA). The estimation period is between 1959(3) and 1993(1), where use is made of the Cochrane-Orcutt technique of order 1.

Three economic variables are included in the regression equations. Firstly, there is the annual increase in the nominal wage bill of the economy (CWAGE). Secondly, we use the rate of unemployment to control for the state of the economy on the magnitude of this excess. Both the rate of unemployment and the annual change in the wage bill are lagged by one quarter.

The third economic variable included is the GDP market price deflator (MPD). This will control for the rise in the price of the basket of goods produced by the economy as a whole. One expects that the more quickly the cost of this basket of goods rises the greater the excess growth of annual government final consumption over private consumption. If changes in nominal wages in the private sector mirror increases in the economy's price level then the public sector would follow suit. Since the public sector cannot offset such increased costs against productivity increases then public sector consumption, which is expenditure on inputs, would tend to rise even more quickly than private sector consumption. Therefore, we would expect to observe a positive coefficient on the GDP deflator.

In considering a purely opportunistic dimension we ask whether prior to an election the government has attempted to "buy" the votes of public sector employees by increasing salaries as well as the votes of the general public by increased expenditures on current goods and services. Hence, this is another approach in analysing the visibility hypothesis. A purely partisan approach considers whether political persuasion affects Baumol's excess. This would arise from different policies towards public employees and current goods and services. We could test whether Baumol's excess is larger under Labour governments than Conservative governments.

5.4.3 Pure opportunism

Results table 5.7 shows those results where the political dummies are designed to detect pure opportunistic behaviour and, therefore, mirrors the approach taken in section 5.2. The equations show that we are able to explain between 63 and 70% of
the variation in Baumol's excess. The unemployment rate is significantly negative so that as the unemployment rate has risen the excess increase of public consumption expenditure over consumers' expenditure has lessened. As expected the market price deflator and the annual percentage change in the wage bill are positively signed.

If opportunism has affected GEXTRA the political dummies ought to be positive. There appear to be three cases where opportunistic behaviour may be inferred. These are the periods prior to the elections in June 1970, October 1974 and June 1983. In the latter two cases upward displacements in Baumol's excess match those upward displacements in real government consumption while in the first case there is a noticeable downward trend in real government consumption.

There are no significant examples of cases where the dependent variable fell towards election time. However, the periods prior to the elections of 1964, 1979, 1992 show GEXTRA being displaced downwards, although the dummy variable in each case is not significantly less than zero. These three elections show negatively signed dummies in both results table 5.1 and 5.6. In the analysis of real government consumption the 1964 election, just as with the 1970 election, was proceeded by a significant downward displacement.

We concluded the purely opportunistic analysis of Baumol's excess by making use of the all consuming dummy PBCN which was then lagged by one quarter. It will be recalled from section 5.2 that when the same estimation procedure was used for real government consumption that the opportunistic dummy was insignificant regardless of duration. The t-ratios from the estimation are reported in table 5.2.

Table 5.2: Baumol's excess and opportunism

<table>
<thead>
<tr>
<th></th>
<th>INT</th>
<th>GEXTRA(-1)</th>
<th>URATE(-1)</th>
<th>CWAGES(-1)</th>
<th>MPD</th>
<th>PBCN(-1)</th>
<th>N =</th>
<th>RBAR²</th>
<th>DW</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>-0.39</td>
<td>8.42</td>
<td>-2.93</td>
<td>1.83</td>
<td>2.29</td>
<td>2.02</td>
<td>4</td>
<td>0.6458</td>
<td>1.9940</td>
</tr>
<tr>
<td></td>
<td>-0.57</td>
<td>8.71</td>
<td>-2.92</td>
<td>1.87</td>
<td>2.29</td>
<td>1.98</td>
<td>6</td>
<td>0.6452</td>
<td>1.9935</td>
</tr>
<tr>
<td></td>
<td>-0.79</td>
<td>8.86</td>
<td>-2.92</td>
<td>1.91</td>
<td>2.29</td>
<td>2.17</td>
<td>8</td>
<td>0.6473</td>
<td>1.9933</td>
</tr>
</tbody>
</table>

For all three values of N the opportunistic political dummy is statistically significant at the 2.5% level. Therefore, the election dummy operative for all pre-election periods irrespective of party, shows that the excess increase of government...
final consumption over private consumers' expenditure has a significant opportunistic component.

The use of the PBCN dummy provides contrasting results for real government consumption and Baumol's excess. While the real government consumption series shows no significant long-term impact from opportunistic behaviour prior to elections the series of data relating to Baumol's excess does indicate a significant impact from such behaviour.

5.4.4 Pure partisan

The second political dimension considered in relation to Baumol's excess is pure partisanship. If pure class-interest has affected Baumol's excess we expect that the Labour dummies take a positive value and the Conservative dummies a negative value.

Results table 5.6 included the tests for a purely partisan manipulation of real government consumption. The political dummies representing Labour governments were insignificant while those representing the Conservative governments from 1983 to 1987 and 1987 to 1992 implied significant upward effects, contrary to expectation. The findings in results table 5.8 relating to Baumol's excess also show that for Conservative rule from 1983 to 1987 there is a significant upward displacement. This is also true of the period of Conservative rule from 1979 to 1983. However, there is no significant upward displacement in GEXTRA from 1987 to 1992, indeed the dummy is negatively signed.

Although the Labour dummy representing the period between the two elections of 1974 is significantly positive, results tables 5.8 typically contradicts the strong partisan hypothesis.

The economic variables are correctly signed but the annual percentage change in the economy's wage bill is insignificant.

We repeated the test procedure but consumed the specific dummies into the dummy, PPT, which was then lagged by one quarter. A negative coefficient on the partisan dummy PPT would thus indicate an upward displacement in Baumol's excess during Labour rule and a downward displacement during Conservative rule. The results are shown in table 5.3.
Table 5.3: Baumol's excess and ideology

<table>
<thead>
<tr>
<th>Variable</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>INT(-1)</td>
<td>0.07</td>
</tr>
<tr>
<td>GEXTRA(-1)</td>
<td>8.07</td>
</tr>
<tr>
<td>URATE(-1)</td>
<td>-2.86</td>
</tr>
<tr>
<td>CWAGES(-1)</td>
<td>1.82</td>
</tr>
<tr>
<td>MPD</td>
<td>2.09</td>
</tr>
<tr>
<td>PPT(-1)</td>
<td>0.46</td>
</tr>
<tr>
<td>RBAR²</td>
<td>0.6350</td>
</tr>
<tr>
<td>DW</td>
<td>1.9945</td>
</tr>
</tbody>
</table>

The partisan dummy is actually positive indicating higher magnitudes of Baumol's excess during Conservative rule than during Labour rule in the period 1959(3) to 1993(1), although the dummy is statistically insignificant.

There appear to be no significant long-term effects on either real government consumption series or Baumol's excess consistent with strong partisanship. There is, however, evidence that pure opportunism may have had a significant impact on the Baumol's excess.

5.5 The Frey and Schneider reaction function

5.5.1 The modelling procedure

The Frey and Schneider reaction function\(^{15}\) describes a possible mechanism that switches behaviour from being opportunistic to ideological or alternatively from being ideological to opportunistic. The key is a safe popularity lead over the main opposition party. This safe lead is dependent upon the time that has elapsed in the election period. The nearer the next election the greater the required lead, while in the early part of an election period the government can tolerate negative leads or popularity short-falls. The required safe lead is referred to as the critical lead. If the actual lead is in excess of this critical lead then government has a popularity lead surplus and is able to pursue ideology. Conversely, in the case where the critical lead exceeds the actual lead then the government incurs a popularity lead deficit and acts opportunistically.\(^{16}\)

We follow the methodology of Frey (1978) in the construction of the reaction function and consider the possible empirical support in relation to government expenditures in the UK. We will refer to the difference between the government's actual popularity lead and the critical lead as the popularity differential. The popularity differential

\(^{15}\) See Frey (1978) and Frey and Schneider (1978).
\(^{16}\) This is explained more fully in Chapter 1.
differential consumes both the concepts of popularity lead surplus and popularity lead deficit. A positive differential is synonymous with a popularity lead surplus and a negative differential with a popularity lead deficit. We can write the popularity differential (PDIF) as:

$$\text{PDIF}_t = \text{LEAD}_t - \text{CRITICAL}_t$$

A dummy variable $S$ takes a value of one when there exists a popularity lead surplus (positive popularity differential) and a value zero when there exists a popularity lead deficit (negative popularity differential). Frey (1978) takes the critical popularity lead to be -5%. Given that our expenditure data is for the period 1961(1) to 1993(1) we take the benchmark popularity lead to be the average popularity lead for this period, where use is made of a voting intention index compiled from Gallup surveys. Further, to be consistent with opinion poll data used later in the thesis we take the full sample inclusive of "don't knows" and non-voters. Our critical popularity lead is found to be -2.36%.

If the popularity lead in a particular quarter is greater than -2.36% we take that quarter as having a popularity lead surplus. If the popularity lead falls short of this benchmark then the quarter is taken as having a popularity lead deficit.

Another dummy variable indicates the political party in power. RW is a dummy indicating periods of Conservative rule and LW a dummy indicating periods of Labour rule. Two ideological variables can then be created for the two respective parties to correspond to those occasions when the government of the day has been free to pursue ideology. These two ideological variables IDC$_t$ (Conservative) and IDL$_t$ (Labour) can thus be written as:

$$\text{IDC}_t = \text{RW}_t \times \text{PDIF}_t \times S_t$$
$$\text{IDL}_t = \text{LW}_t \times \text{PDIF}_t \times S_t$$

The popularity differential is by definition positive and it is expected that the coefficient on IDL is greater than on IDC.

The opportunistic dimension of the reaction function is captured by two elements. The first is the magnitude of the popularity lead deficit. The greater is the deficit, the greater is the need to increase expenditures in order to expand the economy and achieve more favourable economic outcomes. According to the score hypothesis this will induce increased popularity for the government. We refer to this as the popularity lead expansion variable, $PE$, which can be written as:

In the appendix to the chapter we report those results from taking the critical lead to be -5% as with Frey (1978). There is no qualitative difference.
Since a popularity lead deficit infers a negative popularity differential, using our construction method the popularity expansion variable is always negative. Thus, the expected coefficient in relation to expenditures is negative such that a positive relationship is seen to exist between expenditures and popularity deficits.¹⁸

The second opportunistic element reflects the time elapsed in the election period. The greater the time that has elapsed since the last election the greater will be the need to increase expenditures and/or reduce taxation to remove any popularity lead deficit. Thus, the variable ought to be positively signed. However, this is an imperfect measure of this need given the flexibility of the election date in the UK and the consequent fact that election periods are not of equal duration. Nonetheless, the *time expansion variable*, $TE_t$, can be written as:

$$TE_t = TFE_t * (1-S_t)$$

The final part of the reaction function allows for economic constraints. These are those constraints introduced in section 5.2. The general format of the reaction function for government instruments is, therefore:

$$INST_t = \alpha_0 + \alpha_1 INST_{t-1} + \alpha_2 IDC_{t-1} + \alpha_3 IDL_{t-1} + \alpha_4 PE_{t-1} + \alpha_5 TE_{t-1} + Z_{t-1}$$

This format is used for five components of general government expenditures: consumption, investment, current transfers, total expenditures and net total expenditures (total expenditures less net lending). All variables are in real terms as discussed in section 5.2. Throughout use is made of the Cochrane-Orcutt technique of order 1.

Finally, we run regressions in order to test whether the Labour ideological parameter, $IDL$, is in excess of the Conservative equivalent, $IDC$. To do this we estimate the equation:

$$INST_t = \alpha_0 + \alpha_1 INST_{t-1} + \alpha_2 (IDC_{t-1} + IDL_{t-1}) + \alpha_3 IDL_t + \alpha_4 PE_{t-1} + \alpha_5 TE_{t-1} + Z_{t-1}$$

The procedure then simply involved testing the statistical significance of $\alpha_3$ using a *t*-test. We will refer to this as the *difference test*. The null hypothesis is that $\alpha_3$ is zero.

¹⁸ If the definition of the popularity expansion variable was in terms of the magnitude of the popularity deficit, rather than the popularity differential, then this variable ought to be positively signed as described in Chapter 1.
The alternative hypothesis is that $\alpha_3$ is greater than zero so that the Labour parameter is then in excess of the Conservative parameter. In the presentation of the results we include the t-value on this parameter in the section labelled "difference".

5.5.2 Government consumption

The first set of results to be presented are for general government consumption expenditures. For the period 1961(2) to 1993(1) the following equation is found:

$$CON_t = 522.3510 + 0.84571 CON_{t-1} + 5.0136 IDC_{t-1} + 3.1173 IDL_{t-1}$$  
$$+ 5.8184 PE_{t-1} + 0.9201 TE_{t-1} + 0.0461 WAGE_{t-1}$$  
$$+ 0.0287 ACA_{t-1} + 0.0105 FDEF_{t-1}$$  
\[ (3.30) \quad (19.11) \quad (1.10) \quad (0.40) \]
$$+ (1.13) \quad (0.21) \quad (3.32) \quad (1.83) \quad (1.37)$$

\[ r^2 = 0.9944, \quad RBAR^2 = 0.9939, \quad DW = 2.0509, \quad D.F. = 117. \]

\textit{Difference:} -0.24.

We consider first the ideological variables which are relevant when the incumbent party is free to pursue ideology. Both are positive, but the coefficient on the Conservative variable is greater than that on the corresponding Labour parameter, contrary to expectation. However, the difference test shows no significant difference between the Labour and Conservative parameters. Furthermore, the original equation shows that neither of these variables is close to statistical significance.

The two election period variables are both positively signed. The popularity lead expansion variable is thus signed contrary to expectation, however neither variable is significant.

By contrast all three economic variables reach statistical significance. The current account on the balance of payments appears to constrain the level of consumption spending and is significant at the 5% level. The wage bill of the economy is significantly positive at the 0.5% level. Finally, the financial deficit, contrary to expectation, is positively signed and is significant at the 10% level. The financial deficit has not constrained government’s consumption expenditures.

The government consumption function shows no significant popularity lead ideological effects or opportunistic effects.

\[ \text{The absolute critical tabular t-value for a one-tailed test is approximately 1.29.} \]
5.5.3 Government investment

The estimated equation for government investment over the period 1961(2) to 1993(1) is:

\[
\text{INV}_t = 1048.2 + 0.7525 \text{INV}_{t-1} - 9.1042 \text{IDL}_{t-1} - 4.4067 \text{PE}_{t-1} + 0.0559 \text{ACA}^i + 0.0121 \text{FDEF}_{t-1} \\
(2.73) \quad (10.75) \quad (-0.74) \quad (0.49) \\
- 4.4067 \text{PE}_{t-1} - 3.8726 \text{TE}_{t-1} - 0.0105 \text{WAGE}_{t-1} \\
(-0.31) \quad (-0.32) \quad (-1.52) \\
- 0.0559 \text{ACA}_{t-1} + 0.0121 \text{FDEF}_{t-1} \\
(-1.72) \quad (0.60)
\]

\( (R^2 = 0.4832, \text{RBA}^2 = 0.4434, \text{DW} = 2.0653, \text{D.F.} = 117) \).

Difference: 0.86.

The popularity lead model explains less than 45% of the total variation in government investment as measured by the adjusted \(R^2\). As with consumption, the ideological variables in the investment function are insignificant although this time the Conservative parameter is negative while the Labour parameter is positive. Again the difference tests shows that there is no significant difference between the two ideological parameters.

Neither election period variable is significant, hence, offering again no empirical support to the opportunistic dimension as portrayed in conventional weak partisan theory. Indeed the time expansion variable is incorrectly signed. All the economic variables are incorrectly signed and significantly so in the cases of the wage bill of the economy and the current account of the balance of payments.

The popularity lead model offers no evidence of significant ideological or opportunistic effects on government investment expenditures.

5.5.4 Current transfers

The same analysis is repeated for current transfer expenditures which includes current grants and subsidies. However, we include the unemployment rate as an additional explanatory variable. Transfer expenditures are conditional expenditures in

\(^{20}\) The calculated \(F\)-value of 12.15 allows us to reject the null hypothesis, at both the 1% and 5% levels, that the explanatory power of the model is zero.
that they are dependent upon some state of nature. This is typically related to the state of the economy and, for instance, in the case of unemployment benefits the total bill for government will be dependent upon the rate of unemployment. The estimated model for the period 1961(2) to 1993(1) is:

\[
\text{CUT}_t = -1568.1 + 0.6717 \text{CUT}_{t-1} + 2.7527 \text{IDC}_{t-1} + 25.9955 \text{IDL}_{t-1} \\
- 0.6367 \text{PE}_{t-1} + 9.4832 \text{TE}_{t-1} + 0.0943 \text{WAGE}_{t-1} \\
+ 0.0690 \text{ACA}_{t-1} + 0.0613 \text{FDEF}_{t-1} + 125.9939 \text{URATE}_{t-1}
\]

\[
\begin{array}{ccc}
(\text{-3.54}) & (8.42) & (0.26) \\
(\text{-0.06}) & (1.05) & (4.17) \\
(2.28) & (3.83) & (3.14) \\
\end{array}
\]

\[R^2 = 0.9871, \text{ RBAR}^2 = 0.9860, \text{ DW} = 2.0729, \text{ D.F.} = 116.\]

**Difference:** 1.27.

The Labour ideological variable is significantly positive at the 10% level. Thus, when Labour has enjoyed a popularity lead surplus it has significantly increased current transfer expenditures. When the Conservatives have enjoyed a popularity lead surplus there has been no major impact upon current transfer expenditures. This could reflect the inertia of the welfare state and thus the difficulty in affecting certain components of government expenditure.

With regards to the election period variables neither the extent of the popularity lead deficit nor the time elapsed since the last election are statistically significant, although both are correctly signed.

The current account of the balance of payments imposes a constraint on the expansion of current transfer expenditures. The variable is significantly in excess of zero at the 2.5% level. The wage bill of the economy has a similar positive relationship at the 0.5% level. The financial deficit continues to display a significantly positive coefficient and, hence, has not been a constraint on expenditures. The unemployment rate variable is highly significant as expected so that higher levels of unemployment have significantly increased current transfer expenditures.

The popularity lead model of current transfer expenditures indicates a significant Labour ideological effect whereby Labour has increased these expenditures when its popularity lead has been in excess of the average for the period 1961(2) to 1993(1). There are no other observed popularity lead effects.
5.5.5 Total government expenditures

For total expenditures the unemployment variable is again included in the regression analysis to capture its effect upon current transfer expenditures. For the period 1961(2) to 1993(1) the estimated equation is:

\[
GEX_t = 1199.5 + 0.7723 GEX_{t-1} + 33.2252 IDC_{t-1} + 56.2237 IDL_{t-1} \\
- 12.7467 PE_{t-1} - 5.3761 TE_{t-1} + 0.1410 WAGE_{t-1} \\
+ 0.1189 ACA_{t-1} + 0.1519 FDEF_{t-1} - 2.6565 URATE_{t-1}
\]

\[
(1.38) (13.17) (1.09) (1.13) \\
(-0.39) (-0.19) (3.15) \\
(1.28) (3.14) (-0.05)
\]

\(R^2 = 0.9358, \text{ RBAR}^2 = 0.9302, \text{ DW} = 1.9604, \text{ D.F.} = 116).\)

\textit{Difference: 0.43.}

The two ideological variables are both positive and neither is significant. While the Labour variable is greater than the Conservative variable there is no significant difference between the two. Moreover, neither of the opportunistic variables is significant and the time expansion variable is incorrectly signed suggesting that deficits further into the election period have meant falls in total expenditures.

The wage bill of the economy, the financial deficit and the current account are all positively signed with the former two significant at the 0.5% level. The current account is just short of significance at the 10% level. The rate of unemployment is found to be insignificant and indeed it is negatively signed. Given that current transfers have increased in importance from 26.7% of total expenditures in 1961(2) to 35.5% in 1993(1) and given the importance of unemployment in this trend, as shown in 5.5.4, the insignificance of this variable was surprising. We consider in 5.5.6 if this could be related to the influence of the net lending component by analysing net total expenditures.

The popularity lead model of total government expenditures lacks empirical validation for the period 1961(2) to 1993(1). There are neither significant ideological effects or significant opportunistic effects.

5.5.6 Net total government expenditures
A question of interest is whether the distortion of total expenditures by the inclusion of net lending has affected the variables in the popularity lead indicator model. The estimated equation for the period 1961(1) to 1993(1) is:

\[
\text{NGEX}_t = 854.7693 + 0.7615 \text{NGEX}_{t-1} + 6.1387 \text{IDC}_{t+1} + 16.7183 \text{IDL}_{t+1} \\
-5.5967 \text{PE}_{t-1} - 3.9077 \text{TE}_{t-1} + 0.1461 \text{WAGE}_{t-1} \\
+ 0.0584 \text{ACA}_{t-1} + 0.1160 \text{FDEF}_{t-1} + 91.5276 \text{URATE}_{t-1}
\]

\[(1.19) \quad (11.38) \quad (0.24) \quad (0.40) \quad (-0.20) \quad (-0.17) \quad (3.05) \quad (0.78) \quad (2.86) \quad (1.63)\]

\((R^2 = 0.9657, \text{ RBA}_{2} = 0.9627, \text{ DW} = 2.0079, \text{ D.F.} = 116).\)

**Difference:** 0.23.

After the subtraction of the net lending component the explanatory power of the model has increased slightly but there remain no significant ideological or opportunistic effects. Hence, the popularity lead derived variables offer no significant explanation of total government expenditures with or without the inclusion of net lending.

The current account of the balance of payments while correctly signed is insignificant. The wage bill of the economy and the financial deficit remain significant variables. The financial deficit variable continues to show that it has not constrained expenditures.

The unemployment variable is now positively signed so that increases in the rate of unemployment have had the expected effect on total expenditures, primarily through its effect on current transfers. Furthermore, it is a significant variable in explaining net total expenditures. Thus, net lending has distorted the relationship between unemployment and expenditures.

There remain no significant popularity lead derived variables in the modelling of total expenditures less net lending. The explanatory power of the model is slightly higher than that with the inclusion of net lending and the unemployment term is now both correctly signed and significant.

### 5.5.7 Summary

The results that we obtain in replicating Frey and Schneider's analysis do not give the strength of empirical support offered by the authors in question. If we consider first the ideological parameters, IDC and IDL there is no equation in which both parameters
are significant. Indeed the only significant ideological parameter is the Labour one in the modelling of current transfers.

The second component of the Frey and Schneider model was the opportunistic element. Governments of whatever persuasion act opportunistically when the popularity constraint, which becomes operative when the government faces a popularity lead deficit, is binding. Again the results are unfavourable with these variables being continually insignificant.

We are not arguing that expenditures are unaffected by the trade-off between opportunistic and partisan considerations. It is merely to say that the current modelling of the switch mechanism between opportunistic or partisan behaviour is not substantiated and appears inappropriate.

5.6 Conclusions

This chapter has related the implications of the pure political business cycle, strong partisan and popularity lead indicator models to patterns within general government expenditures.

On the basis of a collective dummy PBCN no evidence was found that supported the hypothesis that pure opportunism has had a significant long-term impact on government expenditures. This is not to suggest that no governments have attempted to create Nordhaus expenditure cycles. The classic cases seem to be the Conservatives in the period prior to the election of February 1974 and Labour in the period from February 1974 to October 1974. The former appears to have resulted in manipulations of investment and current transfer expenditures and the latter in consumption and current transfers. Both resulted in manipulations of total government expenditures and of net total expenditures.

Opportunism may result in the manipulation of particular components of expenditures and not necessarily in total government expenditures. For instance, in the 1970 pre-election period there is a noticeable shift towards investment expenditure away from real government consumption and to a lesser extent from current transfers.

The 1970 pre-election period seems to contradict the signalling dimension of the visibility hypothesis, whereby in order that individual voters fully perceive the benefits of government policy the government in question will opt for policies with the most immediate and visible effect on individuals. The period between February and October
1974 seems to concur with the signalling dimension of the visibility hypothesis. However, a more accurate inference relating to the visibility hypothesis and expenditure policy requires that we look at data at a less aggregated level. This may involve considering expenditures such as those on the N.I.S. and those on law and order.

Interestingly, our pursuit of an opportunistic dimension to the excess growth of government consumption over consumers' expenditure - Baumol's excess - showed a significant upward displacement of this excess around election times. The PBCN dummy was found to be significant at the 2.5% level. Results table 5.7 shows that the magnitude of this pre-election effect varies across elections with the most noticeable upward displacements between February and October 1974 and in the period prior to the 1983 election. No significant downward displacements were found.

The results relating to strong partisan effects on components of expenditure and total government expenditures typically offered little support. While the partisan dummy PPT was negative for all expenditure classes other than government consumption, only in the case of current transfers was the political dummy significantly negative. Finally, in the case of Baumol's excess the same political dummy was incorrectly signed and statistically insignificant.

The weakness of the results taken from a Nordhaus and strong partisan perspective is that they are extreme in asserting that behaviour is either continually opportunistic or, alternatively, continually ideological. This is reflected by the specific dummies for the relevant governments and elections. These dummies illustrated that we cannot describe politically expedient expenditure behaviour by one motivation alone. We may have to incorporate a switch mechanism which will take us from one motivation to another as well as allowing us to vary the magnitude of opportunism or ideology. This is what the Frey and Schneider analysis attempts to achieve.

Section 5.5 replicated the analysis of Frey (1978). It modelled general government expenditures as depending upon both opportunistic and partisan behaviour. Partisan behaviour accorded with those instances when the incumbent government had a popularity lead surplus and opportunistic behaviour accorded with those instances when the same government suffered from a popularity lead deficit. Two ideological variables, IDC and IDL, captured those instances when Conservative governments and Labour governments, respectively, were free of the popularity constraint to pursue instrument policies in accordance with ideology. Two variables TE and PE capture those instances when the government of whatever persuasion held
a popularity deficit. TE shows the time that has passed since the last election and PE shows the magnitude of any popularity lead deficit.

In no equation was IDC significant, while the Labour ideological parameter was significant only in that equation relating to current transfers. The opportunistic components, TE and PE, were also insignificant determinants of expenditures. However, it may be appropriate to identify separately those periods when Labour governments have popularity lead deficits and those periods when Conservative governments have popularity lead deficits. Opportunistic behaviour can be party-specific because it is movement away from a party’s preferred expenditure position. Such a movement could imply a tightening of expenditures under Labour. This would be in order to suppress inflationary pressures given that its inherent ideological tendency is to prioritise unemployment over inflation.

Although imperfect, as the empirical results in 5.5 show, Frey and Schneider’s synthesis thus far remains the only attempt in incorporating the necessary switch mechanism between opportunism and ideology. In the next chapters we aim to look more critically at what constitutes a popularity lead deficit and surplus. Furthermore, there is a need to identify the true indicator(s) to which government react and to qualify the response to any re-election indicator.
APPENDIX TO CHAPTER 5

Figure 5.1 UK public and private sector employment, 1961 - 1992.

Figure 5.2 Annual growth in consumers' expenditure and general final consumption (current prices), 1958 - 1993.

Figure 5.3 Excess growth of government consumption expenditure over consumers' expenditure: Baumol's excess, 1958 - 1993.

Results tables 5.1 to 5.5 refer to tests for pure opportunistic expenditure cycles.

Results table 5.6 refers to the tests for strong partisan expenditure cycles.

Results tables 5.7 and 5.8 refer to tests for an opportunistic and ideological dimension to Baumol's disease.

Sources:


A5.1 Frey and Schneider’s reaction function: alternative critical lead

In section 5.5 we estimated Frey and Schneider's popularity lead model using the average popularity lead (including "don't knows" and non-voters) for the period 1961(1) to 1993(1) as the critical popularity lead. We now show for the five expenditure classifications the results from using a critical popularity lead of -5% as was done by Frey (1978).

Table A5.1 shows those results from the re-estimation of the reaction function using the Cochrane-Orcutt technique of order 1 for the period 1961(2) to 1993(1). The table also reports the calculated t-value from the difference test in order to see whether there exists any significant difference between the two ideological parameters. This is labelled "differ". The results are markedly similar to those in section 5.5.
Table A5.1

<table>
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</tr>
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ANNUAL GROWTH IN CONSUMERS' EXPENDITURE AND GENERAL GOVERNMENT FINAL CONSUMPTION (CURRENT PRICES)
FIGURE 5.3

EXCESS GROWTH OF GOVERNMENT CONSUMPTION OVER CONSUMERS' EXPENDITURE

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## RESULTS TABLE 5.2

**PRE-ELECTION EXPANSION OF DEFLATED GOVERNMENT INVESTMENT, 1961(2) - 1993(1)**

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### PRE-ELECTION EXPANSION OF DEFLATED CURRENT TRANSFERS, 1961(2) - 1993(1)

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CM CM
CM


## RESULTS TABLE 5.5

PRE-ELECTION EXPANSION OF DEFALTED NET TOTAL GOVERNMENT EXPENDITURES, 1961(2) - 1993(1)

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# RESULTS TABLE 5.7

## POLITICAL DIMENSION TO BAUMOL’S DISEASE: OPPORTUNISM, 1959(3)-1993(1)

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## RESULTS TABLE 5.8

**POLITICAL DIMENSION TO BAUMOL'S DISEASE: PARTISANSHIP, 1959(3)-1993(1)**

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</table>

注：RBAR*2 和 DW 分别表示残差检验和 Durbin-Watson 检验的结果。
CHAPTER 6
RE-ELECTION INDICATORS

6.1. Introduction

In conclusion to the previous chapter we stressed the need to understand the mechanism that switches behaviour from being predominantly opportunistic to predominantly partisan in relation to government expenditure policy. The remainder of this thesis focuses on this switch mechanism. In particular, we will argue that the popularity lead index alone will not suffice as an explanation of why behaviour may be deemed as opportunistic or ideological. The popularity lead index can not in itself accurately reflect the government's re-election chances. Government is likely to consider a series of re-election indicators. In this chapter we introduce these re-election indicators. We will look at them in isolation and consider those results from merely substituting the popularity lead indicator by an alternative re-election indicator. In chapter 7 we will again begin by looking at the indicators in isolation but create such variables as to focus on specific governments. In the remainder of Chapter 7 and into Chapter 8 we reflect on the likelihood that government will look collectively at the re-election indicators as well as further indicators, both economic and political. Moreover, we define ideological and opportunistic behaviour according to the closeness of expenditure policy to a bliss point. Chapter 8 also looks at those information gaps which enable government to affect the economy and at the important need for any model to consider political and economic externalities.

6.2 Alternative indicators

In this chapter we introduce three re-election indicator types in addition to the popularity lead index:

(i) Expectations' indicator
(ii) The Winner's index
(iii) Leadership approval

One alternative indicator type concerns the expectations of individuals. We introduce data that relates to the expectations of the general economic situation, financial situations of households and unemployment expectations. If election chances
are affected by peoples' expectations of events over the following period then one could expect government's behaviour to reflect this re-election constraint.

The second alternative indicator is the winner's index which is derived from those replies to the question as to which party individuals believe will win the election regardless of their own voting intentions. It is possible to envisage a situation where the incumbent party of government holds a popularity lead deficit but is still seen by a majority as winning the next election.

A third alternative indicator type relates to leadership approval. Of particular interest are the approval ratings of the Prime Minister and the Leader of the Opposition. Leadership ratings are important because they convey information about the perceived ability of the party leader to "manage". In so far as a leader is perceived as uniting their party, such ratings have implications for the election prospects of the party.

6.3 Expectations

Figure 6.1 in the appendix to the chapter refers to general economic situation expectations of individuals in the UK. The question posed concerned how individuals thought the general economic picture would develop over the following 12 months. We have grouped the respondents according to whether they believed that the general economic situation would stay the same or get better or alternatively get worse.\(^1\) Positive values of the index infer that more people thought the general economic situation would improve or get no worse than thought it would deteriorate. The analysis is for the period 1975(4) to 1994(2) when the average of this index was 16.6%. This means that on average 16.6% more people who expressed an opinion thought that the general economic situation would stay the same or improve than thought it would deteriorate. The highest values of the index were 51% in 1978(1) and 50.7% in 1992(1). The latter was an election quarter.

Figure 6.2 depicts the responses of individuals to the question concerning the expected financial position of their household over the following 12 months. Again we have grouped responses according to whether individuals believed their household's financial position would deteriorate or alternatively stay the same or improve. The average value of the index over the period 1975(4) to 1994(2) was 39.2%. Thus, on

---

\(^1\) The actual replies were either (a) get a lot better, (b) get a little better, (c) stay the same, (d) get a little worse, (e) get a lot worse, or (f) dont know. Hence (a), (b) and (c) were grouped together as were (d) and (e).
average 39.2% of respondents believed that over the following 12 months the position of their household would not deteriorate. The highest value of this index was 60.3% in 1978(3) which followed a trough when the index showed that in 1976(4) only 9.7% of people thought the position of their household would not deteriorate. This pattern was repeated when in 1990(1) only 16.3% of people thought the position of their household would not deteriorate. By 1992(2) this percentage had risen to 58%.

The third expectations' index considered concerns unemployment expectations. The question posed to individuals is what they believe will happen to the number of unemployed in the country as a whole in the following 12 months. We group the respondents according to whether they believe that unemployment will or whether they believe that it will either remain the same or fall. The index is shown in figure 6.3. The average value of the index for the period 1975(4) to 1993(2) is -22.0%. Thus, over the course of this period 22.0% more respondents thought the number unemployed would rise rather than either stay the same or fall. The maximum value of this index was 45.3% in 1988(3) and the minimum value was -71% in 1980(1).

6.4 Expectations indicator model

Frey and Schneider use the popularity lead index as no more than a re-election indicator whose task is to inform government of its re-election chances. This indicator has filtered effects on expenditures and taxation. This filtering works by determining the political behavioural type (ideological or opportunistic) with consequent policy implications. The popularity lead indicator may be considered the most likely candidate in indicating to government its re-election chances. Nonetheless, voting intention indices are used as protest indicators, in the same way that by-elections are, with the result that they do not provide government with consistently accurate information concerning their re-election chances. However, there may be alternative re-election indicators. Indeed it is likely that there is a set of re-election indicators which form a more reliable re-election index. In this part of the thesis we look at those results from using indices of expectations as an alternative indicator to the popularity lead.

The current aim is to analyse those results from using the Frey and Schneider framework but with an expectations' indicator as an alternative to the popularity lead indicator. This is only a small step in the refinement of conventional weak partisan theory. For instance, we do not believe that one indicator alone shapes government expenditure policy. However, in considering alternative indicators individually we can establish whether an indicator has been singularly important. Further, we need to
define opportunistic and ideological behaviour more carefully. Opportunistic behaviour in periods of Labour rule could infer a slowing down of the rate of growth of real government expenditures (even a cut in expenditures). This seems likely, if Labour was to typically find that it was inflationary pressures that were depressing its re-election chances. The issues of a re-election index and of what constitutes ideological and opportunistic behaviour are examined in Chapters 7 and 8 receptively.

In the popularity lead model the voting intention indicator works to determine whether behaviour is opportunistic or ideological. We need to establish those critical values that cause the behavioural switch. Thus, we need to define an expectations surplus (positive expectations differential) and an expectations deficit (negative expectations differential). The way we determine an \textit{expectations differential} may appear a somewhat ex post solution. However, this criticism can equally be laid at Frey and Schneider's popularity differentials. The benchmark is the average value for each expectation index for the period 1975(4) to 1993(1) as shown in table 6.6. Thus, any value in excess of this arithmetic mean is taken to represent an expectations surplus and any value short of the mean is taken to represent an expectations deficit. The former initiates a partisan behavioural type and the latter an opportunistic behavioural type.

Having defined periods of deficit and surplus we can construct the required ideological and opportunistic variables in order to model the variation in government expenditures. This is exactly equivalent to that described in section 5.5. An expectations differential (XDIF) can be written as:

\[ XDIF_t = LEAD_t - CRITICAL_t \]

We define our two ideological variables XIDC (Conservative) and XIDL (Labour) as:

\[
XIDC_t = RW_t \times XDIF_t \times S_t \\
XIDL_t = LW_t \times XDIF_t \times S_t
\]

where RW and LW are dummy variables indicating Conservative or Labour incumbency respectively. \( S \) indicates those quarters where there exists an expectations surplus and \( XDIF \) indicates the magnitude of the positive popularity differential.

The opportunistic dimension to the model is captured by the time expansion variable (TE) and by an expectations expansion variable (XE). Both are operative when the incumbent incurs an expectations deficit. They can be written as:

\[ XE_t = XDIF_t \times (1-S_t) \]
\[ TE_t = TFE_t * (1-S_t) \]

The two ideological and two opportunistic variables derived from expectations differentials need also to be distinguished by the type of expectations used. Thus, for general economic expectations the names of these four variables will be as above except that this will follow the letter 'E' to represent economic expectations. For instance, the Labour ideological variable will be denoted as EXIDL. For financial expectations the letter 'E' is replaced by an 'F' and for unemployment expectations by 'U'.

The dependent variables are the categories of government expenditures used in Chapter 5. Indeed the regression equations are similar in all respects to the replication of the Frey and Schneider popularity lead measure in the previous chapter except for the replacement of the popularity indicator by the expectations' indicator. Therefore, the same economic and cost constraints are incorporated into the analysis. Moreover, the predictions regarding the signs of the variables referred to in 5.5. are valid. In particular, the coefficient on XIDL is expected to be greater than that on XIDC, the coefficient on XE negative and the coefficient on TE positive.

We are limited to considering only one period of Labour rule given data limitations. The opportunistic variables are party-free and not affected in the same way by the shorter sample period. We wish to compare the use of expectations' indicators with the popularity lead indicator of Frey and Schneider for an equivalent period. In order that the comparison is a fair one we have decided to take as the benchmark critical popularity lead the average for the period 1975(4) to 1993(1). The average government's popularity lead in the period is -0.89%. Since all our dependent variables are lagged one quarter, the estimated equations are for the period 1976(1) to 1993(1) where use is made of the Cochrane-Orcutt technique of order 1. In our results we also include the calculated t-value from the difference test in order that we can infer whether there is a significant difference between the two ideological parameters.

6.4.1 Government consumption

The first category of government expenditures considered is government consumption. Table 6.1 shows the comparative results for both Frey and Schneider's popularity lead model and a general economic expectations model.
Consider first the results from the popularity lead differential approach. The ideological variables behave somewhat surprisingly with the Conservative parameter in excess of the negatively signed Labour parameter, although not significantly so. Indeed the Conservative ideological parameter is significantly positive implying that positive popularity lead differentials have actually led to significant increases in real government consumption expenditures.

Both opportunistic variables are positively signed. Thus, the sign on the popularity lead expansion variable is contrary to expectation. The time expansion variable is significantly positive so that the further into the election period any popularity lead deficit has occurred the tendency has been for an increase in consumption expenditures.

All economic variables are correctly signed and significant including the financial deficit. Given the analysis in Chapter 5 it does appear that the constraining nature of the financial deficit is a more recent phenomenon.

While the time expansion variable is supportive of Frey and Schneider the Conservative parameter clearly is not. The immediate question is whether an alternative indicator, an economic expectations' indicator, works any better than the popularity lead indicator.

The explanatory power of the economic expectations' equation, as measured by the adjusted $R^2$, is virtually unchanged. We are particularly interested in the ideological and opportunistic variables derived from the general economic expectations' index. The coefficient on the Labour ideological variable is found to be in excess of that on the Conservative equivalent, a result that contrasts with that from the popularity lead

<table>
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<th>Table 6.1: Popularity Lead and Economic Expectations' indicator (CON)</th>
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<td>CON(-1) 0.9766 16.24</td>
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$RBAR^2 = 0.9756$ $DW = 2.0660$ $RBAR^2 = 0.9750$ $DW = 2.0799$
indicator analysis. Further, the Labour variable is significantly positive so that in periods defined by a surplus in this indicator Labour has increased consumption expenditures. There is, however, no significant difference between the Labour and Conservative parameters.

The expectations deficit variables are both correctly signed although both are statistically insignificant. Finally, the constraint variables are again correctly signed with although the wage bill of the economy is now insignificant.

The use of the general economic expectations’ index rather than the popularity lead index does give rise to an expected ideological effect and both opportunistic variables, although insignificant, are correctly signed. In this regard it is more appropriate than the popularity lead indicator in operating the ideological-opportunistic switch.

We continued the analysis by deriving the opportunistic and ideological variables from the financial expectations and unemployment expectations’ indices. The results are shown in table 6.2 for the analysis of real government consumption.

Table 6.2: Financial and Unemployment Expectations’ indicators (CON)

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<td>0.0183</td>
</tr>
<tr>
<td>ACA(-1)</td>
<td>0.0273</td>
</tr>
<tr>
<td>FDEF(-1)</td>
<td>-0.0266</td>
</tr>
<tr>
<td>Difference</td>
<td>0.80</td>
</tr>
<tr>
<td>( \text{RBAR}^2 = 0.9751 )</td>
<td>( \text{DW} = 2.0857 )</td>
</tr>
</tbody>
</table>

Consider first the financial expectations differential equation. The explanatory power of the equation is again almost identical to that of the popularity lead model. The Conservative ideological variable is negatively signed while the Labour equivalent is positively signed. However, neither of the ideological variables suggest any significant effects. Furthermore, there is no statistically significant difference between the two.
The opportunistic variables are also insignificant. Indeed the expectations expansion variable, as with the popularity lead expansion variable, is positively signed contrary to prediction. The constraint variables continue to be correctly signed although the wage bill of the economy, as in the general economic expectations model, is insignificant.

The final expectations' indicator used in determining whether government expenditure behaviour accord with both ideological and opportunistic motivations is derived from the unemployment expectations' index. The Conservative ideological variable, operative during positive unemployment expectations differentials, is negatively signed while the Labour ideological variable is positively signed. Noteworthy, is that the Conservative ideological variable is statistically less than zero at the 10% level. Thus, during Conservative periods of rule since 1979(2), when the percentage number of people who believed that the unemployment rate would not increase was greater than the average for the period 1975(4) to 1993(1), there has been a significant decrease in government consumption expenditures. We can thus refer to a significant Conservative unemployment expectations differential effect. The direction of this effect is as expected and contrasts with that from popularity lead surpluses where significant increases were found. Therefore, indicator analysis highlights an asymmetrical reaction by Conservative governments to positive differentials.

While the unemployment expectations' indicator shows a significant Conservative ideological effect the Labour ideological variable is an insignificant determinant of real government consumption. Moreover, there is no significant difference between the Labour and Conservative ideological parameters.

The expectations' expansion variable is found to be positively signed, which is contrary to theory, implying that larger magnitudes of deficit have induced decreases rather than increases in consumption expenditures. While correctly signed the time expansion variable is insignificant.

In short, the alternative indicators of general economic and unemployment expectations suggest a significant Labour and Conservative ideological effect respectively and in the direction accorded by theory. The opportunistic variables in the alternative indicator models were either wrongly signed or insignificant.
6.4.2 Government Investment

The second category of government expenditures upon which we analyse the various indicators is deflated government investment. Again we estimate for the four alternative indicators over the period 1976(1) to 1993(1). Table 6.3 shows those results for Frey and Schneider's popularity lead indicator and for the general economic situation expectations' indicator.

Table 6.3: Popularity Lead and Economic Expectations' indicator (INV)

<table>
<thead>
<tr>
<th>Popularity Lead</th>
<th>Economic Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>INT 2719.3000</td>
<td>INT 1672.0000</td>
</tr>
<tr>
<td>INV(-1) 0.2984</td>
<td>INV(-1) 0.4102</td>
</tr>
<tr>
<td>IDC(-1) -5.7321</td>
<td>EXIDC(-1) -21.9310</td>
</tr>
<tr>
<td>IDL(-1) 292.4792</td>
<td>EXIDL(-1) 0.2251</td>
</tr>
<tr>
<td>PE(-1) 7.5240</td>
<td>EXE(-1) 0.3692</td>
</tr>
<tr>
<td>TE(-1) 25.4151</td>
<td>ETE(-1) -22.6872</td>
</tr>
<tr>
<td>WAGE(-1) -0.0317</td>
<td>WAGE(-1) -0.0090</td>
</tr>
<tr>
<td>ACA(-1) -0.1427</td>
<td>ACA(-1) -0.1020</td>
</tr>
<tr>
<td>FDEF(-1) 0.0513</td>
<td>FDEF(-1) 0.0461</td>
</tr>
<tr>
<td>Difference 1.10</td>
<td>Difference 1.10</td>
</tr>
</tbody>
</table>

The first comment of note is the explanatory power of the regression analysis. The adjusted R² indicates that both equations explain between 7% and 8% of the variation in government investment. The critical F-value for the 95% confidence level is 2.04. The calculated F-value for the popularity lead and economic expectations equations were 1.57 and 1.39 respectively. Thus, at the 10% significance level we cannot reject the null hypothesis that the explanatory power of both equations is zero.

In terms of the mechanics of the popularity lead model, the coefficients imply that Labour has increased government investment expenditures when it has enjoyed a positive popularity lead differential and the Conservatives have reduced these expenditures when it has enjoyed such a differential. However, these effects are not significant and there is also no significant difference between the two ideological parameters.

Similarly, the two opportunistic variables in the popularity lead model are both insignificant. Indeed, the popularity expansion variable is incorrectly signed. Of the economic variables all are wrongly signed and significantly so in the case of the current account of the balance of payments.
In the economic expectations' indicator model the Conservative ideological parameter is significantly negative so that periods of positive differentials have led to decreases in investment expenditures. Further, the Conservative parameter is significantly smaller than its Labour counterpart which is insignificant. Both opportunistic variables are insignificant and incorrectly signed. Again the economic variables are all wrongly signed and significantly so with the current account of the balance of payments.

Consider now the use of the financial expectations and unemployment expectations' indicators. The results from regression analysis are shown in table 6.4.

Table 6.4: Financial and Unemployment Expectations' indicators (INV)

<table>
<thead>
<tr>
<th>Financial Expectations</th>
<th>Unemployment Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>INT 1950.2000</td>
<td>INT 1523.9000</td>
</tr>
<tr>
<td>INV(-1) 0.4056</td>
<td>INV(-1) -0.5894</td>
</tr>
<tr>
<td>FXIDC(-1) -32.6556</td>
<td>UXIDC(-1) -30.5141</td>
</tr>
<tr>
<td>FXIDL(-1) -3.5586</td>
<td>UXIDL(-1) -8.1951</td>
</tr>
<tr>
<td>FXE(-1) 3.6194</td>
<td>UXE(-1) 8.3716</td>
</tr>
<tr>
<td>FTE(-1) -16.3823</td>
<td>UTE(-1) -10.5581</td>
</tr>
<tr>
<td>WAGE(-1) 0.0146</td>
<td>WAGE(-1) 0.0514</td>
</tr>
<tr>
<td>ACA(-1) -0.1112</td>
<td>ACA(-1) -0.0680</td>
</tr>
<tr>
<td>FDEF(-1) 0.0458</td>
<td>FDEF(-1) -0.2395</td>
</tr>
<tr>
<td>Difference 1.33</td>
<td>Difference 1.04</td>
</tr>
<tr>
<td><strong>RBAR^2 = 0.0502</strong></td>
<td><strong>RBAR^2 = 0.2702</strong></td>
</tr>
<tr>
<td><strong>DW = 2.0971</strong></td>
<td><strong>DW = 2.1127</strong></td>
</tr>
</tbody>
</table>

The adjusted R^2 indicates that only 5% of the variation in investment is explained by the financial expectations model and the calculated F-value of 1.39 falls short of the critical tabular value at the 10% significance level. Again the Conservative ideological parameter is both significantly negative and significantly smaller than the Labour parameter which is itself insignificant. The opportunistic variables are insignificant, with the expansion variable wrongly signed. The economic variables remain wrongly signed and significantly so in the case of the current account.

The unemployment expectations' indicator brings forth five noteworthy results. Firstly, the equation has higher explanatory power than the other three indicators including the popularity lead indicator. Indeed, the calculated F-value for a 99% confidence level of 3.76 allows us to reject at both the 5% and 1% significance levels the proposition that the explanatory power of the equation is zero. Secondly, the Conservatives significantly decreased investment expenditures when they were faced with a positive unemployment expectations differential. The Conservative ideological variable is significantly negative at the 0.5% level. Thirdly, although the Conservative...
ideological variable is significantly negative it is not significantly different from the Labour ideological variable which is itself negative but insignificant. Fourthly, neither of the unemployment expectations-driven opportunistic variables are significant and are both are wrongly signed. Fifthly, the financial deficit variable is now signed according to theory such that it has constrained expenditures and, furthermore, is significant. The current account and the wage bill of the economy are insignificant and the former variable is wrongly signed.

We thus have some evidence that an unemployment expectations' indicator is superior to the popularity lead indicator in the modelling of investment expenditures. Moreover, the unemployment expectations model was the only one analysed here where we were able to reject the conclusion that the explanatory power of the model is zero.

6.4.3 Current transfers

The next category of expenditures considered is current transfers. As in Chapter 5 the modelling of current transfers involves the addition of the UK unemployment rate variable. Table 6.5 shows those results for the period 1976(1) to 1993(1) for the popularity lead and economic situation expectations' indicator.

Table 6.5: Popularity Lead and Economic Expectations' indicator (CUT)

<table>
<thead>
<tr>
<th>Popularity Lead</th>
<th>Economic Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>INT</td>
<td>-1987.9000</td>
</tr>
<tr>
<td>CUT(-1)</td>
<td>0.3847</td>
</tr>
<tr>
<td>IDC(-1)</td>
<td>13.1876</td>
</tr>
<tr>
<td>IDL(-1)</td>
<td>260.5866</td>
</tr>
<tr>
<td>PE(-1)</td>
<td>-17.7372</td>
</tr>
<tr>
<td>TE(-1)</td>
<td>15.5124</td>
</tr>
<tr>
<td>WAGE(-1)</td>
<td>0.1538</td>
</tr>
<tr>
<td>ACA(-1)</td>
<td>0.1038</td>
</tr>
<tr>
<td>FDEF(-1)</td>
<td>0.0804</td>
</tr>
<tr>
<td>URATE(-1)</td>
<td>251.1575</td>
</tr>
<tr>
<td>Difference</td>
<td>1.40</td>
</tr>
<tr>
<td>$R^2$</td>
<td>0.9282</td>
</tr>
</tbody>
</table>

The popularity lead model contains a significant Labour positive popularity lead differential effect. Labour has acted to increase current transfers when it has experienced a popularity lead surplus. This result was also found in Chapter 5 for the
period 1961(2) to 1993(1). Although the Conservative ideological parameter is also positive the Labour parameter is significantly larger than the Conservative equivalent at the 10% level.

Both opportunistic variables in the popularity lead model are correctly signed, however, neither is significant. All economic variables are significantly positive so that the financial deficit is again not a constraining factor on expenditures.

The alternative indicator considered in table 6.16 is the economic expectations' indicator which shows that the adjusted $R^2$ measure has increased marginally. Again a significant Labour ideological parameter is found so that when Labour has enjoyed positive differentials in the general economic situation expectations' index current transfers has increased. There is no significant effect during periods of positive general economic expectations differentials where the incumbent party of government was the Conservatives. However, the Conservative ideological parameter is negatively signed and, moreover, the Labour parameter is significantly larger.

The opportunistic variables in general economic expectations' indicator model are both correctly signed and indeed the larger a deficit in the economic expectations' index the larger are current transfers.

The behaviour of the economic variables is akin to that in the popularity lead model. However, the current account variable is now wrongly signed albeit that the variable is insignificant.

The results from the use of the financial and unemployment expectation's indicators are shown in table 6.6.

\footnote{Note that in Chapter 5 the critical popularity lead was -2.36%.
Table 6.6: Financial and Unemployment Expectations' indicators (CUT)

<table>
<thead>
<tr>
<th>Financial Expectations</th>
<th>Unemployment Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>INT    -2043.9000</td>
<td>INT -1276.2000</td>
</tr>
<tr>
<td>CUT(-1) 0.3900</td>
<td>CUT(-1) 0.3332</td>
</tr>
<tr>
<td>FXIDC(-1) -21.2465</td>
<td>UXIDC(-1) -10.1030</td>
</tr>
<tr>
<td>FXIDL(-1) 13.3659</td>
<td>UXIDL(-1) -8.9507</td>
</tr>
<tr>
<td>FXE(-1) -12.1053</td>
<td>UXE(-1) 2.6238</td>
</tr>
<tr>
<td>FTE(-1) -24.5414</td>
<td>UTE(-1) -2.3088</td>
</tr>
<tr>
<td>WAGE(-1) 0.1568</td>
<td>WAGE(-1) 0.1587</td>
</tr>
<tr>
<td>ACA(-1) 0.0899</td>
<td>ACA(-1) 0.0409</td>
</tr>
<tr>
<td>FDEF(-1) 0.0820</td>
<td>FDEF(-1) 0.0493</td>
</tr>
<tr>
<td>URATE(-1) 262.1085</td>
<td>URATE(-1) 262.6053</td>
</tr>
<tr>
<td>Difference 1.81</td>
<td>Difference 0.07</td>
</tr>
<tr>
<td>RBAR² = 0.9275  DW = 2.0436</td>
<td>RBAR² = 0.9299  DW = 2.0087</td>
</tr>
</tbody>
</table>

The use of a financial expectations' indicator as opposed to a popularity lead indicator slightly increases the explanatory power of the regression equation. The model suggests that when the Conservatives have held a surplus in the financial expectations' index, taken commonly to measure the so-called "feel good factor", that they have been able to reduce current transfers. Further, the Conservative ideological parameter is found to be significantly smaller than the positive Labour parameter which itself does not significantly influence current transfers.

Both opportunistic variables are negatively signed. Thus, the time expansion variable indicates that deficits further into the election period have brought downward pressure rather than upward pressure on current transfers. This pressure is found to have been significant in affecting current transfers. Finally, all economic variables, including the financial deficit, are significantly positive.

The fourth indicator is unemployment expectations. The adjusted $R^2$ measure is only very marginally larger than that of the popularity lead model. In both the government consumption and investment models we have noted significant decreases to those expenditures when the Conservatives have enjoyed positive unemployment expectations differentials. Table 6.6 confirms this to also be the case for current transfer expenditures. The Labour ideological parameter is also negative, but less so, and is seen to be insignificant. Moreover, there is no significant difference between the Labour and Conservative ideological parameters.

Neither of the two opportunistic variables significantly determines current transfer expenditures and both are wrongly signed. The economic variables which remain positively signed are all significant factors except for the current account.
The results from our analysis of current transfers show significant downward pressure on current transfers when the Conservatives held a surplus in the financial and unemployment expectations' indices. Labour was found to have significantly increased current transfers when they held a surplus in the popularity lead and general economic expectations' indices. Only the general economic expectations' indicator offered significant opportunistic effects.

6.4.4 Total government expenditures

The fourth test of the alternative indicators is for total government expenditures. Table 6.7 shows the results from estimation for the popularity lead and economic expectations' indicator.

Table 6.7: Popularity Lead and Economic Expectations' indicator (GEX)

<table>
<thead>
<tr>
<th>Popularity Lead</th>
<th>Economic Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>INT</td>
<td>INT</td>
</tr>
<tr>
<td>GEX(-1)</td>
<td>-0.7483</td>
</tr>
<tr>
<td>IDC(-1)</td>
<td>84.9280</td>
</tr>
<tr>
<td>IDL(-1)</td>
<td>757.5454</td>
</tr>
<tr>
<td>PE(-1)</td>
<td>-42.0305</td>
</tr>
<tr>
<td>TE(-1)</td>
<td>68.3168</td>
</tr>
<tr>
<td>WAGE(-1)</td>
<td>0.5158</td>
</tr>
<tr>
<td>ACA(-1)</td>
<td>-0.1316</td>
</tr>
<tr>
<td>FDEF(-1)</td>
<td>-0.3241</td>
</tr>
<tr>
<td>URATE(-1)</td>
<td>930.2966</td>
</tr>
<tr>
<td>Difference</td>
<td>1.34</td>
</tr>
<tr>
<td>$RBAR^2 = 0.5867$</td>
<td>$RBAR^2 = 0.5607$</td>
</tr>
<tr>
<td>$DW = 1.8694$</td>
<td>$DW = 1.9012$</td>
</tr>
</tbody>
</table>

The popularity lead model explains 59% of the variation in total expenditures, as measured by the adjusted $R^2$, and the economic expectations model 56%. In the popularity lead model the Labour ideological variable is significantly positive as was found in the analysis of current transfers. The Conservative ideological variable is also found to be significantly positively. Thus, both parties are found to have increased total expenditures when they have held popularity lead surpluses. It is, however, true that the Labour parameter is significantly in excess of its Conservative equivalent. Nonetheless, the result infers either an inability or an unwillingness for the

---

3 The calculated F-value of the popularity lead and economic expectations model are 10.51 and 9.55 respectively. Both allow us to reject the null hypothesis that $R^2 = 0$ at the 1% level.
Conservatives to push down on total expenditures when they are in a popularity lead surplus.

Of the economic variables in the popularity lead model the wage bill of the economy, the financial deficit and the rate of unemployment are correctly signed and significant. The current account is both wrongly signed and insignificant and thus in this period has not constrained expenditures.

In the general economic expectations model none of the ideological or opportunistic variables are significant determinants of total expenditures. While both Labour and Conservative parameters are correctly signed neither is significant and nor is there a significant difference between them. The time expansion variable is also found to be wrongly signed. The behaviour of the economic variables is identical to that in the popularity lead model so that the current account is found to be an insignificant variable.

Table 6.8 shows the final set of results for total government expenditures where the alternative indicators are household financial situation expectations and unemployment expectations.

### Table 6.8: Financial and Unemployment Expectations' indicators (GEX)

<table>
<thead>
<tr>
<th>Financial Expectations</th>
<th>Unemployment Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>INT</td>
<td>INT</td>
</tr>
<tr>
<td>37774.4000</td>
<td>36735.3000</td>
</tr>
<tr>
<td>GEX(-1)</td>
<td>GEX(-1)</td>
</tr>
<tr>
<td>-0.7692</td>
<td>-0.7294</td>
</tr>
<tr>
<td>FXIDC(-1)</td>
<td>UXIDC(-1)</td>
</tr>
<tr>
<td>-127.5502</td>
<td>-72.1465</td>
</tr>
<tr>
<td>FXIDL(-1)</td>
<td>UXIDL(-1)</td>
</tr>
<tr>
<td>22.9508</td>
<td>-12.8631</td>
</tr>
<tr>
<td>FXE(-1)</td>
<td>UXE(-1)</td>
</tr>
<tr>
<td>-32.8956</td>
<td>-19.6534</td>
</tr>
<tr>
<td>FTE(-1)</td>
<td>UTE(-1)</td>
</tr>
<tr>
<td>-150.1759</td>
<td>-43.1697</td>
</tr>
<tr>
<td>WAGE(-1)</td>
<td>WAGE(-1)</td>
</tr>
<tr>
<td>0.4680</td>
<td>0.4845</td>
</tr>
<tr>
<td>ACA(-1)</td>
<td>ACA(-1)</td>
</tr>
<tr>
<td>-0.1433</td>
<td>-0.2516</td>
</tr>
<tr>
<td>FDEF(-1)</td>
<td>FDEF(-1)</td>
</tr>
<tr>
<td>-0.2420</td>
<td>-0.1954</td>
</tr>
<tr>
<td>URATE(-1)</td>
<td>URATE(-1)</td>
</tr>
<tr>
<td>913.5167</td>
<td>730.0329</td>
</tr>
<tr>
<td>Difference</td>
<td>Difference</td>
</tr>
<tr>
<td>3.42</td>
<td>4.89</td>
</tr>
<tr>
<td>RBAR² = 0.6004</td>
<td>RBAR² = 0.6156</td>
</tr>
<tr>
<td>DW = 1.9093</td>
<td>DW = 1.8459</td>
</tr>
</tbody>
</table>

The financial expectations model has a higher degree of explanatory power than the popularity lead model for total expenditures. It identifies a significant Conservative ideological effect so that positive financial expectations differentials have been accompanied by significant decreases in total expenditures during Conservative governments. The greater this positive differential the greater has been the decrease in
expenditures. The Labour ideological parameter while positively signed is insignificant. However, it is significantly larger than the Conservative parameter.

The time expansion variable is significantly negative implying the further government is into the election period with a negative financial expectations differential the tendency has been for total expenditures to decrease. This opportunistic element is again refuted by the empirical evidence. The popularity expansion variable is insignificant but is correctly signed. Finally, the economic variables behave as in our previous models of total government expenditures.

The unemployment expectations model has the highest explanatory power of the four indicator models explaining 62% of the variation in total expenditures. This is an observation that has to be borne in mind by advocates of the Frey and Schneider popularity lead model.

The Conservative ideological parameter is again significantly negative. When there has been an unemployment expectations surplus Conservative governments have been able to decrease total expenditures. This is also seen for consumption, investment and current transfers.

The Labour ideological parameter while negative is insignificant. There is no significant difference between the parameters although the Labour parameter is in excess of the Conservative parameter as expected.

The unemployment expectations expansion variable and the time expansion variable are both insignificant. The economic variables are qualitatively similar to those in all indicator models of total expenditures.

In short, all the expectations' indicator based models of total expenditures show the Conservative ideological parameter to be negative. In the case of financial and unemployment expectations this implied downward pressure was found to be a significant factor. In the popularity lead model both the Conservative and Labour parameters were significantly positive although the Labour parameter was in excess of the Conservative parameter. The opportunistic variables continue to perform poorly.
6.4.5 Net total government expenditures

The results using the popularity lead and economic expectations' indicators for net total government expenditures for the period 1976(1) to 1993(1) are shown in Table 6.9.

Table 6.9: Popularity Lead and Economic Expectations' indicator (NGEX)

<table>
<thead>
<tr>
<th>Popularity Lead</th>
<th>Economic Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>INT</td>
<td>INT</td>
</tr>
<tr>
<td>23335.3000</td>
<td>5969.7000</td>
</tr>
<tr>
<td>NGEX(-1)</td>
<td>NGEX(-1)</td>
</tr>
<tr>
<td>-0.7456</td>
<td>0.3960</td>
</tr>
<tr>
<td>IDC(-1)</td>
<td>EXIDC(-1)</td>
</tr>
<tr>
<td>35.2407</td>
<td>-31.9513</td>
</tr>
<tr>
<td>IDL(-1)</td>
<td>EXIDL(-1)</td>
</tr>
<tr>
<td>624.3266</td>
<td>18.2495</td>
</tr>
<tr>
<td>PE(-1)</td>
<td>EXE(-1)</td>
</tr>
<tr>
<td>-18.7238</td>
<td>-22.5305</td>
</tr>
<tr>
<td>TE(-1)</td>
<td>ETE(-1)</td>
</tr>
<tr>
<td>70.6265</td>
<td>-13.6288</td>
</tr>
<tr>
<td>WAGE(-1)</td>
<td>WAGE(-1)</td>
</tr>
<tr>
<td>0.6847</td>
<td>0.2695</td>
</tr>
<tr>
<td>ACA(-1)</td>
<td>ACA(-1)</td>
</tr>
<tr>
<td>-0.0630</td>
<td>0.0096</td>
</tr>
<tr>
<td>FDEF(-1)</td>
<td>FDEF(-1)</td>
</tr>
<tr>
<td>-0.3541</td>
<td>0.1286</td>
</tr>
<tr>
<td>URATE(-1)</td>
<td>URATE(-1)</td>
</tr>
<tr>
<td>1157.6000</td>
<td>416.1112</td>
</tr>
<tr>
<td>Difference</td>
<td>Difference</td>
</tr>
<tr>
<td>1.41</td>
<td>1.84</td>
</tr>
<tr>
<td>RBAR² = 0.8964</td>
<td>RBAR² = 0.7837</td>
</tr>
<tr>
<td>DW = 1.8769</td>
<td>DW = 1.9050</td>
</tr>
</tbody>
</table>

Both models of net total expenditures show an increase in their explanatory power over total expenditures when net lending is excluded.

The popularity lead model contains a significant positive Labour ideological parameter. This is also found to be significantly greater than the positive Conservative parameter. Thus, when Labour has enjoyed positive popularity lead differentials it has acted to increase net total expenditures.

The two opportunistic variables are correctly signed and the time expansion variable shows that the position of the deficit in the election period is a contributory factor in determining net total expenditures. The economic variables are significant and correctly signed except for the current account which is both wrongly signed and insignificant.

The economic expectations model in contrast to the popularity lead model contains a significant Conservative ideological parameter inferring that the Conservatives have decreased expenditures when they have enjoyed a positive differential. This parameter is significantly smaller than its Labour counterpart which is insignificant. Further, the time expansion variable is now both wrongly signed and insignificant. The expectations expansion variable while correctly signed is insignificant. Finally, the wage bill of the economy and the rate of unemployment are
significant determinants of net total expenditures in the hypothesised direction. The financial deficit is, however, significantly positive while the current account although positively signed is insignificant.

Table 6.10 repeats the analysis for net total expenditures by substituting the financial and unemployment expectations' indicators for the popularity lead and general economic expectations' indicators.

Table 6.10: Financial and Unemployment Expectations' indicators (NGEX)

<table>
<thead>
<tr>
<th>Financial Expectations</th>
<th>Unemployment Expectations</th>
</tr>
</thead>
<tbody>
<tr>
<td>INT</td>
<td>INT</td>
</tr>
<tr>
<td>25785.8000</td>
<td>20351.6000</td>
</tr>
<tr>
<td>NGEX(-1)</td>
<td>NGEX(-1)</td>
</tr>
<tr>
<td>-0.7527</td>
<td>-0.5855</td>
</tr>
<tr>
<td>FXIDC(-1)</td>
<td>UXIDC(-1)</td>
</tr>
<tr>
<td>-29.5882</td>
<td>-82.3898</td>
</tr>
<tr>
<td>FUSIDC(-1)</td>
<td>UXIDC(-1)</td>
</tr>
<tr>
<td>58.1661</td>
<td>-11.0817</td>
</tr>
<tr>
<td>FXE(-1)</td>
<td>UXE(-1)</td>
</tr>
<tr>
<td>-47.0771</td>
<td>8.0569</td>
</tr>
<tr>
<td>FSTE(-1)</td>
<td>UTE(-1)</td>
</tr>
<tr>
<td>-66.9972</td>
<td>-53.5361</td>
</tr>
<tr>
<td>WAGE(-1)</td>
<td>WAGE(-1)</td>
</tr>
<tr>
<td>0.6473</td>
<td>0.6887</td>
</tr>
<tr>
<td>ACA(-1)</td>
<td>ACA(-1)</td>
</tr>
<tr>
<td>-0.1022</td>
<td>-0.2326</td>
</tr>
<tr>
<td>FDEF(-1)</td>
<td>FDEF(-1)</td>
</tr>
<tr>
<td>-0.3131</td>
<td>-0.2002</td>
</tr>
<tr>
<td>URATE(-1)</td>
<td>URATE(-1)</td>
</tr>
<tr>
<td>1177.0000</td>
<td>888.5290</td>
</tr>
<tr>
<td>Difference</td>
<td>Difference</td>
</tr>
<tr>
<td>0.99</td>
<td>1.60</td>
</tr>
<tr>
<td>( R^2 = 0.8016 )</td>
<td>( R^2 = 0.8391 )</td>
</tr>
<tr>
<td>( DW = 1.9206 )</td>
<td>( DW = 1.8341 )</td>
</tr>
</tbody>
</table>

Again both models show an increase in explanatory power over those for total expenditures when net lending is excluded. The financial expectations model has slightly less explanatory power than the Frey and Schneider popularity lead variant for net total expenditures. There are no significant ideological parameters and there is no significant difference between them. The expectations expansion variable is significantly negative implying larger negative differentials in financial expectations have increased expenditures. The time expansion variable is wrongly signed and insignificant. The economic variables behave as in the popularity lead model.

The unemployment expectations model has the highest explanatory power of those models explaining the variation in net total government expenditures for the period 1976(1) to 1993(1). This was also the case with total expenditures inclusive of net lending and with investment expenditures. As in these models there is a significant Conservative ideological parameter. Indeed there is a significant Conservative ideological parameter in all the expenditure models considered. The Labour ideological parameter is also negative but insignificant. Further, the Conservative parameter is significantly smaller than the Labour parameter. The Labour and Conservative ideological parameters are thus signed differently in the popularity lead and
unemployment expectations' indicator models again highlighting the asymmetric responses to different indicators.

Both the unemployment expectations expansion variable and the time expansion variable are wrongly signed. Indeed, the time expansion variable is significantly negative. The economic variables, other than the current account, are both correctly signed and significant.

6.4.6 Summary

The analysis in this section shows that the choice of an unemployment expectations' indicator could be seen as a valid alternative to the popularity lead indicator in the modelling of government expenditures. The aim, however, was more to reflect on the different responses and less to recommend the substitution of one re-election indicator for another. Moreover, we pose the question as to why we might choose the popularity lead indicator over all other indicators. Nonetheless, the unemployment expectations' indicator consistently revealed a significant Conservative ideological effect. A negative unemployment expectations differential has allowed Conservative governments to press down on the five categories of expenditures considered.

The indicator analysis shows an asymmetry in the response to the indicators. While there are significant Conservative ideological effects for all unemployment expectations models so that expenditures are significantly reduced, there is a significant Conservative ideological effect in the popularity lead model for consumption inferring that expenditures are significantly increased. Indeed in all models, with the exception of investment, the sign on the unemployment expectations' ideological variables were different to that on the popularity lead ideological variables for both parties.

The unemployment expectations' indicator is superior for investment, total expenditures and net total expenditures when the criterion is explanatory power. The explanatory power, measured by the adjusted $R^2$, of the alternative indicators for each category of expenditures is summarised in table 6.11.
Table 6.11 Explanatory Power of Indicator Models

<table>
<thead>
<tr>
<th></th>
<th>CON</th>
<th>INV</th>
<th>CUT</th>
<th>GEX</th>
<th>NGEX</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEAD</td>
<td>0.9756</td>
<td>0.0710</td>
<td>0.9282</td>
<td>0.5867</td>
<td>0.8064</td>
<td>0.6736</td>
</tr>
<tr>
<td>GESE</td>
<td>0.9750</td>
<td>0.0750</td>
<td>0.9328</td>
<td>0.5607</td>
<td>0.7837</td>
<td>0.6654</td>
</tr>
<tr>
<td>FE</td>
<td>0.9751</td>
<td>0.0502</td>
<td>0.9275</td>
<td>0.6004</td>
<td>0.8016</td>
<td>0.6710</td>
</tr>
<tr>
<td>UE</td>
<td>0.9756</td>
<td>0.2702</td>
<td>0.9299</td>
<td>0.6156</td>
<td>0.8391</td>
<td>0.7261</td>
</tr>
</tbody>
</table>

The table shows that the average explanatory power of the unemployment expectations model across expenditures is higher than that of alternative indicators.

6.5 The winner's index

The fact that the popularity lead indicator is a noisy indicator of government's re-election chances because of the public's ability to use it as a protest indicator does not necessarily result in individuals voting against the incumbent party at an election. This can be seen if we consider the values of the winner's index and government's popularity level for the period of Conservative rule between 1979(2) and 1992(1). This encompasses three election periods. The average popularity levels of the Conservative and Labour parties respectively, including "don't knows" and non-voters, for this period were 32.9% and 32.1%. The winner's index suggests this index underestimates the Conservative's re-election chances. The respective figures for the likelihood of the Conservatives or Labour winning the next election were 48.4% and 30.3%. Thus, while the Conservatives were deemed by a clear margin to be the likely election winners, the same individuals did not express this in the voting intention index. This difference is vital in terms of the choice of indicator for the Frey and Schneider switch mechanism. The winner's index suggests more scope for ideological behaviour than does the voting intention index since the re-election constraint appears more lax when judged by the former than the latter.

The winner's index, taken from Gallup opinion poll data of the expected winners of the next election, allows us to distinguish between those respondents who believe that Labour will be the likely winners of the next election (regardless of voting intention) and those who believe the Conservatives are the more likely winners. Our data set covers the period 1958(3) to 1994(2) although there are breaks in this series
so that a full series is only available from 1972(1). The average values of the Labour and Conservative winner's index over the whole period are 33.5% and 44.7% respectively. These two indices are plotted in figure 6.4 in the appendix to the chapter.

From the replies to the likely election winners we are able to record the percentage of respondents who believed that the current incumbent party would be re-elected at the next election. The incumbent winner's index is shown in figure 6.5. The average value of this index between 1958(3) and 1994(2) was 39.7%. Hence, on average nearly 40% of those questioned believed that the incumbent would be re-elected. In the ten elections in this period the incumbent party was re-elected on six occasions (60% of the time).

The party-specific winner's index indicates that the Conservatives have more often been seen as the more likely election victors than Labour. Again we can contrast this fact with the popularity level index. For the period 1959(4) to 1994(2) this index (including "don't knows" and non-voters) gave 33.9% and 34.5% support for the Conservative and Labour parties respectively. This confirms that voting intention indices are indeed protest indices which do not necessarily infer the re-election probability.

6.6 The winner's index indicator model

We repeat the procedure in section 6.4 in modelling government expenditures, but make use of the winner's index to derive ideological and opportunistic variables. We also compare the winner's index with Frey and Schneider's popularity lead indicator. The Cochrane-Orcutt technique of order 1 is used throughout.

In order to activate opportunistic or ideological behaviour for any indicator we need a benchmark or critical value. Our consistent data series for the winner's index begins in 1972(1) and our regression analysis covers the period up to 1993(1). The average value of the incumbent's winner's index for this period is 42.99%. This figure indicates the average percentage of respondents who indicated a belief that the incumbent party was most likely to be the election winner. A winner's index value in excess of this critical value gives a positive differential (winners surplus) while a value less than the critical value gives a negative differential (winners deficit).

---

\(^4\) After 1972(1) there are three quarters when the question of likely election winners was not posed. These were 1975(1), 1979(3) and 1987(3). So that gaps are removed from our data set the average value was taken of the two observations either side of that missing observation.
The same approach was used in the calculation of a popularity lead differential. The average value of the popularity lead index for the period 1972(1) to 1993(1) was found to be -0.92%. Hence, this becomes the critical popularity lead.

### 6.6.1 Government consumption

The first category of expenditures considered is government consumption. We have prefixed the ideological and opportunistic variables with ‘W’ to indicate use of the winner’s index indicator. The results for the popularity lead and winner’s index indicators are shown in Table 6.12.

Table 6.12: Popularity Lead and Winner’s index (CON)

<table>
<thead>
<tr>
<th></th>
<th>Popularity Lead</th>
<th>Winner’s index</th>
</tr>
</thead>
<tbody>
<tr>
<td>INT</td>
<td>417.6274</td>
<td>655.1361</td>
</tr>
<tr>
<td>CON(-1)</td>
<td>0.8926</td>
<td>0.9160</td>
</tr>
<tr>
<td>IDC(-1)</td>
<td>7.3953</td>
<td>-4.6107</td>
</tr>
<tr>
<td>IDL(-1)</td>
<td>28.9262</td>
<td>22.7680</td>
</tr>
<tr>
<td>PE(-1)</td>
<td>0.2551</td>
<td>5.6524</td>
</tr>
<tr>
<td>TF(-1)</td>
<td>6.7291</td>
<td>-1.4619</td>
</tr>
<tr>
<td>WAGE(-1)</td>
<td>0.0317</td>
<td>0.0217</td>
</tr>
<tr>
<td>ACA(-1)</td>
<td>0.0314</td>
<td>0.0278</td>
</tr>
<tr>
<td>FDEF(-1)</td>
<td>-0.0172</td>
<td>-0.0317</td>
</tr>
<tr>
<td>Difference</td>
<td>1.71</td>
<td>Difference</td>
</tr>
<tr>
<td>RBAR² = 0.9822</td>
<td>DW = 2.1363</td>
<td>RBAR² = 0.9838</td>
</tr>
</tbody>
</table>

The popularity lead model reveals a significantly positive Conservative and Labour ideological variable implying that positive popularity lead differentials, regardless of party, have seen expansions in government consumption expenditures. The Labour parameter is, however, significantly larger than its Conservative counterpart.

The time expansion variable is significantly positive so that popularity lead deficits further into the election period have brought forth increases in consumption expenditures. The popularity expansion variable is insignificant and wrongly signed. The economic variables, including the financial deficit, are all significant and correctly signed.

The explanatory power of the winner’s index model is marginally higher than that of the popularity lead model. In this model we find both a significant Labour ideological effect and a significant Conservative ideological effect in accordance with...
theory. When Labour has experienced a winners surplus it has acted to expand consumption expenditures, while the Conservatives have decreased such expenditures. Labour experienced a winners surplus for only four quarters of its period of rule between 1974(2) and 1979(1). These were the first four quarters of its rule. It is also of interest to note that in Chapter 5 results table 5.1 suggested a period of higher government consumption spending between the two elections in 1974. The question is whether this was the result of government reacting to an indicator, such as the winner's index, or simply the result of a pre-election bribe regardless of the value of the indicator. Was the simultaneous existence of a winners surplus and of a significant increase in government consumption merely coincidence?

As well as both ideological variables being statistically significant and according with theory the Labour variable is also significantly in excess of the Conservative variable. The indicator expansion variable is positively signed, contrary to theory, and is significant. The time expansion variable is also wrongly signed, although it is insignificant. The economic variables behave as in the popularity lead model and are all thus significant and correctly signed.

6.6.2 Government investment

We next considered the popularity lead and winner's index indicators for government investment. The results are shown in table 6.13.

Table 6.13: Popularity Lead and Winner's index (INV)

<table>
<thead>
<tr>
<th>Popularity Lead</th>
<th>Winner's index</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>INT</strong></td>
<td><strong>INT</strong></td>
</tr>
<tr>
<td>3964.6000</td>
<td>4903.9000</td>
</tr>
<tr>
<td>INV(-1)</td>
<td>INV(-1)</td>
</tr>
<tr>
<td>0.4525</td>
<td>0.4139</td>
</tr>
<tr>
<td>IDC(-1)</td>
<td>WIDC(-1)</td>
</tr>
<tr>
<td>-12.8969</td>
<td>-30.0719</td>
</tr>
<tr>
<td>IDL(-1)</td>
<td>WIDL(-1)</td>
</tr>
<tr>
<td>21.0650</td>
<td>-20.7548</td>
</tr>
<tr>
<td>PE(-1)</td>
<td>WE(-1)</td>
</tr>
<tr>
<td>22.2854</td>
<td>4.9184</td>
</tr>
<tr>
<td>TE(-1)</td>
<td>WTE(-1)</td>
</tr>
<tr>
<td>24.1299</td>
<td>-27.1380</td>
</tr>
<tr>
<td>WAGE(-1)</td>
<td>WAGE(-1)</td>
</tr>
<tr>
<td>-0.0607</td>
<td>-0.0684</td>
</tr>
<tr>
<td>ACA(-1)</td>
<td>ACA(-1)</td>
</tr>
<tr>
<td>-0.2018</td>
<td>-0.2335</td>
</tr>
<tr>
<td>FDEF(-1)</td>
<td>FDEF(-1)</td>
</tr>
<tr>
<td>0.0605</td>
<td>0.0205</td>
</tr>
<tr>
<td><strong>Difference</strong></td>
<td><strong>Difference</strong></td>
</tr>
<tr>
<td>0.73</td>
<td>0.22</td>
</tr>
<tr>
<td><strong>RBAR^2 = 0.4360</strong></td>
<td><strong>RBAR^2 = 0.4771</strong></td>
</tr>
<tr>
<td><strong>DW = 2.0456</strong></td>
<td><strong>DW = 2.0355</strong></td>
</tr>
</tbody>
</table>
The popularity lead model for government investment explains 43% of the variation in investment expenditures. It shows no ideological impact stemming from a lax popularity lead constraint. Although the Conservative variable is negatively signed while the Labour variable is positively signed there is no significant difference between the two. Similarly, neither opportunistic variable is significant. Finally, all the economic variables are both wrongly signed and significant.

The winner's index model explains 48% of the variation in investment expenditure. Hence, it has somewhat greater explanatory power than the popularity lead model. Further, there is a significant Conservative ideological effect as was found in the previous chapter for investment with the general economic and unemployment expectations' indicators. The Conservatives have reacted to a surplus in the winner's index indicator by decreasing investment expenditures. This significant reaction was not found when there existed a popularity lead surplus. However, there is no significant difference between the ideological parameters. The Labour parameter is negatively signed but is insignificant.

The two opportunistic variables are wrongly signed. Indeed the time expansion variable is significantly negative so that deficits further into the election period have been associated with falls in investment expenditures. The economic variables all remain wrongly signed and are significant except for the value of the financial deficit.

---

5 The calculated F-value is 8.04 so that we can reject at both the 1% and 5% levels the null hypothesis that the explanatory power of the regression equation is zero.

6 The calculated F-value is 9.31.
6.6.3 Current transfers

Table 6.14 analyses current transfers for the period 1972(2) to 1993(1) using the popularity lead and winner’s index indicators.

Table 6.14: Popularity Lead and Winner’s index (CUT)

<table>
<thead>
<tr>
<th>Popularity Indicator</th>
<th>Winner’s index Indicator</th>
</tr>
</thead>
<tbody>
<tr>
<td>INT</td>
<td>INT</td>
</tr>
<tr>
<td>688.7000</td>
<td>999.2340</td>
</tr>
<tr>
<td>-1688.7000</td>
<td>-1.44</td>
</tr>
<tr>
<td>IDC(-1)</td>
<td>WIDC(-1)</td>
</tr>
<tr>
<td>0.5232</td>
<td>-7.5669</td>
</tr>
<tr>
<td>13.4171</td>
<td>-1.01</td>
</tr>
<tr>
<td>IDL(-1)</td>
<td>WIDL(-1)</td>
</tr>
<tr>
<td>80.6745</td>
<td>18.7732</td>
</tr>
<tr>
<td>PE(-1)</td>
<td>WE(-1)</td>
</tr>
<tr>
<td>-11.6159</td>
<td>6.1686</td>
</tr>
<tr>
<td>-0.77</td>
<td>0.77</td>
</tr>
<tr>
<td>TE(-1)</td>
<td>WTE(-1)</td>
</tr>
<tr>
<td>18.7449</td>
<td>8.1106</td>
</tr>
<tr>
<td>1.41</td>
<td>0.62</td>
</tr>
<tr>
<td>WAGE(-1)</td>
<td>WAGE(-1)</td>
</tr>
<tr>
<td>0.1205</td>
<td>0.1019</td>
</tr>
<tr>
<td>3.55</td>
<td>3.36</td>
</tr>
<tr>
<td>ACA(-1)</td>
<td>ACA(-1)</td>
</tr>
<tr>
<td>0.0740</td>
<td>0.0379</td>
</tr>
<tr>
<td>1.62</td>
<td>0.81</td>
</tr>
<tr>
<td>FDEF(-1)</td>
<td>FDEF(-1)</td>
</tr>
<tr>
<td>0.0770</td>
<td>0.0630</td>
</tr>
<tr>
<td>2.48</td>
<td>1.97</td>
</tr>
<tr>
<td>URATE(-1)</td>
<td>URATE(-1)</td>
</tr>
<tr>
<td>197.8395</td>
<td>177.2760</td>
</tr>
<tr>
<td>2.99</td>
<td>2.92</td>
</tr>
<tr>
<td>Difference</td>
<td>Difference</td>
</tr>
<tr>
<td>2.04</td>
<td>0.86</td>
</tr>
<tr>
<td>RBAR2 = 0.9516</td>
<td>RBAR2 = 0.9483</td>
</tr>
<tr>
<td>DW = 2.0410</td>
<td>DW = 2.0614</td>
</tr>
</tbody>
</table>

The popularity lead indicator reveals a significant Labour ideological effect. Given the analysis of Chapter 5 and 6 this appears to be a robust result for this indicator. Popularity lead surpluses have allowed Labour to expand current transfer expenditures. The Conservative variable although itself positively signed is insignificant and also significantly smaller than the Labour variable. Both opportunistic variables are correctly signed and the time expansion variable is significant. The further into an election period government is when it incurs a negative popularity lead differential the more it will increase current transfer expenditures. All economic variables are significantly positive. The financial deficit variable highlights the fact that current transfers are typically counter-cyclical.

The explanatory power of the winner’s index model is slightly less than its popularity lead equivalent. There are neither significant ideological nor significant opportunistic variables. The economic variables are all positively signed and, except for the current account, are significant factors in explaining current transfers.

6.6.4 Total government expenditures

Table 6.15 compares the use of the two indicators in relation to total government expenditures.
Consider first the popularity lead indicator model. It explains 63% of the total variation in government expenditures for the period 1972(2) to 1993(1) in comparison to 93% for the period 1961(2) to 1993(1). We will proceed to consider the possible effect of including net lending in our definition of general government expenditure.

The table shows a significant Labour positive popularity lead differential effect. When Labour has enjoyed positive popularity lead differentials total expenditures have increased. The Conservative ideological variable is also positive but Conservative positive popularity lead differentials have not had a significant impact upon total expenditures. Furthermore, the Conservative ideological parameter is significantly smaller than its Labour counterpart. Both opportunistic variables are correctly signed although neither reaches statistical significance. The opportunistic element of the indicator models has with few exceptions been typically unsuccessful. Finally, all economic variables are significant except again for the current account of the balance of payments. The financial deficit continues to be signed contrary to theory.

The explanatory power of the winner's index model is higher than its popularity lead equivalent at 65%. The model contains both a significant Conservative and a significant Labour effect in accordance with theory. When the Conservatives have enjoyed a winners surplus they have been able to push down total expenditures while Labour have been able to increase total expenditures. Moreover, the Labour parameter is significantly larger than the Conservative parameter. This result is equivalent to that found for government consumption.

Table 6.15: Popularity Lead and Winner's index (GEX)

<table>
<thead>
<tr>
<th>Popularity Lead</th>
<th>Winner's index</th>
</tr>
</thead>
<tbody>
<tr>
<td>INT 10276.8000</td>
<td>INT 35629.6000</td>
</tr>
<tr>
<td>GEX(-1) 0.4362</td>
<td>GEX(-1) -0.5732</td>
</tr>
<tr>
<td>IDC(-1) 31.6470</td>
<td>WIDC(-1) -71.0922</td>
</tr>
<tr>
<td>DLL(-1) 227.7514</td>
<td>WIDL(-1) 193.514</td>
</tr>
<tr>
<td>PE(-1) -0.4432</td>
<td>WE(-1) -11.5925</td>
</tr>
<tr>
<td>TR(-1) 23.5006</td>
<td>WTE(-1) -81.5991</td>
</tr>
<tr>
<td>WAGE(-1) 0.1820</td>
<td>WAGE(-1) 0.4027</td>
</tr>
<tr>
<td>ACA(-1) 0.0533</td>
<td>ACA(-1) -0.1099</td>
</tr>
<tr>
<td>FDEF(-1) 0.1597</td>
<td>FDEF(-1) -0.1053</td>
</tr>
<tr>
<td>URATE(-1) 183.9743</td>
<td>URATE(-1) 638.0912</td>
</tr>
<tr>
<td>Difference 1.93</td>
<td>Difference 2.70</td>
</tr>
<tr>
<td>RBAR² = 0.6286</td>
<td>DW = 1.9444</td>
</tr>
<tr>
<td>RBAR² = 0.6478</td>
<td>DW = 2.0092</td>
</tr>
</tbody>
</table>

Consider first the popularity lead indicator model. It explains 63% of the total variation in government expenditures for the period 1972(2) to 1993(1) in comparison to 93% for the period 1961(2) to 1993(1). We will proceed to consider the possible effect of including net lending in our definition of general government expenditure.

The table shows a significant Labour positive popularity lead differential effect. When Labour has enjoyed positive popularity lead differentials total expenditures have increased. The Conservative ideological variable is also positive but Conservative positive popularity lead differentials have not had a significant impact upon total expenditures. Furthermore, the Conservative ideological parameter is significantly smaller than its Labour counterpart. Both opportunistic variables are correctly signed although neither reaches statistical significance. The opportunistic element of the indicator models has with few exceptions been typically unsuccessful. Finally, all economic variables are significant except again for the current account of the balance of payments. The financial deficit continues to be signed contrary to theory.

The explanatory power of the winner's index model is higher than its popularity lead equivalent at 65%. The model contains both a significant Conservative and a significant Labour effect in accordance with theory. When the Conservatives have enjoyed a winners surplus they have been able to push down total expenditures while Labour have been able to increase total expenditures. Moreover, the Labour parameter is significantly larger than the Conservative parameter. This result is equivalent to that found for government consumption.
The winner's index model does not, however, contain significant opportunistic effects and the time expansion variable is wrongly signed. Of the economic variables only the wage bill of the economy and the rate of unemployment are significant.

In short, the analysis here confirms that there are identifiable ideological indicator effects that affect the pattern of total expenditures. In particular, we are able to identify both a significant Conservative and a significant Labour ideological effect in periods of winners surplus. This result was also found for government consumption.

6.6.5 Net total government expenditures

Table 6.16 shows the results for the popularity lead and winner's index models for net total government expenditures.

Table 6.16: Popularity Lead and Winner's index (NGEX)

<table>
<thead>
<tr>
<th></th>
<th>Popularity Lead</th>
<th>Winner's index</th>
</tr>
</thead>
<tbody>
<tr>
<td>INT</td>
<td>6404.1000</td>
<td>INT</td>
</tr>
<tr>
<td>NGEX(-1)</td>
<td>0.4633</td>
<td>NGEX(-1)</td>
</tr>
<tr>
<td>IDC(-1)</td>
<td>15.1308</td>
<td>WIDC(-1)</td>
</tr>
<tr>
<td>IDL(-1)</td>
<td>114.5343</td>
<td>WIDL(-1)</td>
</tr>
<tr>
<td>PE(-1)</td>
<td>-5.8898</td>
<td>WE(-1)</td>
</tr>
<tr>
<td>TE(-1)</td>
<td>42.7404</td>
<td>WTE(-1)</td>
</tr>
<tr>
<td>WAGE(-1)</td>
<td>0.2174</td>
<td>WAGE(-1)</td>
</tr>
<tr>
<td>ACA(-1)</td>
<td>-0.0434</td>
<td>ACA(-1)</td>
</tr>
<tr>
<td>FDEF(-1)</td>
<td>0.1456</td>
<td>FDEF(-1)</td>
</tr>
<tr>
<td>URATE(-1)</td>
<td>322.7534</td>
<td>URATE(-1)</td>
</tr>
<tr>
<td>Difference</td>
<td>1.15</td>
<td>Difference</td>
</tr>
<tr>
<td>(RBAR^2 = 0.8345)</td>
<td>(DW = 2.0032)</td>
<td>(RBAR^2 = 0.8446)</td>
</tr>
</tbody>
</table>

The exclusion of net lending increases the explanatory power of the popularity lead and winner's index from 63% to 83% and from 65% to 84% respectively. Again both models reveal significant ideological effects and no significant opportunistic effects. The popularity lead model continues to indicate that when Labour has experienced popularity lead surpluses it has increased expenditures. There is no significant Conservative ideological effect stemming from popularity lead considerations.

In the winner's index model the Labour ideological variable is positively signed and the Conservative variable negatively signed. The removal of net lending has rendered the Labour variable insignificant. However, the Conservative variable is
highly significant. Again there is no significant difference between the ideological parameters.

Of the economic variables the rate of UK unemployment and the wage bill of the economy are significant in both indicator models. The financial deficit is also significant in the popularity lead indicator model.

6.6.6 Summary

There are significant indicator effects to be found across all expenditure classifications for the estimation period 1972(2) to 1993(1). The popularity lead model reveals a significant Labour ideological effect according with partisan theory in all expenditure types considered other than investment. The winner's index model reveals a significant Conservative ideological parameter according with partisan theory in all expenditure types other than current transfers. Of particular interest is that in the winner's index models of government consumption and total expenditures there is both a significant Conservative ideological parameter and a significant Labour ideological parameter. While the Conservative parameter suggests decreases in expenditures during periods when the value of the winner's index was in excess of its mean, the Labour parameter suggests increases. Furthermore, the ideological parameters were significantly different. The opportunistic variables performed poorly, particularly in the winner's index model.

Over the five expenditure models the average explanatory power using the winner's index is slightly higher than those using the popularity lead indicator with the respective adjusted R² figures being 76.7% and 78.0%. The explanatory power of the winner's index model is higher in four of the five expenditure classifications. The exception is current transfers.

6.7 Leadership approval

A predominant aspect of competence is how electable a political party is. This can crucially affect the perceived ability of political parties to handle the economy. If a party is seen as divided or as suffering from poor leadership its perceived falls.

Figure 6.6 plots the Gallup approval ratings of the Prime Minister and the Leader of the Opposition from 1958(1) to 1994(2). Individuals are asked whether they are
satisfied or dissatisfied with the Prime Minister and whether the leader of the main opposition party is proving to be a good leader of that party. From these two indices we can derive an index that we will refer to as the *leadership differential*. This is simply the difference between the approval rating of the Prime Minister and that of the Leader of the Opposition. A positive differential indicates that the approval rating of the Prime Minister is higher than that of the Leader of the Opposition. A negative differential indicates that the opposition leadership has a higher approval rating than the Prime Minister. Figure 6.7 plots the leadership differential over this period.

The average value of the Prime Minister's approval rating over the period 1958(1) to 1994(2) is 43.2% while that of the Leader of the Opposition is 40.7%. The average leadership differential has thus been 2.5%. The largest positive magnitude of the leadership differential was in 1983(3) when it reached 42%. The approval ratings of the Prime Minister (Margaret Thatcher) and the Leader of the Opposition (Michael Foot) were 52% and 10% respectively. The largest negative leadership differential in our data period is that of 1994(2) when it stood at -30.5%. The respective approval ratings of the Prime Minister (John Major) and Leader of the Opposition (John Smith) were 20.5% and 51%.

Since leadership approval expresses opinions concerning the ability to govern it is an important component of the re-election index. Leadership approval is a re-election indicator as are the expectations' indices, the winner's index and the popularity lead index. Political parties can win or lose elections on the basis of their leader.

The leadership differential suggests that a contributory factor to Labour losing the 1983 election was its leader Michael Foot, while John Major appears to have been a contributory factor in the Conservatives winning the 1992 election. Administrative competence contributes to the public's trust in a political party to govern. Low values in the leadership differential may have long lasting effects on a party's re-election index.

### 6.8 The PM approval indicator model

The average approval rating of the Prime Minister over the period 1961(1) to 1993(1) is 42.66%. This value is used to distinguish between those quarters of indicator surplus and indicator deficit. The data period is of equivalent length to that used to test the popularity lead indicator model in Chapter 5. In this sense the results
are comparable. In presenting the results the PM approval indicator variables are prefixed by "PM".

6.8.1 Government consumption

In estimating use is made of the Cochrane-Orcutt technique. For the period 1961(2) to 1993(1) the following equation was found:

\[
\text{CON}_t = 424.6938 + 0.8612 \text{CON}_{t-1} - 1.6481 \text{PMIDC}_{t-1} - 0.8924 \text{PMIDL}_{t-1} \\
+ 5.4135 \text{PMD}_{t-1} + 0.7085 \text{PMTE}_{t-1} + 0.0431 \text{WAGE}_{t-1} \\
+ 0.0298 \text{ACAt}_{t-1} + 0.0086 \text{FDEF}_{t-1} \\
\text{(3.08)} \quad \text{(21.22)} \quad \text{(-0.28)} \quad \text{(-0.21)} \quad \text{(1.06)} \quad \text{(0.15)} \quad \text{(3.29)} \quad \text{(1.94)} \quad \text{(1.13)}
\]

\(R^2 = 0.9942, \text{RBAR}^2 = 0.9937, \text{DW} = 2.0372, \text{D.F.} = 117).\)

**Difference: 0.13.**

In comparison to the popularity lead model in Chapter 5 there is virtually no difference in explanatory power. Both ideological variables are now negatively signed as opposed to being positively signed, but remain insignificant. Although the Labour ideological parameter is not in excess of its Conservative equivalent there is no significant difference between the two. Both opportunistic variables remain positively signed and insignificant. The wage bill of the economy and the current account are significant positive factors in the determination of government consumption. The level of the financial deficit, while incorrectly signed, is insignificant.

The results from the PM approval indicator model of government consumption are, thus, very similar to the popularity lead indicator model.
6.8.2 Government investment

The estimated equation for government investment is:

\[
INV_t = 1244.2 + 0.7605 \text{INV}_{t-1} - 18.8412 \text{PMIDC}_{i,t} - 4.0853 \text{PMIDL}_{t-1} \\
(3.21) \quad (11.82) \quad (-1.18) \quad (-0.37) \\
- 10.7954 \text{PMEd}_{t-1} - 11.0957 \text{PMTI}_{i,t} - 0.0148 \text{WAGE}_{i,t} \\
(-0.78) \quad (-0.86) \quad (-2.20) \\
+ 0.0717 \text{ACA}_{t-1} + 0.0167 \text{FDEF}_{t-1} \\
(-2.26) \quad (0.81)
\]

\[R^2 = 0.4891, \quad \text{RBAR}^2 = 0.4498, \quad DW = 2.0662, \quad \text{D.F.} = 117.\]

\[\text{Difference: 0.94.}\]

As with government consumption the results from using a PM approval indicator model as opposed to a popularity lead indicator model for investment are markedly similar. Both the ideological and opportunisti variables remain insignificant, and while the Conservative parameter is smaller than the Labour parameter the difference is not a significant one. The economic variables all remain incorrectly signed with the wage bill of the economy and the current account being statistically significant. The explanatory power is only marginally higher in the PM approval model.

6.8.3 Current transfers

The estimated equation for current transfers over the period 1961(2) to 1993(1) is:

\[
CUT_t = -1369.2 + 0.70018 \text{CUT}_{t-1} + 12.2159 \text{PMIDC}_{i,t} + 9.1572 \text{PMIDL}_{t-1} \\
(-3.42) \quad (9.29) \quad (0.99) \quad (1.06) \\
- 6.5125 \text{PMEd}_{t-1} + 0.8083 \text{PMTI}_{i,t} + 0.0857 \text{WAGE}_{i,t} \\
(-0.63) \quad (0.08) \quad (4.07) \\
+ 0.0587 \text{ACA}_{t-1} + 0.0612 \text{FDEF}_{t-1} + 107.1530 \text{URATE}_{t-1} \\
(2.09) \quad (3.77) \quad (2.94)
\]

\[R^2 = 0.9870, \quad \text{RBAR}^2 = 0.9859, \quad DW = 2.0662, \quad \text{D.F.} = 116.\]

\[\text{Difference: -0.25.}\]

The results relating to the ideological variables appear rather curious. While both are positive and insignificant, the value of the Labour ideological parameter is smaller than the Conservative ideological parameter. The difference between them is, however, insignificant. In the popularity lead model the Labour parameter was significantly
positive and bordering on being significantly greater than the Conservative parameter. The remaining results of the PM approval and popularity lead models for current transfers are similar. Neither opportunistic variable is significant, although both are correctly signed, while all economic variables are significant and positive factors in explaining the variation in current transfers. Finally, the explanatory powers of both models is identical to three decimal places.

6.8.4 Total government expenditures

For the period 1961(2) to 1993(1) the estimated equation is:

\[
GEX_t = 2104.4 + 0.7671 \, GEX_{t-1} - 42.6709 \, PMIDC_{t-1} - 7.4468 \, PMIDL_{t-1} \\
- 32.5571 \, PME_{t-1} - 41.0465 \, PMTE_{t-1} + 0.1259 \, WAGE_{t-1} \\
+ 0.0548 \, ACA_{t-1} + 0.1521 \, FDEF_{t-1} + 38.5404 \, URATE_{t-1}
\]

\[
(2.38) \quad (12.61) \quad (-1.14) \quad (-0.29) \\
(-1.03) \quad (-1.39) \quad (2.91) \\
(0.63) \quad (3.07) \quad (0.80)
\]

\(R^2 = 0.9359, \, RBAR^2 = 0.9303, \, DW = 1.9477, \, D.F. = 116\).

\textbf{Difference}: 0.98.

The two ideological variables are insignificant. Both are negatively signed in contrast to the popularity lead indicator model where both were positively signed and insignificant. While the Labour parameter is larger than the Conservative parameter it is not significantly so. The time expansion variable is significantly negative. This implies that there is a negative relation between expenditures and the time elapsed in the election period when a PM approval deficit occurs. Of the economic variables only the wage bill and financial deficit are found to be significant, the latter again exhibiting the wrong sign. The unemployment rate variable although positively signed is not significant. In the popularity lead indicator model this variable was also found to be insignificant and was indeed negatively signed. In Chapter 5 we questioned whether the removal of net lending, which distorts expenditure patterns, could explain this surprising result. The removal of net lending leads us to consider net total government expenditures.
6.8.5 Net total government expenditures

The estimated equation for net total government expenditures in the period 1961(1) to 1993(1) is:

\[
\text{NGEX}_t = 1319.0 + 0.7436 \text{NGEX}_{t-1} - 32.8472 \text{PMIDC}_{t-1} - 5.2874 \text{PMIDL}_{t-1} \\
- 27.5580 \text{PME}_{t-1} - 23.0568 \text{PMTE}_{t-1} + 0.1480 \text{WAGE}_{t-1} \\
+ 0.0310 \text{ACA}_{t-1} + 0.1250 \text{FDEF}_{t-1} + 113.8838 \text{URATE}_{t-1} \\
\]

\[
(1.88) \quad (11.12) \quad (-1.09) \quad (-0.25) \quad (-1.05) \quad (-0.94) \quad (3.23) \quad (0.44) \quad (3.03) \quad (2.30)
\]

\[
\text{R}^2 = 0.9664, \quad \text{RBAR}^2 = 0.9635, \quad \text{DW} = 2.0081, \quad \text{D.F.} = 116.
\]

\text{Difference: 0.43.}

The removal of net lending has had the effect of making the unemployment rate variable a significant determinant of government expenditures. The ideological variables are again both negatively signed and insignificant. In the popularity lead model, while also insignificant, both are positively signed. The two opportunistic variables are insignificant with the time expansion variable again wrongly signed. The only insignificant economic variable is the current account of the balance of payments. The financial deficit, over this period, has not constrained expenditures.

6.8.6 Summary

In analysing government expenditures using a PM approval indicator for the period 1961(2) to 1993(1) we are able to do a comparison with those results in Chapter 5 for the popularity lead model obtained from the same sample period. Both sets of results provide no evidence of significant ideological effects on expenditures arising from an indicator surplus. The only significant indicator result in this period is from using the using the PM approval indicator to model total expenditures. However, the significant time expansion variable is incorrectly signed.

Given that significant popularity lead effects are found for shorter sample periods used in estimating various expectations' indicators and the winner's index, it appears that the results are sensitive to the election periods analysed. Moreover, it may also imply that we need to look at a comprehensive set of re-election indicators rather than one re-election indicator in isolation.
6.9 Conclusions

The chapter has considered the results from substituting an alternative re-election indicator for the popularity lead indicator. We identified three alternative re-election indicator types. By examining these alternative indicators individually one is highlighting the need to consider the choice of indicator which switches behaviour between being opportunistic and ideological. In particular, one is questioning whether a single individual re-election indicator may be individually more important than another. These questions arise from the observation that the popularity lead index is a noisy indicator of government's re-election chances. If government uses other information to either replace or supplement the popularity lead index then the behavioural switch mechanism can be improved. Although we consider single alternative re-election indicators here it is unlikely that one indicator alone is sufficient information for government. Government is likely to refer to a composite of re-election indicators which form a re-election index as well as to other information or indicators which would qualify the message of the re-election index.

In empirically testing alternative re-election indicators we continued to employ the Frey and Schneider filtering mechanism so that the alternative re-election indicator became the switch between opportunistic and ideological behaviour. The variables used to capture these indicator effects were the Conservative and Labour ideological parameters, the indicator expansion variable and the time expansion variable. However, the possibility that parties in acting opportunistically could be simply demonstrating that they can manage both sides of the Phillips curve relationship suggests that we should use party-specific opportunistic variables. While the Conservatives would expand government expenditures in order to reduce unemployment (their prioritisation being inflation over unemployment) it is possible that Labour could be reducing the rate of growth of expenditures or even decreasing real expenditures in order to reduce inflation (their prioritisation being unemployment over inflation). We thus expected the non-specific opportunistic variables to be typically insignificant. This was indeed the case.

In calculating the indicator differential for those models using an expectations' indicator we took the average value of the relevant expectations' index for the period 1975(4) to 1993(1). The three expectations' indices related to the general economic situation, a household's financial situation and to the national level of unemployment. For each expectations' indicator a comparison was made with the popularity lead indicator model where the popularity lead differentials were re-calculated using the average of the same data period. Over the five expenditure classes considered the
unemployment expectations’ indicator model offered the highest average explanatory power. Furthermore, in all five expenditure classes the unemployment expectations model showed a significant Conservative ideological effect. When the Conservatives had enjoyed an unemployment expectations surplus they had decreased expenditures.

The winner’s index was used as an alternative by taking the average value of the index for the period 1972(1) to 1993(1) in order to determine whether quarters were indicator deficits or indicator surpluses. An equivalent exercise was done for the popularity lead model. The average explanatory power of the winner’s index indicator model was in excess of that for the popularity lead indicator model. The modelling of expenditures with the winner’s index was also noteworthy for being the only indicator model to offer both significant Labour and Conservative effects on an expenditure type. For government consumption and total government expenditures the Conservatives decreased expenditures while Labour increased expenditures when the value of the winner’s index was above the critical (average) value.

The third indicator considered was derived from the approval rating of the Prime Minister. Again an average value was used to define periods as an indicator deficit or surplus. The average value for the PM approval rating was taken for the period 1961(1) to 1993(1) which is the period taken in Chapter 5 for the popularity lead model. The results of the two indicators are markedly similar with none of the indicator derived variables both signed in accordance with theory and significant.

The next chapter begins by considering ideological and opportunistic indicator variables specific to each period of government. This allows us to make more focused conclusions about the singular importance of each indicator and to consider the observed sensitivity of indicator results to the election periods covered. This was apparent when popularity lead models were estimated for a period excluding the Macmillan/Douglas-Home and Wilson governments. In excluding this period significant popularity lead effects were found. Nonetheless, unemployment expectations and the winner’s index had, over the expenditures classifications analysed, a higher average explanatory power. Further, in analysing the opportunistic variables specific to each period of government we are able to see if there are partisan effects in both periods of indicator deficit and indicator surplus. Chapter 7 then asks how re-election indicators may help to collectively determine the nature of government expenditure policy.
APPENDIX TO CHAPTER 6

Figure 6.1 General economic situation expectations, 1975(4) - 1994(2).

Figure 6.2 Household financial situation expectations, 1975(4) - 1994(2).

Figure 6.3 National unemployment expectations, 1975(4) - 1994(2).

Figure 6.4 The winner's index (which party will win the next election), 1958(1) - 1994(2).

Figure 6.5 The incumbent winner's index (likeliness of incumbent party winning the next election), 1958(1) - 1994(2).

Figure 6.6 Approval ratings of the PM and Leader of the Opposition, 1958(1) - 1994(2).

Figure 6.7 The leadership differential (lead of PM approval over Leader of the Opposition approval), 1958(1) - 1994(2).

Sources:

Gallup Political and Economic Index (Various Editions), Gallup Opinion Polls Ltd, London.
Figure 6.1

General Economic Situation Expectations

%
HOUSEHOLD FINANCIAL SITUATION EXPECTATIONS
FIGURE 6.3

NATIONAL UNEMPLOYMENT EXPECTATIONS

[Graph showing national unemployment expectations from 1975 to 1995]
FIGURE 6.4

EXPECTED WINNERS OF NEXT ELECTION

- Conservatives
- Labour

FIGURE 6.5

LIKELINESS OF INCUMBENT PARTY WINNING NEXT ELECTION
CHAPTER 7
UNIVERSAL SET OF INDICATORS

7.1 Introduction

In Chapter 6 we introduced alternative re-election indicators to the voting intention index. The reason for so doing was the belief that such an index does not consistently reveal the government's true re-election chances. Government is unlikely to identify periods as opportunistic or ideologically merely on this one index alone. The fact that this index can be used by voters to voice their thoughts and to discipline government will inevitably mean that government will turn to additional re-election indicators to inform them of their re-election chances. This is not to say that the voting index is made redundant, rather the implication is that government will consult other information from which it can infer its re-election chances. While it is doubtful that re-election indicators will be used in isolation, government may place more weight on one re-election indicator than on another. In looking at alternative re-election indicators in isolation in Chapter 6, significant indicator effects were found where indices of expectations or the winner's index were used. We now analyse the re-election indicators again for the government expenditure classifications but look at specific election periods. This allows us to reflect upon the sensitivity found in the previous chapter of those results pertaining to the popularity lead model when different sample periods are taken. In analysing individual election periods specific indicators are created relevant to each election period and party of government. Consequently, indicator variables can now be used to test for a different opportunistic response across the parties in addition to a different ideological response.

7.2 Identifying specific indicator effects

Thus far, the focus has been on generalised effects as opposed to specific election period indicator effects. In order that we can consider each election period we create election and party specific indicators. These specific variables can be created easily from the original ideological and opportunistic variables by separating out their values for each election period. Therefore, four indicator variables are used again but each set of four is relevant to an individual election period. This is done for the popularity lead indicator, the three expectations' indicators, the winner's index and the PM approval index.
7.2.1 Popularity lead indicator

The specific indicator variables are derived from the average popularity lead for the period 1961(1) to 1993(1) of -2.36%. In constructing these variables we make two qualifications. Firstly, given the short period between the initial Labour victories in October 1964 and February 1974 and the subsequent elections in March 1966 and October 1974, we treat Labour rule in the 1960s and 1970s each as one election period. Secondly, the data period limits the number of observations after the April 1992 election, thus this period is consumed into the 1987 variables.

The analysis continues to consider the five expenditure classes and to use the appropriate economic independent variables. Further, the estimation technique employed is the Cochrane-Orcutt method of order 1. The data period is 1961(2) to 1993(1).

Given that our main concern is on the specific indicator derived variables we report only the t-values on these variables as well as the adjusted $R^2$ and Durbin-Watson statistics in table 7.1. The notation refers to the party in government (Conservative or Labour), the year in which the election period commenced, and to whether it is the ideological (I), popularity expansion (PE) or time expansion variable (TE). The t-ratios in bold are significant at the 10% level for a single tailed test.1

---

1 The critical value is 1.29.
In analysing the results we consider each election period. The first election period is Conservative rule between October 1959 and October 1964, although data limitations mean that the analysis actually begins in 1961(2). In this period the last ten quarters were defined as popularity lead deficits with the earlier part of the election period defined consistently by popularity lead surpluses. The ideological variable is expected to be negative for classifications of expenditures. There is indeed evidence that when this Conservative government experienced a popularity lead surplus they significantly reduced investment expenditures and total expenditures excluding net lending. The time expansion variable in the model of net total expenditures is close to being significantly negative suggesting that net total expenditures have been under downward pressure across the election period.

Other than the time expansion variable in the net total expenditure model none of the other opportunistic variables come close to significance so that popularity lead deficits have not been a significant factor in determining expenditure policy.

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Table 7.1: Popularity lead specific variables

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In analysing the results we consider each election period. The first election period is Conservative rule between October 1959 and October 1964, although data limitations mean that the analysis actually begins in 1961(2). In this period the last ten quarters were defined as popularity lead deficits with the earlier part of the election period defined consistently by popularity lead surpluses. The ideological variable is expected to be negative for classifications of expenditures. There is indeed evidence that when this Conservative government experienced a popularity lead surplus they significantly reduced investment expenditures and total expenditures excluding net lending. The time expansion variable in the model of net total expenditures is close to being significantly negative suggesting that net total expenditures have been under downward pressure across the election period.

Other than the time expansion variable in the net total expenditure model none of the other opportunistic variables come close to significance so that popularity lead deficits have not been a significant factor in determining expenditure policy.
In short, the Conservative government between 1959 and 1964 was able to significantly reduce both investment and net total expenditures in periods of popularity lead surpluses, although falls in net total expenditures appear to have occurred in both periods of surplus and deficit. Popularity lead deficits have not made a significant impact on expenditures.

The second election period considered is that period of Labour rule from October 1964 to June 1970 in which twelve quarters were found to be positive popularity lead differentials while the other eleven were negative differentials. The positive differentials predominated in the first half of this period. The evidence generally refutes the popularity lead model. Four of the five classifications of expenditures reveal negatively signed ideological variables. In the case of consumption expenditures there was a significant downward displacement from positive popularity lead differentials. In this same model the popularity lead expansion variable is significantly positive which implies that larger negative differentials have led to falls in consumption expenditures. Since popularity lead deficits occurred towards the end of the election period this concurs with evidence from table 5.1 which showed a significant decline prior to the 1970 election and which refutes the existence of a Nordhaus public consumption cycle.

In contrast investment expenditures are seen to have correctly signed popularity lead variables. The time expansion variable is indeed significant. Thus, as the next election grew nearer, the Labour government was emphasising investment expenditures so that tests designed to capture Nordhaus investment cycles indicate the expected pre-election expansion of investment. This refutes the visibility hypothesis.

There is no evidence that popularity lead surpluses during the period of Labour rule in the 1960s significantly affected expenditures. There is evidence that deficits, which occurred in the second half of the election period, favoured investment over consumption expenditures thus refuting the visibility hypothesis.

The Conservatives ruled from June 18th 1970 to February 28th 1974. Of the fifteen quarters only five were defined as positive popularity lead differentials. In these five quarters there is evidence that the Conservatives cut real government consumption, just as the previous Labour government had done.

Results table 5.6 revealed that the Conservatives had overseen an upward trend in investment expenditures. Thus, the preference of investment over consumption expenditures evident with the Labour government similarly continued with this

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1 From 1967(4) to 1970(3) only one quarter was defined as a popularity lead surplus.
Conservative government. This is reflected by the popularity lead variables in the investment model. The ideological variable is significantly positive, contrary to theory, while both opportunistic variables are correctly signed in accordance with expansionary behaviour. The time expansion variable is highly significant so that popularity lead deficits induced a more expansionary response the further into the election period. This in turn helps to explain why results table 5.2 infers a Nordhaus-type pre-election expansion of investment expenditures.

Four of the five expenditure classifications have significantly positive time expansion variables. This opportunistic reaction is also captured by the opportunistic tests in Chapter 5 for investment, current transfers, total expenditures and total expenditures less net lending. Despite this concerted opportunistic effort the Conservatives lost overall control of parliament at the February 1974 election picking up 46.8% of the seats.

While there is evidence of a popularity lead driven ideological response for consumption expenditures by the Conservative government between 1970 and 1974, the predominant evidence is of an opportunistic response prior to the 1974 election in the other four expenditure classifications considered.

Labour held power between February 28th 1974 and May 3rd 1979. Of the 20 quarters Labour was in government it held a popularity lead surplus for 13 quarters and thus a deficit for the remaining 7 quarters. In the 13 quarters, Labour is seen as having significantly increased four expenditure classifications. The exception is consumption although the ideological variable in this model was also positively signed. Results table 5.6 only shows a significant persistent ideological effect for investment. Thus, in this election period it does appear that ideological responses are associated with positive popularity lead differentials. The opportunistic variables are all statistically insignificant, frequently exhibiting the incorrect sign.

The actions of the Labour government of the 1970s support the ideological aspect of the Frey and Schneider model with all expenditure classes, except government consumption, having significant ideological variables. While popularity lead surpluses saw expansionary behaviour the popularity lead deficit variables are insignificant. This does suggest a difference in behaviour between periods of deficit and surplus, possibly supportive of the demonstration effect.

The fifth election period is Conservative rule from May 1979 to June 1983. Chapter 5 showed no evidence of significant persistent ideological effects while the pure opportunistic tests revealed significant pre-election expansions in government
consumption expenditures, particularly when one considers up to eight questions prior to the election. The Conservatives experienced a popularity lead surplus for 8 of the 17 quarters, with the final 7 quarters of the election period all being popularity lead surpluses. This is in stark contrast to previous election periods. In those quarters when government was ideologically free expansions are noted for consumption and total expenditures. The former, in particular, thus confirms the results from Chapter 5.

While consumption expenditures, which averaged 47.5% of total expenditures between 1979(2) and 1983(2), were reflected by an upward displacement in total expenditures, investment expenditures were displaced downwards. Conservative rhetoric was felt by investment expenditures. Not only is there evidence of a downward displacement when the Conservatives were ideologically free but of a significant tendency for investment to fall in popularity lead deficits as we move further into the election period. Investment expenditures were presumably identified as carrying a lower political risk. Moreover, cutting one capital project offers a proportionately higher financial gain than does axing one public sector employee.

When the Conservative government of 1979 to 1983 was free to pursue ideology, investment expenditures were cut while consumption expenditures and total expenditures saw significant upward displacements. Given that popularity surpluses occurred towards the end of the election period this can explain the pre-election expansion of consumption expenditures identified in Chapter 5. The only significant opportunistic variable infers that investment expenditures fell in periods of deficit as the election period unfolded.

The sixth election period considered is that between June 1983 and June 1987. From the purely opportunistic and purely partisan tests in Chapter 5 the results showed a pre-election contraction in current transfers and an upward displacement of consumption expenditures associated with the election period. Of the 16 quarters considered only 3 were classified as popularity lead deficits. These were in the middle of the election period, possibly reflecting the mid-term blues effect. It is thus unsurprising that the ideological variable in the consumption model is significantly positive, contrary to the direction to be inferred from partisan theory. The ideological variable in the investment model is also found to be significant although the direction of movement accords with partisan theory.

The two opportunistic variables in the total expenditure model are found to be significant. While the popularity expansion variable is signed according to theory the time expansion variable is wrongly signed. No significant opportunistic variables are found in the other expenditure models.
The period of Conservative rule between June 1983 and June 1987 was, with the exception of three quarters, a period of positive popularity lead differentials. While investment expenditures fell in those quarters of surplus, consumption expenditures were seen to rise. Investments are an easier target for cuts.

The final period considered is that of the election quarter of 1987 up to the first quarter of 1993. This period thus includes primarily the election period from 1987(3) to 1992(1). Of these 22 quarters considered 13 were defined popularity lead surpluses, including the four quarters up to the 1992 election and the election quarter itself. Table 7.6 shows that the ideological variable in all expenditure models is negatively signed in accordance with partisan theory, although it is only significant in the investment and net total expenditure models. The period in question shows no significant opportunistic effects consistent with popularity lead deficits. None is close to significance at the 10% level.

The period between 1987(3) and 1993(1) shows a significant downward displacement in total expenditures less net lending during popularity lead surpluses, consistent with theory. Popularity lead deficits have not appeared to have initiated significant responses.

Table 7.6 shows the fragility of using the Frey and Schneider model to make generalised statements about politico-economic behaviour. We do not suggest that the popularity lead concept should be discarded. For instance, we do find evidence of ideological expansions across expenditures during Labour rule in the 1970s. Further, Conservative ideological cuts have typically favoured investment expenditures.

We do not believe that any one indicator should be considered in isolation as we have done here, but in so doing we might be able to identify whether any one indicator is more pervasive than another in determining expenditure behaviour. There may be a more dominant indicator than the popularity lead indicator given that it is a noisy indicator of re-election chances. We have looked in this thesis at three expectations' indicators and the so-called winner's index. It is to these we turn again continuing to consider specific party and election effects.
7.2.2 General economic situation expectations indicator

To derive the specific variables referring to party and expectations differentials the benchmark value of 16.04, which is the average value for the period 1975(4) to 1993(1) is used. The format is then otherwise identical to that used for the specific popularity lead derived variables. The results are shown in table 7.2. In terms of notation, L and C denote Labour or Conservative. EI relates to the expectations ideological variable, EE to the expectations expansion variable and ETE the expectations time expansion variable.

Table 7.2 Economic expectations specific variables

<table>
<thead>
<tr>
<th></th>
<th>CON</th>
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<th>NGEX</th>
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</tr>
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<td>-0.33</td>
<td>0.21</td>
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In the first election period we have data covering the period 1975(4) to 1979(1). Of these 14 quarters, 8 were defined as an expectations surplus and the remaining 6, therefore, as expectations deficit. These tend to be evenly divided over the election period although the last two quarters of this period were defined as deficit quarters.

Of the five categories of expenditures covered, four have the expected positive coefficient for periods of surplus. Only in the model of current transfers does a surplus have a significant effect.

In the model of current transfers an opportunistic time expansion variable is greater than that on the ideological variable.5

Table 7.2 shows that the position of the deficit in the election period was also a significant determinant of current transfers. The further into the election period the deficit occurred the higher were current transfers. The coefficient on the opportunistic time expansion variable is greater than that on the ideological variable.5

5 The coefficient on the ideological variable is 22.9 and on the time expansion variable is 61.8.
In the period of Labour rule between 1974 and 1979 there are significant ideological and opportunistic economic expectations variables in current transfers. This was not found in other expenditure models.

The second election period between May 1979 and June 1983 reveals negative signs on the ideological variable for four of the five expenditure classes, with consumption expenditures the exception. Results table 5.1 shows that consumption expenditures experienced a significant expansion prior to the 1983 election. This is despite the five quarters of economic expectations surpluses in this election period occurring immediately prior to the election and the seven quarters prior to the election being a popularity lead surplus. It may thus be that forthcoming elections can dominate over indicator differentials in determining expenditures and/or that certain categories of expenditures are more politically expedient than others. The latter appears to be true for consumption expenditures in this period since investment expenditures, current transfers and net total expenditures were reduced during economic expectations surpluses.

In this period consumption expenditures were spared the ideological axeman, perhaps as a result of the lobbying power of public sector employees relative to that of those receiving benefits, particularly the unemployed. Despite high unemployment, current transfers have been susceptible to the ideological axeman.

The opportunistic dimension is relevant to the first 12 quarters. The expectations expansion variable is significantly negative for current transfers and both total and net total expenditures. Larger deficits brought forth increased expenditures. The time expansion variable is significantly negative for all expenditure classifications so that deficits further from the previous election were associated with falling expenditures. This reflects the fact that the magnitude of deficits fell as we moved away from the 1979 election.

The Conservative election period between May 1979 and June 1983 shows that economic expectations surpluses have caused downward pressure to be exerted on investment and current transfers which is then reflected by net total expenditures. The time expansion variable is significantly negative for all expenditures, contrary to prediction, implying that in periods of deficit expenditures fell as the time from the previous election increased.

\[1\] This idea of interest group influence and the conditions that aid in the formation of interest groups is articulated by Olson (1982).
The third election period between June 1983 and June 1987 is defined by ten quarters of economic expectations surplus and six quarters of deficit. The periods of surplus are predominant at either end of the election period. Again, ideology has spared consumption expenditures with the ideological parameter in fact significantly positive. In contrast, government investment, current transfers continue to be significantly reduced by the ideological axeman which is reflected in total and net total expenditures.

This period shows a dearth of significant opportunistic effects as was noted with the popularity lead indicator. The six quarters of deficit have not been a significant determinant of expenditures. This does infer a distinction between periods of deficit and surplus since in the latter significant effects on expenditures are found.

The Conservative period of rule between June 1983 and June 1987 shows that ideological effects arising from an economic expectations surplus have seen significant falls in current transfers (and total and net total expenditures), but significant increases in consumption expenditures. In periods of deficit no significant effects were found. Behaviour was moderated.

The final period considered is that from 1987(3) which is taken up to 1993(1) as in the popularity lead example. In this period of 23 quarters, 11 were defined as economic expectations surpluses and the remaining 12 as deficits. The periods of deficit occurred primarily in the middle of the election period from June 1987 to April 1992.

Table 7.2 shows a significant ideological effect in the total expenditure model. When the Conservatives have enjoyed an economic expectations surplus total expenditures have been displaced downwards. Given the timing of these surpluses these can be seen to explain the noted decline in total expenditures prior to the 1992 election in results table 5.4. Here surpluses seem to have given rise to behaviour which is consistent with that of indicator models. This is an important observation for any political business cycle theorist who believes that political expediency demands the creation of cycles centred around elections. Cycles are not necessarily politically expedient and, furthermore, governments may simply not need to induce expansions prior to elections. This, however, does not mean that policy priorities are not affected by elections.

Although the ideological variable is negatively signed in all other expenditure models it is not a significant determinant of expenditures.
In four of the five expenditure classes there is a significantly negative coefficient on the expectations expansion variable. The negative coefficient signifies in periods of deficit that expenditures were significantly expanded according to the magnitude of the deficit. In the case of current transfers and net total expenditures the magnitude of the deficit was a significant factor. With consumption expenditures it was the timing of the deficit that was the significant factor. The further into the election period the deficit occurred the more consumption expenditures were increased. Thus, in this period there is evidence of opportunistic behaviour whereby expenditures were displaced upwards, in accordance with the indicator models.

There is some support for the economic expectations model for the period of Conservative rule after June 1987. Firstly, there was a tendency for total expenditures to fall in periods of surplus. Secondly, current transfers and net total expenditures increased the larger the magnitude of the deficits. Thirdly, consumption expenditures increased in periods of deficit as the time from the previous election increased. Thus, there appears to have been distinctive periods of behaviour corresponding with positive or negative economic expectations differentials.

7.2.3 Household financial expectations indicator

The second expectations' index considered relates to the expected financial position of households. The critical value of the index is 39.99, which is the average for the period 1975(4) to 1993(1). The estimated results are in table 7.3 with the notation identical to that in table 7.2 except that 'F' denotes that the table is applicable to the financial expectations' index.
Table 7.3 Financial expectations specific variables

<table>
<thead>
<tr>
<th></th>
<th>CON</th>
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<th>GEX</th>
<th>NGEX</th>
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</thead>
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RBar^2 0.9801 0.0815 0.9219 0.6031 0.7929
DW 2.2707 2.0951 2.0580 1.9058 1.9448

Beginning with the period of Labour rule in the 1970s we note that of the 14 quarters for which data is available, 7 have an expectations surplus. The first half of the election period is dominated by deficit quarters and the latter half by surplus quarters. The sign on the ideological parameter is negative in three of the expenditure models. In the total expenditure model the ideological parameter is significantly negative so that periods of surplus in this index, which is taken to measure the "feel good factor", have seen the Labour government control expenditures.

Of the opportunistic variables only one is significant. This is the time expansion variable in the total government expenditure model. It is negatively signed so that deficits in the "feel good" index which occurred further into the election period led to a downward displacement in total expenditures. Typically, in the seven quarters of deficit there are no significant displacements in expenditures so that government behaviour was cautious.

The Labour period of rule in the 1970s suggests that government expenditure behaviour was cautious in both periods of deficit and surplus in the financial expectations' index. However, there is evidence of a downward displacement in total expenditures in periods of deficit as the time from the previous election increased and in periods of surplus.

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^1 The coefficient on the time expansion variable is estimated to be -215.9447 while on the ideological variable it is -56.3137.
In the Conservative period of rule between May 1979 and June 1983 there are five quarters of surplus in the financial expectations' index. Four of these occurred immediately prior to the 1983 election. The ideological variable is significantly negative in four of the five expenditure classes. The exception is again consumption expenditures. Thus, surpluses in the "feel good" index allowed government to cut expenditures.

There were 12 quarters of deficit in the financial expectations' index. The significant time expansion variable infers a contraction of all expenditures, except for consumption, the further into the election period the deficit occurred.

In the Conservative period of rule between May 1979 and June 1983 financial expectations surpluses brought about contractions in expenditures which resulted in significant falls in all expenditures except public sector consumption. The fact that these falls occurred in the main immediately prior to the 1983 election does offer support to the indicator hypothesis as opposed to the simplistic opportunistic approach underlying Nordhaus instrument cycles. In periods of deficit there is evidence that expenditures fell as the time elapsed in the election period increased. Again the exception is public sector consumption.

The third election period is the Conservative period between June 1983 and June 1987. This period is noteworthy because of the 16 quarters in question, 14 were denoted as surplus and only two denoted as deficit. Significant ideological parameters are found for all categories of expenditures. However, the ideological parameter in the public sector consumption model infers increases rather than decreases. The ideological parameter in the other expenditure models suggests that a positive differential allowed government to depress expenditures in accordance with partisan theory. Therefore, the ideological axeman continues to spare consumption expenditures.

The Conservative period between June 1983 and June 1987 was a period where the financial expectations' index was, with the exception of two quarters, consistently above its critical value. The ideological axeman while felling investment, current transfers and total and net total expenditures spared consumption as in the previous election period.

The final period is that since June 1987. In the 23 quarters in question, 13 are defined as surplus and 10 as deficit. As was the case with the previous two indicators in this period, the surpluses are concentrated at either end of the period. Four of the five expenditure categories have a negatively signed ideological variable. Indeed, there
is evidence of a significant reduction in investment and total expenditures in these periods of surplus. As in the previous two Conservative election periods the ideological axeman makes no impact on consumption expenditures despite an indicator surplus.

In the models of current transfers, total expenditures and net total expenditures greater deficits initiated increased expenditures. The time expansion variable also indicates that in the consumption model deficits further into the election period caused consumption expenditures to increase. There is evidence in this election period of a visibility effect. Current transfers and consumption were not subject to ideological cuts and rose according to either the magnitude of the financial expectations deficit or the timing of the deficit.

In the period after June 1987 there is evidence of behaviour in accordance with the financial expectations' indicator model. Investment and total expenditures were depressed by periods of positive differentials while consumption expenditures, current transfers and total and net total expenditures saw expansions in periods of negative differentials. Public sector consumption and current transfers were not subject to the same ideological pressures of other expenditures in periods of positive differentials and both significantly increased during periods of positive differentials.

7.2.4 Unemployment expectations indicator

The third expectations' indicator is the unemployment expectations' indicator. To create party and election period specific variables the critical value of -22.83% is taken which is the average value of the index for the period 1975(4) to 1993(1). Table 7.4 shows those results using the specific variables. The format is consistent with previous results tables with the letter 'U' in the notation of the variables indicating that the table refers to the unemployment expectations' index.
Table 7.4 shows in the period of Labour rule in the 1970s that positive unemployment expectations differentials have not caused significant expansions in government expenditures despite four of the five categories being positively signed. In the period considered there were five quarters of surplus and nine quarters of deficit.

The indicator expansion variable is significantly negative in the investment model so that larger deficits have initiated increased capital expenditures. No other opportunistic variable is significant.

The period of Labour rule in the 1970s is not supportive of the unemployment expectations' indicator. There are no significant expansions of expenditures in the five quarters of surplus. Further, only one opportunistic variable is significant which suggests that larger deficits brought forth expansions in investment expenditures.

In the period of Conservative rule between May 1979 and June 1983 there were only 3 quarters of surplus as compared to 14 quarters of deficit. It appears that investment expenditures were cut in both periods of deficit and surplus. The ideological and time expansion variables are significantly negative. There is also evidence of reductions in current transfers in the limited number of surplus quarters. In the consumption model both the indicator expansion and time expansion variables are significantly positive. The former is contrary to theory since the inference is that consumption expenditures fell the larger the magnitude of the deficit. The latter infers that expenditures rose the further into the election period the deficit occurred. Given

<table>
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<td>1.9760</td>
<td>1.9032</td>
<td>1.8909</td>
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</table>

Table 7.4 Unemployment expectations specific variables
that the magnitude of deficits decreased over the course of the election period it appears that the timing of the deficit was more important.  

The period between May 1979 and June 1983 was predominantly a period of negative unemployment expectations differentials. If this index is the only indicator, and thus used in isolation, then opportunistic behaviour would dominate. Consumption expenditures show an upward trend over the election period during periods of deficit despite the magnitude of deficits actually falling. Investment expenditures, however, show a decline in periods of deficit as the time from the last election increased. This offers some support for the visibility hypothesis.

The Conservative election period between June 1983 and June 1987 has 8 quarters of surplus and 8 quarters of deficit. The quarters of surplus are found more typically at the beginning and the end of this election period. The results for the ideological variable are similar to those for the other two expectations' indices in this period. Investment expenditures, current transfers and total and net total expenditures all show significant falls in real terms during periods of indicator surplus. However, such an ideological contraction is not observed in consumption expenditures.

None of the opportunistic variables are significant. This is again the result found for general economic and financial expectations. It is, however, evident that the opportunistic variables are in the main incorrectly signed inferring downward pressure on expenditures. Nonetheless, periods of deficit seem to have moderated behaviour.

Between June 1983 and June 1987 the ideological axeman hit four of our five categories of expenditures but again spared consumption expenditures. In periods of deficit behaviour moderated.

In the period considered after June 1987, 14 of the 23 quarters were defined as an unemployment expectations surplus. Interestingly, 13 of these occurred immediately after the 1987 election. In these quarters of surplus all expenditures were significantly cut. The ideological axeman hit all expenditures including consumption expenditures.

The indicator expansion variable is significantly negative in the case of investment expenditures inferring that larger magnitudes of deficit led to increased investment expenditures. The time expansion variable in the models of current transfers and net total expenditures is similarly significantly negative inferring that as the time from the previous election increased, less emphasis was placed on these expenditures.

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\[^{4}\text{The coefficient on the indicator expansion variable is 5.2288 while the coefficient on the time expansion variable is 12.2000.}\]
These results might reflect the fact that the magnitude of the deficit fell as the April 1992 election approached.

The ideological axeman cut significantly into all expenditure classifications, including public sector consumption, in the period of Conservative rule after June 1987. In deficit quarters investment expenditures responded positively to the magnitude of the deficit. Current transfers and net total expenditures showed a downward trend over the period of deficit which could have reflected the falling magnitude of the deficit towards the 1992 election. The fact that the coefficient on the indicator expansion variables is negatively signed, except in the consumption model, does suggest a difference in behaviour between periods of deficit and surplus.

7.2.5 Winner's index indicator

The fourth indicator considered is the winner's index. This is based upon the perceived winners of the next election. To create the party and election specific variables we used data from the winner's index for the period for which consistent data is available, namely 1972(1) to 1993(1). In particular, we took the average value of the number of respondents who believed that the incumbent government would win the next election. This value was 42.99%. The results from estimation are shown in table 7.5 with the letter 'W' denoting that the table refers to the winner's index.
Table 7.5: Winner's index indicator

<table>
<thead>
<tr>
<th></th>
<th>CON</th>
<th>INV</th>
<th>CUT</th>
<th>GEX</th>
<th>NGEX</th>
</tr>
</thead>
<tbody>
<tr>
<td>CWI70</td>
<td>0.16</td>
<td>-0.79</td>
<td>0.05</td>
<td>-1.38</td>
<td>-0.44</td>
</tr>
<tr>
<td>CWE70</td>
<td>-1.70</td>
<td>0.95</td>
<td>1.13</td>
<td>1.87</td>
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</tr>
<tr>
<td>CWTE70</td>
<td>-1.79</td>
<td>1.63</td>
<td>0.94</td>
<td>1.21</td>
<td>2.10</td>
</tr>
<tr>
<td>LWI74</td>
<td>2.26</td>
<td>1.13</td>
<td>0.42</td>
<td>0.50</td>
<td>0.60</td>
</tr>
<tr>
<td>LWE74</td>
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</tr>
<tr>
<td>LWTE74</td>
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</tr>
<tr>
<td>CWI79</td>
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</tr>
<tr>
<td>CWE79</td>
<td>0.06</td>
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<td>-0.45</td>
<td>-0.71</td>
<td>-1.23</td>
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<tr>
<td>CWTE79</td>
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<td>-1.01</td>
<td>-1.87</td>
</tr>
<tr>
<td>CWI83</td>
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<td>-0.04</td>
<td>-1.99</td>
<td>-1.20</td>
</tr>
<tr>
<td>CWE83</td>
<td>0.01</td>
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<td>0.12</td>
<td>-1.02</td>
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<td>CWTE83</td>
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<td>-1.88</td>
<td>-1.53</td>
</tr>
<tr>
<td>CWI87</td>
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<td>-3.19</td>
<td>-4.27</td>
</tr>
<tr>
<td>CWE87</td>
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<td>-0.40</td>
<td>-1.61</td>
<td>-1.35</td>
</tr>
<tr>
<td>CWTE87</td>
<td>0.36</td>
<td>-3.49</td>
<td>-0.91</td>
<td>-2.30</td>
<td>-2.14</td>
</tr>
</tbody>
</table>

The first period analysed is the Conservative election term which ran from June 1970 to February 1974, although data limitations mean that the estimated period runs from 1972(2) to 1974(1). Of the 9 relevant quarters of data 8 are described as indicator deficits, thus the analysis essentially considers the opportunistic element of the model.

The indicator expansion variable is incorrectly signed in four of the expenditure models. In the total and net total expenditure models it is significantly positive so that larger deficits are have reduced expenditures. In the consumption model there is a significant relationship such that larger deficits have increased expenditures. With the time expansion variable there is a significant positive effect on investment and net total expenditures so that the closer the deficit was to the 1974 election the higher were these expenditures. However, this variable is incorrectly signed in the consumption model.

The last 9 quarters of Conservative rule between June 1970 and February 1974, for which data on the winner's index is available, can be characterised by negative winner's index differentials. The indicator expansion and time expansion variables offer only mixed evidence in support of opportunistic behaviour.
The second period considered is that between February 1974 and May 1979, thus encapsulating what are technically two periods of Labour rule. Of the 20 quarters in question, 4 are indicator surpluses while 16 are deficit quarters. The periods of surplus all occurred in the first four quarters of rule.

The ideological variable is positively signed for all expenditure categories although it is only significant in the case of consumption. The opportunistic variables generally indicate that expenditures were moderated in periods of deficit. The indicator expansion variable in the models of current transfers and total expenditures is significantly positive so that larger deficits reduced these expenditures. The time expansion variable in the investment model suggests that investment expenditures declined over the period of deficit.

In the popularity lead model, where we were also able to analyse this period of Labour rule in its entirety, there was an ideological effect across all expenditures. The winner's index infers an ideological effect only for consumption. However, the two indicators do allow us to infer that expansionary behaviour under Labour rule is only significant in periods of indicator surplus. The winner's index contains some evidence of contractions in periods of deficit while the opportunistic variables in the popularity lead model are insignificant. This might be the result of the demonstration effect where in periods of indicator deficit Labour attempts to demonstrate its ability to manage both sides of the Phillips curve relation.

In short, the winner's index indicator for the period of Labour rule in the 1970s shows evidence of a significant expansion in consumption expenditures. The opportunistic variables suggest some contractions of expenditures. The analysis suggests in this period that positive differentials have had the greater effect in inducing increased expenditures.

The third election period is the first Thatcher term from May 1979 to June 1983. This period is defined by seven quarters of indicator surplus, five of which precede the 1983 election. The remaining ten quarters are indicator deficits. The evidence in table 7.5 suggests that in quarters of indicator surplus there were falls in investment expenditures. While the ideological variables for the total and net total expenditure models are negatively signed neither is significant. This could be reconciled with the visibility hypothesis. Although the period prior to the 1983 election was typically defined by an indicator surplus the government may still have felt cautious. The visibility hypothesis would tell you to target investment expenditures.
The opportunistic variables are predominant in the early and middle stages of the election period. The only significant variable is the time expansion variable in the net total expenditure model. However, as in the other expenditure models it is negatively signed. Deficits closer to the 1983 election have seen falls in net total expenditures rather than increases.

The period of Conservative government between May 1979 and June 1983 appears to show that the ideological axeman was able to reduce real investment expenditures despite five of the seven quarters of surplus being in the run-up up to the 1983 election. Net total expenditures seem to have fallen in periods of deficit as the time from the previous election increased.

The fourth election period is that between June 1983 and June 1987 when the Conservatives were the incumbent party. Of the 16 quarters in question, 12 were defined as an indicator surplus and the remaining 4 as an indicator deficit. The 4 deficit quarters occurred in a 5 quarter period from 1985(3) to 1986(3).

The ideological parameter is significantly negative in the investment and total expenditure models. As in the previous electoral period, despite the winner's index surplus occurring in a period including the immediate run-up to an election, the Conservatives felt able to restrict investment expenditures. Again we might conclude that the visibility hypothesis is validated in so much as pre-election behaviour manifested significant ideological cuts not in current expenditures but in investment expenditures.

Of the five indicator expansion variables none is significant. However, there is no significant indicator expansion variable. All the time expansion variables are negatively signed and in the case of total and net total expenditures significantly so. Thus, there is evidence of a downward trend in expenditures as the time elapsed in the election period grew.

The period of Conservative rule between June 1983 and June 1987 was essentially a period of surplus in the value of the winner's index. The Conservative Party had a strong hold on government, which was not necessarily conveyed by the popularity lead index. Results from the winner's index indicator show ideological behaviour affecting investment and total government expenditures. While the average deficit in the four quarters of negative differentials was just over 5 percentage points, the average deficit in these four quarters was 5.07% below the critical value for the winners' index.

7 The average deficit in these four quarters was 5.07% below the critical value for the winners' index.
only in 1986(2) did a greater number of people respond that Labour rather than the Conservatives would win the next election.¹

The fifth period considered follows the June 1987 election and is taken up to the first quarter of 1993. This period is primarily described by a winners' indicator surplus. Only 3 of the 23 quarters were periods of deficit. Thus, as with the previous period the winner's index implies a greater degree of ideologically motivated behaviour than does the popularity lead index. The former gives rise to 3 quarters of deficit, while the popularity lead gives rise to 9 quarters of deficit.

For all five expenditure models the ideological variable is significantly negative indicating that ideological freedom depressed real expenditures. The ideological results for this period match those seen in table 7.4 relevant to the unemployment expectations' index. In the popularity lead model the ideological variable is negative across all expenditures, but only significantly so in the case of investment and net total expenditures. In this period at least we could suggest that the winner's index and the unemployment expectations' index were more relevant in activating ideological behaviour than was the popularity lead index.

Given the lack of negative indicator observations no firm conclusions can be made. However, in the investment, total expenditure and net total expenditure models there are significantly negative indicator expansion variables inferring that the larger the deficit the larger are expansions in these expenditures. At the same time these three expenditures have significant negative time expansion inferring that deficits further into the election period have been associated with falls in real expenditures.

In short, the period between June 1987 and the first quarter of 1993 is associated, with the exception of three quarters, with a surplus in the winner's index. This allows for a greater predominance of ideological behaviour than would be suggested by the popularity lead index. In the 20 quarters of winner’s index surplus there is indeed evidence of a significant reduction in all the categories of expenditures considered. This index appears more appropriate for this period than does the conventional popularity lead index.

¹ In 1986(2) 44% of respondents said that Labour would win the next election while 33% said that the Conservatives would win the next election.
7.2.6 PM approval indicator

The next re-election indicator considered is the PM approval indicator. The critical value was the average value of the PM approval index over the period 1961(1) to 1993(1). This took a value of 42.66%. The results from estimation are shown in Table 7.6.

Table 7.6: PM approval specific variables

<table>
<thead>
<tr>
<th></th>
<th>CON</th>
<th>INV</th>
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<tr>
<td>CPMI59</td>
<td>-0.98</td>
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<td>-0.54</td>
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<tr>
<td>CPME59</td>
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<td>-0.53</td>
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<td>CPMTE59</td>
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<td>-0.73</td>
<td>-1.26</td>
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<tr>
<td>LPMI64</td>
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<td>-0.16</td>
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<td>LPME64</td>
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<td>0.83</td>
</tr>
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<td>-0.85</td>
</tr>
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<td>-0.45</td>
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<td>LPMTE74</td>
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<td>CPMI79</td>
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<td>0.22</td>
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<td>CPMTE79</td>
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<td>CPMI83</td>
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<td>1.81</td>
<td>1.79</td>
</tr>
<tr>
<td>CPME83</td>
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<td>0.20</td>
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<td>-1.11</td>
<td>-0.18</td>
</tr>
<tr>
<td>CPMTE83</td>
<td>1.40</td>
<td>-0.31</td>
<td>-0.10</td>
<td>-0.96</td>
<td>0.02</td>
</tr>
<tr>
<td>CPMI87</td>
<td>0.49</td>
<td>-0.55</td>
<td>1.56</td>
<td>-1.51</td>
<td>-0.77</td>
</tr>
<tr>
<td>CPME87</td>
<td>0.97</td>
<td>-1.31</td>
<td>-0.66</td>
<td>-0.63</td>
<td>-0.87</td>
</tr>
<tr>
<td>CPMTE87</td>
<td>1.84</td>
<td>-1.06</td>
<td>-0.11</td>
<td>-1.40</td>
<td>-0.50</td>
</tr>
<tr>
<td>RBAR²</td>
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<td>0.4715</td>
<td>0.9860</td>
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</tr>
<tr>
<td>DW</td>
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<td>2.0864</td>
<td>2.1188</td>
<td>1.9669</td>
<td>2.0491</td>
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</tbody>
</table>

The first election period analysed is that between October 1959 and October 1964 when the Conservatives held office. However, data limitations mean that the estimation period begins in 1961(2).

At the commencement of this election period the Prime Minister was Harold Macmillan. He was forced to resign in October 1963 through ill-health and was succeeded by Sir Alec Douglas-Home. The average approval rating for the former in this election period was 53.7% while the latter achieved an average rating of 44.5% in the period up to the 1964 election.
The results in this period for the PM approval model are markedly similar to those found for the popularity lead model. The reason appears to be the fact the four quarters of approval deficit all occurred during the last seven quarters of this five year election period. In these same quarters the government was experiencing a popularity lead deficit. This contrasted with the first half of the election period when the government experienced a popularity lead surplus.

Both indicator models show a significant ideological effect on investment expenditures and net total expenditures whereby these expenditures were displaced downwards. Similarly, the time expansion variable is incorrectly signed in both indicator models for each expenditure class.

The Conservative government between 1959 and 1964 appears to have exerted downward pressure on investment expenditures and net total expenditures during periods of approval surplus. There are no significant opportunistic effects.

The PM approval indicator model shows no evidence of any significant effect on government expenditures during periods of approval deficit or surplus when Labour was in government between October 1964 and June 1970. There were in fact ten quarters of approval deficit compared to thirteen quarters of surplus. The average approval rating of Harold Wilson was 45.6%. The quarters of deficit are exclusively at the end of this period as were those quarters of popularity lead deficit. As in the popularity lead model only in the investment expenditure model is the ideological variable correctly signed.

The PM Approval indicator does not appear to be a relevant factor in the determination of government expenditures during the Labour government of the 1960s.

The third election period considered here is the Heath government which ruled from June 1970 to February 1974. The average approval rating of Edward Heath as Prime Minister was 37.4% while Harold Wilson enjoyed approval ratings as Leader of the Opposition of 49.4%. What is even more startling about Edward Heath's approval rating as PM is that in no quarter did it rise above the average value of 42.66%. Thus, in table 7.6 there is no ideological indicator effect. Interestingly, Edward Heath's approval ratings as Leader of the Opposition prior to becoming Prime Minister were even lower. Between 1965(3) and 1970(2), when leader of the Conservative Party in opposition, his average approval rating was 34.8%.
The approval expansion variable for the Heath government is significantly negative for investment and total expenditures. This infers that investment and total expenditures observe significant upward displacements the larger the approval deficit. The timing of the deficit appears to be less significant perhaps reflecting the fact that the deficit averaged 5.5% over the last eight quarters, little changed from the 5.1% of the first seven quarters.

The period of Conservative government between June 1970 and February 1974 is noteworthy for the approval rating of the Prime Minister Edward Heath not climbing above the critical value for this index. There is also evidence that investment expenditures increased in accordance with the size of the approval deficit.

The fourth period considered encompasses the election periods of February to October 1974 and October 1974 to May 1979. Of these twenty quarters five were defined as a PM approval deficit. The period began with Harold Wilson once again a Labour Prime Minister. However, James Callaghan became Prime Minister in April 1976 after Wilson resigned. The approval rating for Wilson was 45.9%, markedly similar to his previous period as Prime Minister, while that of Callaghan was 46.5%.

The ideological approval variable for current transfers, total and net total expenditures are significantly positive inferring that in periods of approval surplus these categories of expenditure saw an upward displacement. This was also found for the popularity lead ideological variable. This is not surprising given the close correspondence of periods of popularity lead and PM approval deficits and surpluses.

The ideological approval variable for current transfers, total and net total expenditures are significantly positive inferring that in periods of approval surplus these categories of expenditure saw an upward displacement. This was also found for the popularity lead ideological variable. This is not surprising given the close correspondence of periods of popularity lead and PM approval deficits and surpluses. In regard to opportunistic behaviour, the time expansion variable just reaches the 10% significance level in the model of investment expenditures. It is, however, negatively signed contrary to expectation. Nonetheless, the opportunistic variables are typically insignificant. In particular, the models of current transfers and total and net total expenditures suggest that there was a moderation of expenditure behaviour in periods defined as opportunistic as compared to periods defined as ideological.

The PM approval model of the period of Labour rule in the 1970s infers significant ideological behaviour in relation to current transfers and total and net total government expenditures. However, the opportunistic variables are typically insignificant. The results for this period match closely those from the popularity lead model.

The Conservative election success of May 1979 gave Britain its first woman Prime Minister. Her average approval rating during her first term in office was 39.7%, which is lower than that of previous Prime Ministers considered here with the
exception of Edward Heath. There were ten periods of approval surplus as opposed to seven periods of approval deficit. The latter all occurring in the middle of the election period.

In the periods of PM approval surplus the results show that consumption and current transfer expenditures and total expenditures saw upward displacements rather than the expected downward shift implied by an indicator surplus. These results are in contrast with those for the expectations' indicators. Expectations surpluses occurred exclusively towards the end of the election period. Thus, the results for the PM approval indicator appear to be caused by expenditure behaviour in that part of the election period immediately following election success. Unlike the ideological variable, none of the opportunistic variables are significant which again highlights something of a difference between periods of indicator deficit and surplus. However, the results for the PM approval model in this period are not in accordance with prior expectations.

In the Conservative period of government between 1979 and 1983 the PM approval model infers that in periods of indicator surplus there were increases in consumption and current transfer expenditures which are reflected in total. None of the opportunistic variables are significant in any of the expenditure models.

The Conservatives were re-elected in June 1983 with a majority of 144 seats. Margaret Thatcher's rating as PM between June 1983 and June 1987 was similar to that in the previous election period averaging 39.4%. Of these sixteen quarters, seven showed a PM approval surplus and nine a PM approval deficit. The latter were concentrated in the last ten quarters of this election period.

The results for this election period bear similarities to the previous election period in that there is a significant positive ideological variable for consumption and current transfer expenditures. This is also reflected in total and net total expenditures. Similarly, the opportunistic variables are typically insignificant although the time expansion variable in the consumption expenditure model is significantly positive. It would appear that the timing of the PM approval surpluses, occurring as they do predominantly in the earlier part of the election period, may explain these results which again are in contrast the expectations indicator models as well as the winner's index model.

The PM approval model for the period of Conservative rule between 1983 and 1987 gives similar results to the preceding period such that a positive ideological variable is found for classifications of expenditures. Here the exception is investment
expenditures. Again these results contrast with those of other indicator models. The opportunistic variables are typically insignificant.

Margaret Thatcher led the Conservatives to a third election success in June 1987. However, her approval ratings declined. Between 1989(4) and 1990(4) the approval rating of the PM averaged only 30.2%. She was succeeded by John Major. The approval rating for him as PM between 1991(1) and 1992(1) was 51.3%. Over the period as a whole there were ten quarters of PM approval surplus and nine quarters of PM approval deficit. These nine were the last nine quarters in which Margaret Thatcher was Prime Minister.

The ideological variable is significant in two expenditure models. In the model of current transfers it is positively signed indicating that a larger PM approval surplus is associated with an upward displacement in current transfers. In the total expenditure model it is negatively signed such that an approval surplus is associated with a downward displacement in total expenditures. The latter accords with partisanship.

The indicator expansion variable is significantly negative in the investment expenditure model such that larger PM approval deficits have led to increases in investment expenditures. The time expansion variable is also significant and correctly signed in the model of consumption expenditures. Deficits further into the election period have caused consumption expenditures to rise. However, for total expenditures the time expansion variable is negatively signed so that deficits further in to the period are associated with a decline in total expenditures.

In the Conservative period of rule between 1987 and 1992 John Major succeeded Margaret Thatcher following a fall in the approval ratings of the latter. During PM approval surplus there is evidence of an increase in current transfers but a decline in total expenditures. The indicator expansion variable is significant and correctly signed in the investment expenditures model while the time expansion variable is significant and correctly signed in the consumption expenditures model. The latter variable is, however, significant and wrongly signed in relation to total expenditures.

7.2.7 Summary

Section 7.2 has dealt with six alternative indicators. Different indicators will imply a different relative mix of ideological as opposed to opportunistic behaviour. This can be seen from considering figures 7.1 to 7.4 in the appendix to the chapter.
which show the values of the indicator differentials. The results from the analysis of specific indicators shows that different re-election indicators are more significant factors than alternative re-election indicators at different moments in time. This includes the popularity lead indicator, the indicator used by Frey and Schneider. The popularity lead and PM approval ideological variable perform well in the expenditure models for the period of Labour rule between February 1974 and May 1979. The ideological variable in the expectations models perform well in the three Conservative election periods since 1979. The ideological variable is always correctly signed for all expenditures, except consumption, in the three expectations models. This is also true of the winner's index model, the ideological variable performing well in the last two periods of Conservative rule analysed. In contrast, the opportunistic variables across model types were typically either insignificant or wrongly signed.

The results also show that Conservative governments, particularly those since 1979, have been reluctant to make cuts into public sector consumption when experiencing an indicator surplus. They have been less reticent in relation to investment expenditures. This support the concept of the visibility hypothesis.

The analysis in 7.2 leads us to conclude that government’s reaction function cannot be defined solely in terms of one re-election indicator alone. Government would appear more likely to react to a re-election index which comprises the individual re-election indicators. In section 7.3 we compare the results from estimating a government expenditure reaction function using a simple re-election index as opposed to the popularity lead indicator. In section 7.4 we argue that there is a need to consider more carefully those constraints on government's reaction to the re-election differential. In effect a series of qualifying indicators, both political and economic, lead to a qualified differential. These qualifying indicators while not directly revealing government's likelihood of election success are important in determining both behavioural type and its magnitude. Thus, in section 7.4 we will begin to discuss the interaction of re-election indicators and qualifying indicators.

### 7.3 Re-election differential

One step in developing conventional partisan theory involves considering government’s reaction not to a single re-election indicator but to a re-election index from which can be derived a re-election differential. In this section we compare the
results for the period of Conservative rule since 1979 of expenditure models where a simple re-election differential is used rather than the popularity lead. The re-election differential is derived from the popularity lead index, the three expectations' indices, the winner's index and the PM approval index. Thus, it was derived from four types of indicator. For each index the average value was taken for the period 1979(2) to 1993(1). This was then used to calculate a differential for each of these re-election indicators. Each indicator type was then given an equal weight of one-quarter with the three expectations indicators each given a weight of one-third within the expectations indicator type. In comparing those results from the simple re-election differential model with the popularity lead model, the popularity lead model makes use of the average value of the popularity lead index for the period 1979(2) to 1993(1).9

Tables 7.7 to 7.11 below show the results using the Cochrane-Orcutt method of order 1 for the various categories of expenditures. The estimation period is 1979(3) to 1993(1). In this period the tables show that none of the popularity lead derived variables are statistically significant. Indeed, the Conservative ideological variable is positively signed in all the estimated expenditure models. In contrast the ideological variable is both negatively signed and statistically significant in all the expenditure models where the simple re-election index is used. The results for the opportunistic variables are less supportive with one of the opportunistic variables incorrectly signed and significant in all expenditure models except net total expenditures. Typically, the time expansion variable infers that a re-election differential further into the election period is negatively associated with the level of expenditures. However, the explanatory power of the re-election index model is greater than that of the popularity lead index for all the expenditure models.10

9 The critical popularity lead value is 0.26.
10 The explanatory power of the investment model is not significantly greater than zero at both the 5% and 1% levels when using the popularity lead index. When using the simple re-election index $R^2$ is significantly greater than zero at the 5% level but not the 1% level.
Table 7.7: Popularity Lead and Simple Re-election Index (CON)

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<tr>
<th>Popularity Lead</th>
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</thead>
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<td>INT</td>
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<td>CON(1)</td>
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</tr>
<tr>
<td>PE(1)</td>
<td>-1.9436</td>
</tr>
<tr>
<td>TE(1)</td>
<td>5.7669</td>
</tr>
<tr>
<td>WAGE(1)</td>
<td>0.0202</td>
</tr>
<tr>
<td>ACA(1)</td>
<td>0.0252</td>
</tr>
<tr>
<td>FDEF(-1)</td>
<td>-0.0223</td>
</tr>
</tbody>
</table>

\[ RBAR^2 = 0.9606 \quad DW = 2.0947 \]

Table 7.8: Popularity Lead and Simple Re-election Index (INV)

<table>
<thead>
<tr>
<th>Popularity Lead</th>
<th>Re-election Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>INT</td>
<td>541.6328</td>
</tr>
<tr>
<td>INV(-1)</td>
<td>-0.0350</td>
</tr>
<tr>
<td>IDC(-1)</td>
<td>5.4829</td>
</tr>
<tr>
<td>PE(-1)</td>
<td>-17.7838</td>
</tr>
<tr>
<td>TE(-1)</td>
<td>19.3565</td>
</tr>
<tr>
<td>WAGE(-1)</td>
<td>0.2247</td>
</tr>
<tr>
<td>ACA(-1)</td>
<td>-0.0370</td>
</tr>
<tr>
<td>FDEF(-1)</td>
<td>0.0110</td>
</tr>
</tbody>
</table>

\[ RBAR^2 = 0.1052 \quad DW = 1.9577 \]

Table 7.9: Popularity Lead and Simple Re-election Index (CUT)

<table>
<thead>
<tr>
<th>Popularity Lead</th>
<th>Re-election Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>INT</td>
<td>-861.8714</td>
</tr>
<tr>
<td>CUT(-1)</td>
<td>0.4239</td>
</tr>
<tr>
<td>IDC(-1)</td>
<td>8.4871</td>
</tr>
<tr>
<td>PE(-1)</td>
<td>-9.2769</td>
</tr>
<tr>
<td>TE(-1)</td>
<td>7.3024</td>
</tr>
<tr>
<td>WAGE(-1)</td>
<td>0.1277</td>
</tr>
<tr>
<td>ACA(-1)</td>
<td>0.0824</td>
</tr>
<tr>
<td>FDEF(-1)</td>
<td>0.1048</td>
</tr>
<tr>
<td>URATE(-1)</td>
<td>215.5006</td>
</tr>
</tbody>
</table>

\[ RBAR^2 = 0.8660 \quad DW = 2.0378 \]
While the re-election differential can be argued to be an improvement on the popularity lead differential, we need to consider how further indicators qualify the value of the re-election differential and thus government's response. It is to the effect of qualifying indicators that we turn.

7.4 How to respond?

One re-election indicator is insufficient in the modelling of government expenditure policy. Inevitably one has to talk in terms of a re-election index. It has been repeatedly said that the popularity lead index is a noisy indicator. It is susceptible to voter anger, which may or may not affect the incumbent's likelihood of being re-elected, and to a voter reminder which is the means by which voters are able to discipline the incumbent government given the UK's representative democracy. The role of an expectations' indicator in reflecting government's re-election chances is
noted by David Smith in an article in the Sunday Times, 5th June 1994. In relation to
the Conservative's election success of 1992 he suggests:

The election result is not, with hindsight hard to explain. The chart (see
figure 6.2)... shows personal economic expectations, defined by the
balance of responses to the Gallup question, "How do you think the
financial situation of your household will change over the next 12
months?", improving sharply at the last election.

In 7.2 where single re-election indicators were employed the score hypothesis
function was still operative. An indicator deficit or a negative indicator differential
brought forth an economic response in order that changes in economic conditions led
to a change in re-election indicator values. By introducing the re-election index we are
arguing that government will be making use of a series of alternative re-election
indicators. For instance, the winner's index and leadership approval indices can convey
signals relating to the perceived image of political parties and thus their electability.
This is important because in reflecting upon its re-election chances government will
wish to discern between those issues that are specifically economic and those that are
specifically political.

Although we have shown in section 7.4, for the period 1979 to 1993, that a re-
election index out-performs a single re-election indicator (popularity lead), it seems
inevitable that government will not react to re-election indicators alone. It will have a
series of constraints, again both economic and political. It will refer to other indicators
which although not re-election indicators are part of the universal set of indicators
which qualify government's expenditure policy. The universal set of indicators is thus
comprised by both re-election indicators and by qualifying indicators. Consequently,
government is reacting to what we call a qualified differential which refers to the net
outcome of the re-election differential and the qualifying indicators.

7.4.1 The urgent problem

While there is an inevitable spill-over between the economic and non-economic
components of the re-election index the separation is important since it acknowledges
that both economic and non-economic economic matters affect the value of the re-
election index. Indeed the relative importance of economic and non-economic issues
will be time dependent which will contribute to the time dependency nature of
traditional score hypothesis based popularity (voting intention) indices. Further, it
suggests that there is no pre-determined reason why government's reaction should be purely economics.

Given the value of the re-election index, the economic importance index aids government in determining whether it is economic or non-economic affairs that would have led to changes in the re-election index. The magnitude of changes in government expenditures will thus depend in part upon the economic importance index. Presumably, a lower value of the index, ceteris paribus, will be reflected in reduced fluctuations in government expenditures.

We have calculated the economic importance index from Gallup opinion polls that ask the question "What would you say is the most urgent problem facing the country at the present time?". From these, those who replied "cost of living/prices", "unemployment" or "other economic problems" can be grouped together as actually stating that an economic problem predominated. We then expressed this total as a proportion of all replies, so that the higher the economic importance index value the greater the proportion who indicated that an economic problem was most urgent.

The economic importance index can vary between 0 and 1, with 1 indicating that all the people questioned by Gallup had identified an economic problem as most urgent. It is illustrated in figure 7.5 in the appendix to the chapter. The average value of this index between 1970(4) and 1993(4) was 0.66, so that typically 66% of respondents had stated that an economic problem was most urgent. This figure of 66% can be broken down to reveal that, in this period, an average of 38.4% identified unemployment, 22.7% prices and 5% other economic problems as the most urgent problem.

It is not our belief that the economic importance index alone determines the magnitude of government's expenditure reaction. The economic importance index has to be considered in conjunction with re-election indicators and other qualifying indicators. Although not a re-election indicator, the economic importance index does belong to the universal set of indicators which we believe have to be analysed within a partisan framework. Moreover, there will be an inter-relationship between the re-election index and the economic importance index. This is particularly so since the re-election index contains expectations' indices that look at the predicted direction in the next twelve months of the general economic situation, household finances and the number unemployed.

\[\text{The percentages are taken from the full sample which includes "don't knows".}\]
The economic importance index qualifies the nature of government expenditure policy resulting from the re-election index. The qualification results from the composition of the index as well as its magnitude. Its composition is directly attributable to the replies to the most urgent problem question. The qualified effect of the re-election index on expenditures is also the result of replies to the question, "Which party do you think can best handle that problem (the most urgent problem facing the country?)". The answers to this question are taken not to represent a recognised re-election index. Instead we treat it similarly to the economic importance index as a further indicator in the universal set of indicators.

Consider the following scenario in light of Swank (1991). The economic importance index is seen to be taking a high value with one economic variable the predominant concern. Given a partisan framework, if the incumbent is recognised as prioritising this issue then it might have a favourable effect on its re-election chances.

The replies to the question of the best party to deal with the most urgent problem may nonetheless be affected by voters' perceptions of competence. Thus, a political party will not be identified by the same proportion of respondents as the best party for a given problem, in otherwise identical situations, if their perceived economic competence relative to that of the other parties is itself variable. This would give government reason to consider a re-election index differential, the economic importance index and what we refer to as the urgent problem capability differential before determining any economic response in the form of government expenditure policy.

The urgent problem capability differential is simply the percentage of respondents who declare that the government party is the best in dealing with the most urgent problem, regardless of what they state as the most urgent problem, less the percentage who declare that the main opposition party is best at dealing with the most urgent problem.

Figure 7.6 shows the percentages of respondents who declared Labour or the Conservatives as the best party to deal with the most urgent problem. The respective average percentages for the period 1970(4) to 1993(4) are 32.1% for Labour and 29.7% for the Conservatives. We will recall that in this same period on average 66.1% of respondents identified an economic problem as most urgent, with unemployment identified by an average of 38.4% of respondents and prices by 22.7%. Thus, in a partisan context with Labour as the party of the Left prioritising unemployment over prices and the Conservatives as the party of the Right prioritising prices over unemployment we should not be surprised that Labour is identified by a higher
percentage of respondents as being the best party to deal with the most urgent problem, regardless of that problem.

The average value of the urgent problem capability differential took a value between 1970(4) and 1993(4) of -3.6%. The index is plotted in figure 7.7 and is directly derivable from the information contained in figure 7.6. A value of -3.6% infers that 3.6% more people identified the main opposition party as better at dealing with the most urgent problem than identified the government. However, the urgent problem capability differential is more meaningful when used in conjunction with further information. More specifically, it should be used alongside information concerning the composition of the most urgent problem. Thus, the economic importance index comprises three economic importance components: unemployment, price and other economic problems. These are plotted in figure 7.8.

The important point here is that government need not be excessively concerned about a negative urgent problem capability differential if the various importance indices suggest that the predominant economic problem is that which is associated with the main opposition party. However, the overall impact on expenditures is dependent upon the universal set of indicators of which the re-election index is the most important.

Before extending our partisan-indicator model further we consider the way in which the current version may work and thus affect government expenditures. We will illustrate this with reference to the most recent election - that of April, 9th, 1992. The model asks that we first consider the re-election index. We have thus far suggested six possible components: a voting intention index, three expectations' indices, the winner's index and the PM approval index.

The popularity lead indicator gave rise to a positive differential in five of the six quarters prior to the 1992 election with positive differentials of up to 6%.” The general economic situation expectations' index gave rise to a positive differential for the four quarters prior to the election. The surplus was in the range of between 11% and 26%. The value of the financial expectations' index similarly showed a positive differential for the four quarters prior to the election, with a surplus of between 4% and 11%. These three indicators thus all infer ideological behaviour.

The third expectations' index offered government a different signal. The value of the unemployment expectations' indicator for the six quarters prior to the election

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12 Figure 2.3 plotted the percentages of respondents who identified unemployment and prices as the top urgent problem.

13 The positive differentials in 1990(4) and 1991(4) were however only 0.7% and 0.03% respectively.
quarter meant that its differential was continually negative, with deficits in the range between -15% and -31%. This implies opportunistic behaviour and thus expansionary policy. This re-election indicator could, in conjunction with other indicators, lead government to question its response. We will return to this point shortly.

The value of the winner's index was such that the seven quarters prior to the election were described by a positive differential. The differential varied from between 1% and 10%. Indeed only two of the quarters in the election period between June 1987 and April 1993 had a negative winner's index differential. The PM approval indicator was described by a positive differential in the five quarters prior to the election. This followed the change of leader in the fourth quarter of 1990. Thus, both these re-election indicators allow government to act ideologically.

The winner's index and PM leadership differentials may explain why in 1992(1) the urgent problem capability index differential was only -1%. This was despite nearly three times as many individuals identifying unemployment as the most urgent problem than did prices.

While five of the six re-election indicator differentials suggest ideological behaviour, government must judge the importance of the unemployment expectations differential. To do this government is likely to make use of that information contained in the economic importance index. This index was on an upward trend prior to the 1992 election as can be seen in figure 7.5. The value of the index was 0.42 in 1991(1) which rose to 0.67 in 1992(1).

The economic importance index needs to be considered in conjunction with the urgent problem capability differential and individual economic importance indices. The urgent problem capability index, we recall, averaged a value of -3.6% between 1970(4) and 1993(4). While fluctuating in the period 1991(1) and 1992(1) between values of 12% and -6.5%, with a deficit of -1% in the quarter prior to the election\textsuperscript{14}, the average value of these five quarters was found to be -0.1%. However, the importance of the average deficit and the deficit in the first quarter of 1992 has to be judged in the context of the economic importance indices in figure 7.8. Evidently unemployment was increasing in importance as an urgent problem. In 1991(1) 15% of respondents identified unemployment and 20.3% prices as the most urgent problem. However, by 1992(1) the respective figures were 40.7% and 14.7%.

\textsuperscript{14} 32.3% of respondents identified Labour as the best party to deal with the most urgent problem, while 31.3% identified the Conservatives.
The crucial point here is that although unemployment was named as the most urgent problem by a higher proportion of people than any other problem (economic or non-economic), the Conservative government’s urgent problem capability differential was only just negative in 1992(1) standing at -1%. This inference is that government would not be excessively concerned about unemployment affecting its re-election chances. This is precisely the reason that the economic importance index and urgent problem capability differential are not in themselves re-election indicators. Nonetheless, they do provide vital information to supplement and indeed qualify the behaviour attributable to government expenditure policy, where this can refer to both the composition and total of expenditures.

The partisan-indicator model, in its current state, suggests that ideological behaviour was a feasible option for government to pursue in this pre-election period. In this regard the indicators supplementing the information from the re-election differential worked to reinforce its information signal, but clearly this need not be the case.

7.4.2 Economics and politics

It is important to restate that the indicator model works in a partisan framework since this has important implications in interpreting the signals from the universal set of indicators. It is also noteworthy that we have only considered the effect on expenditures from opinion poll indicators. Within the universal set of indicators must lie political and economic indicators. The political indicators could refer to the parliamentary majority of the governing party which is likely to have a direct effect on the magnitude of ideological and opportunistic manipulations of government expenditures.

The partisan indicator model needs to be integrated within the appropriate political context. The UK is essentially a partisan parliamentary system. The sum of the MPs returned from Northern Ireland plus those of Plaid Cymru in Wales and the Scottish Nationalist Party in April 1992 was 24. This was out of a total of 651 MPs and is equivalent to 3.7% of MPs. 11

11 In Northern Ireland parties are typically based on a Loyalist or Nationalist identity. In the 1992 election of the 17 MPs elected from the six counties, 9 were Ulster Unionist, 3 Democratic Unionist, 1 was a Popular Unionist and 4 were from the SDLP. The Conservative Party offered 11 candidates none of whom were elected. In Wales, the nationalist party Plaid Cymru offered 38 candidates (3 jointly with the Green Party), 4 of which were elected to parliament. In Scotland, the Scottish Nationalist Party (SNP) offered 72 candidates and returned 3 MPs.
Table 7.12 shows the percentage of seats in the UK parliament that the ruling political party has achieved at the last ten elections. Indicated in brackets are the number of seats in the UK parliament.

Table 7.12: Percentage of seats obtained by ruling party

<table>
<thead>
<tr>
<th>Date</th>
<th>Percentage</th>
<th>Seats</th>
</tr>
</thead>
<tbody>
<tr>
<td>October 8th, 1959</td>
<td>57.94</td>
<td>(630)</td>
</tr>
<tr>
<td>October 15th, 1964</td>
<td>50.32</td>
<td>(630)</td>
</tr>
<tr>
<td>March 31st, 1966</td>
<td>57.62</td>
<td>(630)</td>
</tr>
<tr>
<td>June 18th, 1970</td>
<td>52.38</td>
<td>(630)</td>
</tr>
<tr>
<td>February 28th, 1974</td>
<td>47.40</td>
<td>(630)</td>
</tr>
<tr>
<td>October 10th, 1974</td>
<td>50.23</td>
<td>(635)</td>
</tr>
<tr>
<td>May 3rd, 1979</td>
<td>53.39</td>
<td>(635)</td>
</tr>
<tr>
<td>June 9th, 1983</td>
<td>61.08</td>
<td>(650)</td>
</tr>
<tr>
<td>June 11th, 1987</td>
<td>57.85</td>
<td>(650)</td>
</tr>
<tr>
<td>April 9th, 1992</td>
<td>51.69</td>
<td>(651)</td>
</tr>
</tbody>
</table>

Table 7.12 is useful in qualifying the magnitude of ideological and opportunistic behaviour arising from the re-election index differential. A larger parliamentary majority at the commencement of the election period, even allowing for future by-election defeats, is likely to allow for greater ideological behaviour over the election period.

A key feature of the UK political system is the flexible election date. Although the position within the election period is captured by a variable critical re-election index, it is, however, important to note that the imminence of an election may still have an important influence. It may affect expenditure priorities, so although as an aggregate expenditure policy could be deemed as opportunistic or ideological there may be subtle changes in the composition of expenditures. Therefore, the timing of the election can be an important qualifying factor beyond its influence in determining the value of the re-election differential.

Given the partisan framework, unemployment and inflation become important economic indicators in determining expenditure policy. Their values are both the goal of policy and an indicator of the desired public expenditure policy. Consequently, the effect of the re-election differential is qualified by a party's ideology. This qualification will be affected by the importance or weight attached by a political party to its partisan ideals and by the partisan divergence between the party of the Left and that of the Right. While the economic indicator has a partisan core in terms of unemployment and inflation, the economic indicator includes other variables that will be affected to varying degrees by partisanship itself and the behaviour deriving from partisanship. For instance, it would contain values relating to the balance of payments, the government's financial deficit, the distribution of income, monetary variables and the level and composition of expenditures. Furthermore, in the same way that some government...
expenditures can be more politically expedient than others, some government expenditures are more ideologically appealing than others.

Before acknowledging further influences in the partisan indicator model we again return to our illustration of the period prior to the April 1992 election. We have argued that the re-election index differential when considered in conjunction with the economic importance index (including its components), and with the urgent problem capability differential may have led to ideologically motivated policies.

The government gained a majority of 102 seats in the 1987 election. It lost seven MPs in by-elections over the election period. If the government considered the size of this majority as one which would be difficult for the main opposition party to overturn at the next election, then this may have favoured more ideological behaviour than a situation where the government's majority was much smaller. Given the inevitable proximity of the election in the period we are considering (the 1992 election occurred in the fifth year of tenure), there may have been some dampening of ideological behaviour or some re-ordering of priorities.

Positive differentials infer under Conservative governments a tightening of expenditures. The Frey and Schneider constraints of the current account of the balance of payments and the financial deficit are more relevant to expansionary conditions so that these indicators were unlikely to have acted to qualify ideological behaviour. Indeed, if one looks at the respective figures in the first quarter of 1991 for the current account balance and financial deficit of -£1.8b and £1.2b government would have been encouraged to tighten expenditures in order to dampen import demand and cut the financial deficit. A similar reaction given the unemployment and inflation figures might have been expected. In 1991(1) UK unemployment was close to the OECD average of 6.5% standing at 6.7%. However, the UK rate of inflation was over 3 percentage points higher than the OECD average with respective figures of 8.6% and 5.3%.

The economic and political considerations alluded to here appear not to refute the ideological option, although the proximity of the election cannot be dismissed outright. This general conclusion is supported by the evidence from results tables 5.1 to 5.5 in Chapter 5. Prior to the 1992 election the government did not engage in an expansionary expenditure policy. Indeed, there is evidence that total and net total expenditures significantly fell in this period. What is needed is to consider disaggregated data to see how the proximity of an election may have affected expenditure priorities and whether there was targeting of specific expenditures.
7.5 Conclusions

The chapter has gone some way in building a more comprehensive partisan indicator model. The basis has been to consider what re-election indicators could constitute a re-election index. We have identified four possible indicator types within the re-election index:

(i) The government's popularity lead (or popularity level)
(ii) Expectations' indicators
(iii) The winner's index
(iv) Leadership approval

From the re-election index we can imagine that it is possible to derive a re-election differential which infers ideological or opportunistic behaviour. The components of the re-election index have not only to be set against the other components of the re-election index but also other indicators in the universal set of indicators. For instance, in the period immediate to the April 1992 election only the unemployment expectations' indicator gave rise to a negative differential. When this index was judged in relation to the economic importance index, the component economic importance indicators and the urgent problem capability differential it appeared that its importance was lessened. This stresses the important qualifying effects of further indicators which are an integral part of the partisan indicator model.

In the chapter we have identified six further indicators which have important qualifying effects on expenditure behaviour:

(i) The economic importance index
(ii) Individual economic importance indices
(iii) Urgent problem capability differential
(iv) Parliamentary majority
(v) Position in the election period
(vi) Economic indicators

The appendix table A7.1 summarises some of those indicators identified in Chapter 7 relevant to the partisan indicator model. We have taken nine election periods and calculated, where data allows, the average values of the relevant indicators.
APPENDIX TO CHAPTER 7

Table A7.1 Summary of indicators.

Figure 7.1 Expected winners of the next election (Conservative or Labour), 1958 - 1994.

Figure 7.2 The winner's index (the likeliness of the incumbent party of government being re-elected), 1958 - 1994.

Figure 7.3 Indicator differentials: (i) Popularity lead; (ii) Winner's index, 1959 - 1993.

Figure 7.4 Indicator differentials: (i) General economic situation expectations; (ii) Household financial situation expectations; (iii) National unemployment expectations, 1975 - 1993.

Figure 7.5 The Economic Importance Index (the identification of an economic issue as the most urgent problem facing the country), 1970 - 1994.

Figure 7.6 The best party to deal with the most urgent problem (Conservative or Labour), 1970 - 1994.

Figure 7.7 The Urgent Problem Capability Differential, 1970 - 1994.

Figure 7.8 The Economic Importance Indices: (i) Price importance index; (ii) Unemployment importance index; (iii) Other economic problems importance index, 1970 - 1994.

Figure 7.9 Approval Ratings: (i) The Prime Minister; (ii) The Leader of the Opposition, 1958 - 1994.

Figure 7.10 The Leadership Differential (differential of PM approval over Leader of the Opposition approval), 1958 - 1994.

Sources:
Gallup Political and Economic Index (Various Editions), Gallup Opinion Polls Ltd, London.

Figure 7.1: Popularity Lead Indicator Surplus
FIGURE 7.2

EXPECTATIONS INDICATOR SURPLUS

- GSE - FE - UE
FIGURE 7.3

WINNER'S INDEX INDICATOR SURPLUS
FIGURE 7.4

PM INDICATOR SURPLUS

%
FIGURE 7.6

BEST PARTY TO DEAL WITH MOST URGENT PROBLEM

- Conservatives
- Labour
URGENT PROBLEM CAPABILITY DIFFERENTIAL

FIGURE 7.7
FIGURE 7.8

THE ECONOMIC IMPORTANCE INDICES

PRICES • URATE • OTHER

%
CHAPTER 8

THE INTERNATIONALISATION OF POLITICAL BUSINESS CYCLES

8.1 The partisan indicator model

Chapter 7 introduced the partisan indicator model. This explores how a series of indicators, as opposed to a solitary indicator, within a partisan environment influence the composition and level of general government expenditures. Of these, some are re-election indicators and go to comprise the re-election index. The re-election index as an aggregate gives rise to a positive or negative re-election differential. This differential in conjunction with the remaining indicators in the universal set of indicators determines the proximity of government expenditure policy to the party's ideal. Those indicators not in the re-election index are qualifying indicators. It is the net effect of the re-election index and the qualifying indicators that help to shape government expenditures.

The partisan indicator model takes there to be a reactive component in government expenditure policy. Government will use the re-election index to gauge its re-election probability. The qualifying indicators then act as a further source of information and could equally be referred to as precautionary indicators in that they modify the behaviour implied by the re-election differential by drawing the government's attention to the benefits and problems that may entail as a result of this behaviour.

The definitions of ideology and opportunism are defined in terms of an ideological range within which lies a bliss point. Each party's bliss point is that expenditure policy which gives rise to their highest utility level. Movements away from the bliss point infer losses in utility. The ideological range represents a boundary around the bliss point which a political party perceives as offering reasonable returns in utility when it is free from re-election constraints. Outside these bounds the utility return is deemed less than reasonable. The ideological range could be defined in terms of the rate of growth in government expenditures, the mix of expenditures, the relative size of government expenditures or some combination of these.
What leads government to move outside their ideological range is the fact that the government places some weight on being re-elected. If it did not then we would have a persistent pursuit of ideological policies.

Consider figure 8.1 in the appendix to the chapter. It is assumed that the utility function of the two parties is defined over the growth rate of real expenditures, \( g \), and that preferences are single peaked. \( C^* \) and \( L^* \) are the bliss point expenditure policies around which lies the ideological range. \( C_L \) and \( C_U \) are the lower and upper bounds of the Conservative's ideological range respectively. Similarly, \( L_L \) and \( L_U \) are the lower and upper bounds of Labour's ideological range respectively.

Outside of the ideological range behaviour is opportunistic. We believe the desire of each party to show that they can manage both sides of the Phillips curve, (the Phillips curve demonstration effect), means that opportunism will lead to that expenditure behaviour whereby the Conservatives enact an expenditure growth rate in excess of the ideological range (\( >C_L \)) and Labour a growth rate below that defined by the ideological range (\( <L_L \)). Similarly, movements within the ideological range will tend to a line from the bliss point to the opportunistic fringe such that a weakening of the ideological position within the ideological range sees the Conservatives increasing the rate of growth of expenditures and Labour decreasing the rate of growth. Nonetheless, figure 8.1 does show the possibility that opportunistic behaviour could see the Conservatives decreasing expenditures at an increased rate and Labour increasing expenditures at an increased rate. Further, a diminution of ideological behaviour could see Labour increasing the rate of growth of expenditures and the Conservatives decreasing the rate of growth. It is the universal set of indicators that decides.

The re-election differential of the partisan indicator model is inferred from a basket of re-election indicators and not the popularity lead index alone. By taking a basket of re-election indicators there is the possibility that an individual component can exhibit a differential signed differently to that of the overall basket. The importance of the individual re-election indicators has to be considered in conjunction with the other re-election indicators and with the qualifying indicators. For instance, in the last chapter we found that a negative unemployment expectations differential was the exception of the re-election indicators in the period prior to the 1992 election. We argued that it was necessary to consider this indicator in conjunction with an overall economic importance index, the unemployment importance index and the urgent problem capability index. Given such considerations the importance of the negative unemployment expectations differential was lessened.
Expenditure behaviour is thus influenced by the re-election differential and the qualifying indicators. The net effect is a qualified differential. A negative qualified differential implies opportunistic expenditure behaviour and, hence, behaviour outside the ideological range. A positive qualified differential implies ideological behaviour and, hence, behaviour inside the ideological range. The larger in absolute terms is the negative qualified differential the further from the ideological range and the ideological bliss point is expenditure behaviour. Conversely, the larger any positive qualified differential the closer is expenditure policy to the bliss point. High positive qualified differentials infer convergence on the bliss point. Improvements in the value of qualified differentials will always infer a movement towards the bliss point. However, if the qualified differential remains negative, behaviour remains opportunistic because the expenditure growth rate (or an alternative description of expenditure policy) does not lie inside the ideological range. Similarly, the qualified differential may deteriorate and there is a movement away from the ideological bliss point. Nonetheless, so long as policy remains in the ideological range it remains ideological.

The qualifying indicators can lessen or heighten the opportunistic or ideological signals that the re-election differential sends and at the margin move expenditure policy in or out of the ideological range. Low absolute values of the re-election index have a greater chance of being qualified to such an extent that expenditure behaviour is not of the type that the re-election index alone would infer. Governments can attach a variable weight to the qualifying indicators individually and collectively. However, in the partisan indicator model, unlike the popularity lead indicator model, some weight is placed on qualifying indicators.

When reference is made within the context of the partisan indicator model to a relaxation of re-election constraint the implication is of a movement towards the expenditure bliss point. The re-election constraint is synonymous with the qualified differential. A relaxation of the constraint does not necessarily infer ideological behaviour. It may infer a less opportunistic oriented policy and thus higher government utility derived from the new expenditure policy, although not within the bounds of the ideological range. A loosening of the re-election constraint could see a switch from opportunistic to ideological behaviour. In this case expenditure policy would have moved into the bounds of the ideological range.

In the partisan indicator, as in the popularity lead model, there is a reactive component to government expenditure policy. It is to what government reacts that is one of the primary distinctions between the two model types. Government perceives its re-election as dependent upon the re-election index, the relations between the
indicators in the re-election index and the qualifying indicators. Government expenditure does not merely accord with the score hypothesis. Issues such as party ideology, leadership, economic competence, the most urgent problem and expectations are relevant. Government can not merely expand government expenditures and expect to increase its probability of re-election. Moreover, in defining opportunistic behaviour this is taken to refer to policy which lies outside the ideological range. While the universal set of indicators would be the ultimate determinant of what constituted a switch to opportunistic or ideological behaviour or the direction of movement within the ideological range, the tendency would be for the Conservatives to increase the rate of growth of expenditures and Labour to decrease the rate of growth of expenditures. The latter conflicts with the score hypothesis. The assumption of a straightforward relationship between popularity leads (or levels) and economic outcomes is removed.

Although the partisan indicator model does assume that government can have effects on economic outcomes through fiscal (and monetary policy)\(^1\) and consequently affect the re-election constraint, the introduction of a re-election index and of qualifying indicators conditions government response. Thus, the difference between the response to a qualified differential as opposed to a non-qualified differential is not just in the magnitude of opportunistic or ideological behaviour, or indeed in determining whether expenditure policy lies within the ideological range, but in the make-up and composition of policy. If the qualified differential infers an increase in the rate of growth of expenditures, information primarily from the qualifying indicators could lead to the emphasis of government switching between consumption and investment expenditures. If inflationary concerns are evident and investment expenditures are seen as less inflationary than consumption expenditures, then the composition of government expenditures is likely to reflect this. Conversely, if the qualified differential infers a decrease in expenditures and inflationary concerns were not evident, then the government seeing the potential for greater savings from capital items would bias expenditures away from investment expenditures. Certainly, in the 1980s in which investment expenditures averaged 4.4% of total expenditures as compared to 9.6% in the previous decade inflationary concerns were very low. While in the 1970s inflation was a more urgent problem than unemployment 84% of the time, in the 1980s this figure was just 7.5% of the time.

Political business cycle models ought to reflect the realities of economic and political interdependence. This is true of the partisan indicator model. This chapter will begin to address issues of internationalisation that have been underplayed in the

\(^{1}\) The justifications for which are explored in 8.3.
literature. The approach taken is a non-technical one. Future research and modelling is undoubtedly needed, particularly in order that empirical validation can commence.

Given the reluctance of political business cycle theorists to consider how domestically-focused politico-economic models are affected by external economic and political considerations we will consider certain aspects of these externalities in relation not only to the partisan indicator model but also the pure and rational political business cycle theories, strong partisan theory, rational partisan theory and the popularity (lead) indicator model. In essence, we will consider economic interdependence by assuming that there are two integrated economies where one is dominant and the other is weaker. In looking at political interdependence the main consideration will be of overlapping election periods.

8.2 Internationalisation

The principal political business cycle models are either dominated by domestic considerations or inadequately deal with political and economic interdependencies. There has been an effort to consider the importance of different political systems without addressing the fact that such differences will affect the domestic political business cycle model. For instance, Pommerehne (1978, 1990) and Pommerehne and Schneider (1978) consider how the nature of the voting system affects government expenditures. In particular, the focus was on direct as opposed to representative democracies. Roubini and Sachs (1989a,b) analyse possible differences in the public finances of countries with coalition as opposed to single-party dominated governments. We address some of the questions of how interdependencies in the political and economic systems affect the implications of the existing domestically-focused political business cycle models before relating to the partisan indicator model in section 8.4.

By addressing the increasing integration of economies and its implications for the political business cycle model we internationalise the political business cycle.

To initiate our discussion of internationalisation we will make two important assumptions. Firstly, we shall assume that there are two integrated economies, A and B. A is the dominant economic power. In the European context this could be Germany. Country B is the weaker economy whose economic outcomes are significantly affected by those in country A. Thus could be the UK. Secondly, we shall assume that both countries have fixed election periods of equivalent length which
overlap. By making these two assumptions we have introduced two *externalities* into
the domestic political business cycle model.

### 8.2.1 The pure political business cycle

The domestic pure political business cycle is solely concerned with opportunism
such that partisan concerns are ignored. The score hypothesis is assumed so that
popularity can be manipulated by changes in economic outcomes via government
instruments. In this environment *partisan externalities* can be ignored. Of interest are
only *opportunistic externalities*. We make the heroic assumption that the score
hypothesis relation in both countries is equivalent in the sense that changes in
economic outcomes give rise to equivalent changes in incumbent popularity. Let us
assume that country A is in its pre-election period. Their incumbent has relaxed either
monetary or fiscal policy or some combination of both in order to take advantage of
the short-run Phillips curve relationship. This expansion then feeds into the economic
system of country B.

Assume that country B is in the midpoint of its election period. The effect on B
of the economic expansion in country A is to induce a movement along the relevant
short-run Phillips curve inducing increased popularity. The danger is that the
readjustment of inflationary expectations will increase unemployment as wage
bargainers adjust nominal wage demands in order to maintain the value of real wages.
In effect, economy B is higher up the long-run Phillips curve than in the domestically-
focused pure political business cycle model. Since a pre-election expansion can attain
higher utility levels starting from further down the long-run Phillips curve, then if
government was to continue to conduct policy in the identical manner described in the
domestically focused pure political business cycle model it chances of being re-elected
are reduced.

With inflation higher and unemployment lower after the positive shock, the
incentive of country B's government is to contract the economy. Instead of the election
period simply seeing unemployment rising after the election period and then falling
prior to the election there is a *mini-cycle* created within the period. The upward drift
of the Phillips curve in mid-term requires an economic contraction in order that a
successful expansion, as measured in terms of popularity, could be engaged in closer to
the election.

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2 The assumption of overlapping election periods is not required for the popularity lead indicator
model (conventional weak partisan theory).
The mid-term expansion in the dominant economy interferes with the economic outcome cycle of the weaker economy underlying the pure political business cycle. The greater is the economic interdependence the greater is the magnitude of interference. The government in B will wish to reduce inflationary expectations for a period before the pre-election expansion. The dominant economy will be in the first part of the election period and engaged in contractionary policies. This would seem to coincide and thus reinforce the immediate priorities of the government in country B. However, the problem lies in the length of the period of contraction in the dominant economy which will undoubtedly overlap that period when the government in B would desire expansionary policies. Country A because of its economic power and because of the overlapping of election periods is constraining the government in B in its pursuit of election success. Of clear importance to country B is its relative ability to create business cycles.

The government in country B faces a similar problem in the post-election period in that the dominant economy will be half-way through its election period and considering when to turn on the "economic gas". On the other hand the government in B will be concerned with the high shadow price of inflation which leads to the incentive of contracting the economy.

The overlapping of election periods in integrated economies highlights possible tensions. If there is a one dominant and one weaker economy where both pursue policies to maximise the votes cast at an election, it is readily apparent that the main difficulty is felt by the weaker economy. The pure political business cycle model with integrated economies could suggest that where election periods overlap the government in the weaker economy will have greater difficulty in being re-elected. Consequently, there could be a greater turn-around of governments. Such an implication would not arise in the dominant economy. If, however, the public in the weaker economy was to make use of headline rates of inflation and unemployment in the dominant economy in addition to those in their own country then the extent of the disadvantage faced by the government of the weaker economy could be lessened.

The greater synchronisation of election periods also lessens the problem faced by the weaker economy's government. Indeed, this government has an incentive to consider such a synchronisation. With perfect synchronisation, if all governments acted according to the pure political business cycle model, there would be obvious benefits to the government in country B. Indeed, it could simply free-ride on the economic manipulations of country A's government assured that their economic interests were the same.
8.2.2 Strong partisan theory

Strong partisan theory is based on the basic premise that a party of the Left and a party of the Right represent workers and business people respectively. These two groups have different economic priorities which is recognised by the political parties who then serve these economic priorities by holding manifestos which signify that different weights are placed on unemployment and inflation. The party of the Left will place more weight on unemployment while the party of the Right places more emphasis on inflation.

Assume that in both the dominant and weaker economies there exists a party of the Left and a party of the Right. The overlapping of election periods becomes important when the partisan persuasion of the two governments diverge. Consider that elections are held in the dominant economy while in the weaker economy there remains half an election period to unfold. Further, assume that the a party of the Right takes power in the dominant economy while the government in B is of the Left. The economically dominant country will have the effect of rendering the attainment of the weaker economy's desired economic outcomes more difficult and at the extreme impossible. The incumbent government in country B is faced with the problem of political mismatch.

In order to further understand the concept of political mismatch it may be helpful if we consider a political party as having boundaries within which it will allow the unemployment rate (or rate of output growth) to fluctuate. The boundaries would be determined in relation to a trend rate. Figure 8.2. in the appendix illustrates for the rate of unemployment the upper and lower boundaries for the party of the Left (Labour), \( L_U \) and \( L_L \) respectively, and similarly the upper and lower boundaries for the party of the Right, \( C_Y \) and \( C_L \) respectively. The boundaries define an ideological range within which lies the party's bliss point. In contrast to the partisan indicator model government stays within its ideological range regardless of opportunistic considerations. This interpretation of strong partisan theory would allow us to consider ideological overlap, whereby there is an overlap of the ideological ranges of the two parties. The more ideological are the two parties the less the scope for ideological overlap. The closer the two parties the greater the scope for ideological overlap. If we interpret strong partisan theory strictly there ought not be an overlap since the party of the Left (Labour) would lead to unemployment below trend and the party of the Right (Conservative) to unemployment above trend.
If the party of the Left is in power in the weaker economy while the party of the Right is in power in the stronger economy then political mismatch will have the effect of making it difficult for the party of the Left to stay within its ideological range. The ideological range will in this case be displaced upwards according to the economic dominance of the stronger economy. If the political mismatch meant that there was a party of the Right in power in the weaker economy while a party of the Left in the stronger economy then the ideological boundaries would be displaced downwards. Again the movement would be dependent upon the dominance of the stronger economy. In the case of total dominance the ideological range would match those of the incumbent government in the stronger economy.

The degree to which governments of the same political persuasion differ in terms of their objectives is a second manifestation of political mismatch. However, the second form of political mismatch would as a norm be less in magnitude than that between parties on differing sides of the political spectrum in different countries. Thus, if the incumbent government of the weaker economy was of the Right then the attainment of its objectives would be aided by the similarity of those of the government in the dominant economy. Further, to the extent that its objectives were seen to be met, the credibility of the policies of the right-wing government in the weaker economy would be enhanced. A similar conclusion would be met if the incumbent party in both the dominant and weaker economy was of the Left. If credibility was to become an important element in voting decisions then we might find a tendency for the political parties in the weaker economy to become less polarised or to move towards any dominant political consensus in the dominant economy. In effect, economic dominance may lead to an element of political uniformity.

If the political party in the weaker and dominant economy are of a similar persuasion then the weaker economy can free-ride on the back of the dominant economy. The likelihood of this increases with the synchronisation of election periods. This reduces the likelihood of a period of rule where there might be a government of an alternative persuasion in the dominant economy, i.e. political mismatch.

Political mismatch could give rise to strategic voting. One possibility is if the government of the dominant economic power is seen to be at one extreme of the political spectrum. In this case voters in the weaker economy rather than voting for the domestic party on the same side of the political divide, regardless of whether it is moderate or extreme, could vote for the alternative domestic party. This may involve voters party-swapping in order to moderate the ideological consequences on their
The degree to which they could moderate such consequences would be dependent upon the degree of economic subservience.

8.2.3 Popularity lead indicator model

The popularity lead indicator model is based upon four crucial factors which will determine the effects arising from economic and political interdependence. Firstly, it is based on the partisan notion of a party of the Right and a party of the Left. Secondly, it assumes, as with the pure political business cycle model, that popularity responds to economic conditions as described by the score hypothesis. Thirdly, government's perception of electoral safety is determined by the government's critical popularity level or its critical lead over the (main) opposition party. Fourthly, the critical popularity lead gives rise to a popularity level or lead differential. We shall assume for simplicity that the relevant popularity index is the popularity lead so that the relevant differential is the popularity lead differential. The popularity lead and the derived differential are crucial in that they determine the type of government expenditure behaviour, i.e. ideological or opportunistic. Ideological behaviour is that expenditure behaviour which is in the proximity of a party's ideological target (or bliss point).

The score hypothesis function implies that government's popularity lead is affected by changes in economic conditions. If country A is economically dominant then it follows that the popularity lead function of country B will be affected by the economic conditions in country A. We will assume both that there is not total economic subservience and that there is a political dimension to the popularity lead. Consequently, the popularity lead function of country B does not merely trace that of country A. This would also be true if popularity functions are subject to some combination of the mid-term blues and ultimate decline effects.

It is no longer necessary to assume that the election periods of the two countries overlap because the value of popularity lead differentials is determined by the value of the popularity lead index in relation to the time that has passed in the election period. The main requirements are for economic interdependence and a partisan political system.

Assume that the government in the economically dominant country is left-wing and that a positive differential allows the government to approach its ideological target by increasing the rate of growth of expenditures. This has an expansionary effect on the economy of country A. Given the economic relationship between country A and B
this is also felt in country B. Through the score hypothesis the popularity lead index increases in value in country B. Whether or not this implies ideological or opportunistic behaviour will be dependent upon the previous value of the popularity lead index and the inferred popularity lead differential. Nonetheless, the re-election constraint is eased.

If the government of the Right is in power in country B the expansionary effect imported into the economy may enable the government to switch from expansionary expenditure policies to ideologically-based policies. It may simply reduce the magnitude of opportunistic policies so that although the policy does not fall in the proximity of the ideological target, and is thus not ideological, it has nonetheless moved in that direction. The third possibility is of a decrease in expenditures at an increased rate. This is in effect an intensification of ideological behaviour and implies a greater closeness to the ideological target. The larger the popularity lead differential the closer is policy to the ideological target.

If the incumbent government in country B is left-wing then the effects of the expansion are less clear. This is because conventional weak partisan theory while defining a target for expenditure policy for the left-wing party when it holds a popularity lead surplus does not do so when it holds a popularity lead deficit. Thus, if ideological policy infers a rate of growth of expenditures within proximity of a target, does opportunistic behaviour imply increases of expenditures at a rate in excess of or below the target? If the left-wing party in prioritising unemployment over inflation more often than not finds that inflationary pressures are the predominant economic variable adversely affecting the popularity function then the tendency for government would be to reduce the rate of growth of government expenditures.

Although there are problems in defining left-wing expenditure type in conventional weak partisan theory, the very fact that the incumbent government in country A engages in expansionary policies relaxes the re-election constraint of the government in country B. This relaxation can arise not just from a left-wing government but from a right-wing government experiencing a popularity lead deficit. Consequently, it would act opportunistically and increase government expenditures. This expansionary effect on the economy of country A will be felt by the economy of country B and increase the value of the latter's popularity lead index. If the government in B is of the Right it will be able to either decrease expenditures at a faster rate, switch to decreasing expenditures in accordance with ideology, or lessen the intensity of opportunistic increases in expenditures. Again, when the government is of the Left less definitive statements can be made. We can conclude that there will be a
movement towards the ideological target. If opportunistic behaviour tends to lower the rate of expenditure growth then the relaxation of the re-election constraint would mean an increased rate of growth of government expenditures.

While expansionary behaviour in country A relaxes the re-election constraint on the government in country B, contractionary behaviour by A would tighten the re-election constraint on B. If the government in the economically dominant country is of the Right and enjoying a positive popularity lead differential it will be engaging in ideological policies which tighten expenditures. The economic slow-down will be felt by country B's economy. The contraction reduces the government's popularity in country B via the score hypothesis. For a government of the Right it implies either a slow down in the reduction in government expenditures, a switch to increasing expenditures or a further increase in the rate of growth of expenditures. For a government of the Left if opportunistic behaviour means that the rate of growth of expenditures is less than that of ideological behaviour then the tightening of the re-election constraint will lead to decreases in the growth rate of expenditures.

The incumbent government in country B, regardless of political persuasion, will prefer expansionary behaviour in A because this relaxes the re-election constraint. Conversely, contractionary behaviour tightens the re-election constraint. Thus, governments in B unambiguously prefer a right-wing government in A to hold a popularity lead deficit rather than a popularity lead surplus. The situation is less clear when left-wing governments hold power in country A. However, there is reason to believe that they would prefer a left-wing government to hold a popularity lead surplus rather than a popularity lead deficit.

8.2.4 Rational partisan theory

Rational partisan theory, as the name suggests, assumes that there is a party of the Left and a party of the Right. The election result is probabilistic so that wage contracts negotiated by rational individuals are based on a post-election expectation of inflation. This is important because the two parties are deemed to be able to choose that rate of inflation which is consistent with their economic prioritisation. The "edging of bets" allows there to be a discrepancy between actual and expected rates of inflation and, hence, deviations of output growth from trend. After the election, wage contracts are negotiated with full knowledge of the chosen inflation rate so that output growth will be at the trend rate.
We have also highlighted in the thesis that with flexible election dates there will be both election result and election date uncertainty. By considering the overlapping of election periods of integrated economies we further generate the possibility of blips at times other than after the election. Thus, one can identify three causes of economic deviations in the rational partisan model of Alesina (1987). The first, is election result uncertainty, the second is election date uncertainty and the third is interdependence generated uncertainty.

Assume there has just been an election in country A. Further, assume that a left-wing government has been elected following a previously right-wing government. The inflation rate of the economically dominant country is the vehicle for economic blips in the weaker economy. In the rational partisan model the rate of inflation under a party of the Left is consistently higher than the party of the Right. Since the Left's victory in country A followed a previously right-wing government the inflation rate of the newly elected government will be higher than its predecessor. This will put upward pressure on the inflation level in country B. Thus, to an extent the inflation credentials of the government in B are a "hostage to fortune".

The actual level of inflation chosen by the left-wing government will have a transitory effect on the country B's economy to the extent that it is not expected by wage-bargainers in country B. The effect on country B will be dependent upon the uncertainty that faces wage-bargainers in country A over their election result and the degree of political polarisation in that country in the same way that these factors determine the magnitude of the economic blip in country A. While wage bargainers in the weaker economy are assumed to be sure of the inflation intent of its own government they have to take into consideration the inflationary content of the economically dominant country in forming their own inflationary expectations. In so doing they will face the same problem as wage bargainers in the economically dominant country and be using the same opinion poll information from which to draw inferences as to the result of the election in country A. By introducing overlapping election periods in integrated economies it is apparent that there are two nations of wage-bargainers interested in one probabilistic outcome.

The wage-bargainers in country B face the further problem of judging the impact of the inflation rate in A on their own rate of inflation. The expected rate in B is a function of that chosen by its own government and also that of country A. Given the information set in this model, what is important is the extent to which wage-bargainers in country B edge their bets about the election outcome in country A and to the extent that they are able to discern the impact of this on their own economy. Since the
probabilistic election result does infer the possibility that some weight was placed on the inflation choice of the losing party, if a party of the Left is elected in country A expectations of inflation will be lower than the actual rate of inflation that materialises. This gives rise to a transitory economic upturn in country B.

What is important in analysing the impact on country B from elections in country A is the extent to which the inflation choice of the newly elected left-wing government in A is expected in country B. The error in inflationary expectations in the economically dominant country is only important in that the information on which it arose is likely to give rise to a similar error in the weaker economy. The higher inflation in A that results from a left-wing as opposed to a right-wing government is also important to the extent that inflation is imported into country B.

If a right-wing government is elected to power in country A, replacing a left-wing government rational partisan theory predicts a transitory economic downturn in country A. This results from expected inflation exceeding the rate chosen by the right-wing government. Again the magnitude of the economic blip in country A will be dependent upon the uncertainty of this result and the degree of political polarisation.

The fact that the newly elected government is a right-wing government means that the chosen rate of inflation will be lower than its predecessor. This has two effects on country B. The first is a downward displacement in the rate of inflation. The second impact is dependent upon the extent of any divergence that exists between the expected rate of inflation of the weaker economy, given that this is dependent in part upon the expected rate of the dominant economy, and the actual realisation of inflation in the weaker economy. Given some allowance for a left-wing victory in country A the expected rate of inflation in country A will be greater than the rate that is chosen when the right-wing government comes to power. Again the discrepancy will be dependent upon the uncertainty surrounding the election result and the difference in the inflation rates of the two political parties in country A. If we assume that the parameter measuring the elasticity of country B inflation to country A inflation is known, and thus maintain that the only uncertainty surrounds the election result, there will be a transitory economic downturn in country B as well as in country A. Once we are in a period when there is no election in either country wage contracts can be negotiated with the source of the uncertainty removed. As a consequence the rate of output growth in both countries returns to its trend rate.

The importance of right-wing success in the economically dominant country, country A, is that it induces a uncertainty-generated economic downturn in country B. The magnitude is dependent upon the political polarisation in A and the information
signal from opinion polls as to the result of the election. It is also important in that the inflation rate chosen by the government in A has a bearing on the inflation rate in B.

By considering the overlapping of election periods within the framework of the rational partisan theory we have seen that the election in country A will cause the familiar hypothesised relations from the domestically focused version in country B. Using the same scenario of overlapping elections consider now the effect on country B of its own election given that country A is in the mid-term of its election period. Consequently, there is no election result uncertainty from country A to be concerned with. The extent of any economic blip is crucially dependent upon the economic dominance of country A and thus the magnitude with which the political parties in B can affect their own rate of inflation. The nature of the economic relationship between countries A and B infers that the economic upturn following a party of the Left achieving election success or an economic downturn following a party of the Right achieving election success will be lessened. Just as political polarisation and election result uncertainty place constraints on the variability of the expected rate of inflation so does the degree to which the economically dominant country dictates the rate of inflation in the weaker economy.

It is thus hypothesised that with overlapping election periods the economically dominant country places constraints on the variability of the expected rate of inflation in the weaker economy. This reduces the economic deviations from trend of election result uncertainty in the weaker economy.

We now consider the situation where there is perfect, or near perfect, synchronisation of election dates in country A and B. We will assume that the results of the elections in the two countries are independent. The wage-bargainers in country A are faced with the familiar probabilistic election result. However, the wage bargainers in the weaker economy are faced with two probabilistic events. They are concerned about their own election result and that in the economically dominant country. The expected rate of inflation of wage bargainers in country B depends upon the rates of inflation that are chosen by their own government and by that in country A. The net effect on B will depend upon the partisan persuasion of the parties that are elected in each country, the uncertainty of the two elections, the degree of political polarisation and the elasticity of country B's rate of inflation to the rate of inflation of country A. This suggests that where election periods are synchronised, for a weaker economy the conventional hypothesis of a transitory period where output growth would be above or below trend according to the partisan persuasion of government needs to be qualified.
Assume that a party of the Right has been elected in the country A and that some combination of election result uncertainty and political polarisation mean that there is a relatively large discrepancy between the expected rate of inflation and the rate set by the newly elected right-wing party. The effect of this is to give rise to a relatively large reduction in output growth below the trend rate. Given that the information set on which wage-bargainers in the weaker economy base their expectations of inflation in the economically dominant country comes from the economically dominant country, they too will overestimate by a relatively large amount the rate of inflation in the economically dominant country. This infers an economic downturn. But what of the election in country B? While the importance of the "local" election will again be dependent upon the make-up of inflation in B, it is nonetheless possible to hypothesise that if a party of an alternative persuasion to that in country A was victorious, in this case a party of the Left, that the economic blip in country B is contrary to that of the domestically-focused rational partisan theory. This is not be the consequence of the degree of economic subservience but of little election result uncertainty or of little political polarisation or alternatively both. Despite the election of a party of the Left in country B it is possible that the victory of the party of the Right in country A could dominate. Similarly, it could be envisaged that following the election success of a party of the Right in country B that there is an economic upturn resulting from the election of a left-wing government in country A.

In short, the internationalisation of the rational partisan suggests that when election periods overlap that an election in the economically dominant country will cause economic deviations in the weaker economy despite there being no election in the weaker economy. When there is an election in the weaker economy the economically dominant country constrains the discrepancy of expected inflation from actual inflation and thus limits post-election economic blips. When there is perfect or near-perfect synchronisation of election dates it is possible to find that if the elected governments are of different persuasions (political mismatch) that the economic blip of the weaker economy neither matches the intensity or direction that is inferred by its domestic election result.

8.2.5 Rational political business cycle

The rational political business cycle model is probably the most difficult to analyse in the current context. The difficulty arises from the fact that the model type is concerned with government expenditure and budget manipulation. It is, therefore, an instrument model. Crucial to the model is government's competence which is the
revenue required to deliver public goods and services. At election time voters attempt
to gauge the government's competence from the provision of public sector
consumption and from their tax demand. It is unable to observe investment
expenditures and thus the government's true competence until after the election.
Consequently, government has an incentive to engage in opportunistic manipulations.

One effect of internationalisation stems from the economically dominant
government's financial deficit. Assume that the government in country A is engaging in
pre-election manipulations of expenditures in order to signal confidence. Manipulations
in expenditures imply changes in the magnitude of the financial deficit. Financial
deficits have to be funded and hence the role of a government as a major player in the
financial system. To sell more debt may put upward pressure on interest rates which in
turn puts upward pressure on country A's exchange rate. The weaker economy's
interest rates may need to rise in order to reduce the impact on the currency.

Even in a purely domestically-focused model the pre-election effects of
manipulating expenditures and financial deficits suggest there are likely to be effects on
output and unemployment stemming from budget cycles. If the public is assumed to
have an information gap concerning both the mix and relative cost of public goods and
services it follows that there will be uncertainty about the government's financial
deficit. These information gaps translate into effects on output growth and
unemployment. In the context of internationalisation, election eve uncertainty over the
competence of country A's government and over its opportunistic motivation to create
budget cycles can lead to effects on country B's economy. This would operate through
inflationary surprises similar to those described in relation to the rational partisan
theory.

In relation to country B, internationalisation could infer that its freedom to
signal competence is reduced. This arises from the constraints that the dominant
economic power places on the ability of the government of the weaker economy to
fund its deficit. For instance, deficits have possible implications for interest rates. The
degree of manoeuvrability of these rates could be dependent upon the rates of the
economically dominant country. We could further imagine that the dominant economy
is in recession. This leads to a stimulation of transfer expenditures and a depression in
taxation receipts in the weaker economy. The ability of the government in the weaker
economy to signal its competence to individual voters by increasing expenditures
and/or reducing taxes is then limited.

A second element from internationalisation is the possibility that voters use
another government with which to compare the competence of their own government,
rather like voters within a country can compare between political administrative units. The other government, in effect, acts as a *competence benchmark*. This reduces the freedom for either country A or B to engage in expenditure cycles.

### 8.3 Information gaps

The partisan indicator model, whether analysed with or without the incorporation of political and economic interdependencies, contains a series of *information gaps*. These gaps refute the notion that output growth accords with that consistent with full employment. Governments are able to affect the economy and to use the economy to affect the qualified differential which measures the re-election constraint placed on government's behaviour. However, the latter is not necessarily in the manner described by the score hypothesis. It is important for government to consider the components of the re-election index, such as expectations indices and leadership approval, and the qualifying indicators. Nonetheless, to validate a reactive component to government expenditure one has to show a purpose for expenditure policy (to satisfy ideological beliefs subject to re-election) and an ability to fulfil this purpose.

The policy neutrality result (or the policy invariance hypothesis) of the new classical macrorconomic school assumes that economic agents form expectations according to the rational expectations hypothesis and that all markets are perfect. Even if we were to maintain the assumptions of rational expectations and market clearing, by introducing the possibility that government can exploit an informational advantage the policy neutrality result breaks down.

The policy neutrality result also depends on whether agents formulate rational expectations. If this were so, then expectations would coincide with the best model of the economy. B.M. Friedman (1979) while arguing that the model used to develop expectations evolves over time makes the point that these expectations are not rational in the sense that they have not resulted from the true economic model. Indeed, to the degree that political and economic relations change additional information costs arise.

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Information costs do make people look at past economic outcomes. The actions of the Labour Party in the 1990s show that it is well aware that this happens. Its desire to shake-off the image of a high taxation and a high inflation party are clearly an attempt to rid people of their perceptions dating back to Labour rule in the 1970s.

We further believe that the labour market is imperfect. It is not a spot market in the way that foreign exchange markets are. Individuals are not able to constantly renegotiate nominal wages in order to maintain the real value of wages. Consequently, we have multi-period wage contracts. During the contract the value of the real wage will vary. The inability to maintain the value of one's real wage implies that their will be variability in labour demand which in turn implies variability in output. Thus, because of an imperfect labour market and the informational demands on individuals the partisan indicator model assumes that government is able to manipulate the economy for political purposes. In this regard the partisan indicator model belongs to the orthodox or traditionalist school of political business cycle models.

8.3.1 The indicators

In the partisan indicator model government reacts to a re-election index which comprises indices of voting intentions, expectations' indices, the winners' index and leadership approval. This reaction is modified by the qualifying indicators. The qualifying indicators include the economic importance index, individual economic importance indices, the economic urgent problem capability index, the majority of the government in terms of seats, the time elapsed in the election period and finally various economic indicators. The net result is a qualified differential.

Government's informational advantage stemming from its reaction function is due to the weighting given to these indicators, including the degree to which the re-election differential is qualified, the quantity of information that the public has to sift through and the availability and dispersion of this information. This informational advantage gives rise to the indicator information problem. To the extent that government expenditure is reactive to the universal set of indicators and to the extent that there is a discrepancy between the way the government actually reacts and is expected to react, there will be inherent errors in the formation of inflationary expectations.
8.3.2 Fluidity of ideology

The fluidity of ideology is important in the partisan indicator model because the ideological range defines the extent of ideological behaviour and as a result the extent of opportunistic behaviour. The fluidity of ideology means that each party’s bliss point is moving. In this case how are we to gauge the bounds of ideological and opportunistic behaviour? This is problematic for economic agents and empirical analysts alike. The concern here with is the information gaps facing economic agents. In addition to the indicator information problem individuals are further confronted by the partisan identification problem.

The fact that ideological ranges can shift allows for us to incorporate the possibility that the parties will move closer together or further away. It also allows for the possibility that ideological ranges can overlap. Figure 8.3 in the appendix illustrates a movement in the bliss point of the Conservatives. Prior to the movement the lower and upper bounds of the ideological range, \( C_{Ua} \) and \( C_{La} \) respectively, both show ideological behaviour resulting in cuts in expenditures. A positive qualified differential is associated with a negative rate of growth of real government expenditures, \( g \). A political drift leftwards results in a lower bound \( C_{Lb} \) and an upper bound \( C_{Ub} \). The upper bound now indicates that ideological behaviour can accord with a positive growth rate in real expenditures, although the bliss point still accords with decreases in real expenditures. The diagram also illustrates two areas of behavioural change. One is associated with a displacement in the lower bound and the other with a displacement in the upper bound. If because of the Phillips curve demonstration effect opportunistic behaviour under the Conservatives is more likely to infer a rate of growth in excess of the bliss point than below the bliss point, then the behavioural change associated with the upper bound is most relevant.

Figure 8.4 illustrates the situation where the ideological ranges of the two parties may overlap. The overlap occurs between the lower bound of the Labour ideological range and the upper bound of the Conservative ideological range. In the ideological overlap both parties are acting ideologically and achieving a utility level that deems behaviour to be ideological. Given the Phillips curve demonstration effect the ideological fringe for the Conservative party will tend to be at its upper bound while Labour’s ideological fringe will tend to be at its lower bound. These bounds are those relevant in any ideological overlap. The closer the two bliss point in terms of government expenditure growth the greater the likely ideological overlap. In the overlap it is possible for a Conservative government’s ideological expenditure policy to infer a higher growth rate than a Labour government’s ideological expenditure policy.
Nonetheless, Labour's bliss point infers a higher rate of growth than that of the Conservatives.

8.3.3 The election

The election offers two possible considerations. The first is the election result. In a partisan indicator model the probabilistic election result means that individuals have to form expectations as to the post-election expenditure bliss point. Further, they will have to make expectations concerning the expected value of the qualified differential. The qualified differential is important because it determines both the composition and volume of the expenditure policy. It is believed that it would be possible to incorporate into the partisan indicator model some of the considerations that face individuals in the rational partisan model. However, in the partisan indicator model there are information gaps rather than a single information gap.

Although the value of the qualified differential is a constant informational problem, an election offers the possibility that there will be a greater discrepancy between the expected value and the value to which government reacts. In the non-election period the expected value of the qualified differential is dependent upon the perceived bliss point and ideological range of the incumbent party as well as the information the public receives concerning the re-election index and the qualifying indicators. In an election period, the expected value is further dependent upon the probabilities of each party winning the election. Thus, economic fluctuations can be intensified around an election. Unlike the rational partisan model, the partisan indicator model does not assume that there is policy neutrality once the election result is known. The government holds a persistent informational advantage and the labour market is imperfect.

The second consideration is the ability of government to use the election as a screen. The election creates an incentive for the manipulation of the values of those variables which are only accurately revealed after the election. The rational political business cycle model considered administrative competence and the consequent manipulation of the public finances. This was described as opportunistic signalling. Pre-election signalling can be incorporated into the partisan indicator model. Furthermore, it does not require government to be outside its ideological range. For instance, the Conservatives could manipulate expenditures within its ideological range by increasing visible expenditures at the expense of those less visible.
8.4. Internationalising the partisan indicator model

In examining the interdependence generating effects within the partisan indicator model one has to appreciate the relationship between our model and that of Frey and Schneider's popularity lead indicator model. Both the partisan indicator model and the popularity lead indicator model can be labelled as conventional weak partisan models. It is the refinements that have been introduced within this thesis that critically affect the conclusions from the partisan indicator model when acknowledging interdependencies. Of particular importance is the introduction of a re-election index and qualifying indicators as opposed to a solitary indicator.

Let us begin by assuming that, for whatever reason, the economically dominant country is engaging in an expansionary expenditure policy and that expansionary effects are being felt by the weaker economy. The important difference between the Frey and Schneider popularity lead indicator model and the partisan indicator model is that in the former the score hypothesis function dominates. Consequently, in the popularity lead model the expansionary effects felt in country B necessarily relax the government's re-election constraint. The government's reaction is to act more ideologically or less opportunistically. There is a movement towards the incumbent party's bliss point. However, in the partisan indicator model government expenditure behaviour is dependent upon the qualified differential. The voting intention index is only one indicator in the re-election index and in the universal set of indicators.

The voting intention index alone is inadequate in successfully revealing the government's re-election probability. Indeed, economic expansion could work against the government in the economically weak country by tightening the re-election constraint. For instance, expectations' indices and economic importance indices may reveal concern with inflationary pressures.

The partisan indicator model is able to explain how the re-election constraint in the economically weaker country can be tightened as a result of the expansion in the economically dominant country. This is contrast to the result offered by the popularity lead indicator model. The key is that in the popularity lead indicator model ideological and opportunistic behaviour stem from a positive and negative popularity lead differential respectively. In the partisan indicator model the behavioural types stem from a qualified differential.

The Frey and Schneider variant is a special case of the partisan indicator model. As a result those general conclusions from internationalising the Frey and Schneider model are relevant to the partisan indicator model if the qualified differential tended to
the popularity lead differential. One way this could happen is if the re-election differential signalled the equivalent message to that of the voting intention index and if the qualifications to partisan and opportunistic behaviour approach zero. If the qualified differential should tend to the popularity lead differential and if opportunistic behaviour conforms to the Phillips curve demonstration effect then the incumbent government of the economically weak country would prefer a right-wing government to act opportunistically and a left-wing government to act ideologically.

In the current example, the partisan indicator model would only imply a movement towards the expenditure bliss point if the value of the qualified differential was to increase. This does not mean that the behavioural type will be ideological. Indeed, as we noted in relation to the internationalisation of the popularity lead indicator model it could involve a switch from opportunistic to ideological behaviour (a movement into the ideological range), a lessening of opportunistic behaviour (a movement towards the ideological range) or an intensification of ideological behaviour (a movement within the ideological range towards the bliss point).

The overall effect on country B of an expansion or contraction emanating from country A is dependent upon the partisan persuasion of country B's government. Its partisan persuasion defines the ideological range and thus ideological and opportunistic behaviour. Partisanship will also influence indicators. In particular, it will affect the values of expectations' indicators, economic importance indices and the urgent problem capability index. Thus, partisanship is not important solely because it defines the expenditure policy for a given value of the qualified differential (including opportunistic behaviour), but because it also helps to determine the value of the qualified differential.

A further difference between the popularity lead indicator model and the partisan indicator model in analysing internationalisation is that in the latter the various indicators of country B when affected by economy A will shape the composition of expenditures. Ideological and opportunistic behaviour does not merely relate to the volume of expenditures as a whole. Thus, even if the qualified differential approached the value of the popularity lead differential the advantage of the partisan indicator model would be to identify at a less aggregated level the nature of expenditure policy. Indeed, this is true when the models are considered with or without the inclusion of political and economic externalities.
8.5 The Leader

The political business cycle literature has tended to underplay the role and importance of party leaders. In the partisan indicator model leadership approval is a re-election indicator. We believe that leadership is of such importance that the value of a leadership approval index is an important guide to a party's election prospects. Leadership will thus affect expenditure behaviour by influencing the value of the re-election differential which in conjunction with qualifying indicators determines the value of the qualified differential.

The importance of leadership on other re-election indicators can be illustrated for the UK by reference to the Conservative Party's change of leader in November 1990 which saw Margaret Thatcher replaced by John Major. Margaret Thatcher had been leader since February 1975 when she had defeated Edward Heath and William Whitelaw. She had been Prime Minister since May 1979. Table 8.1 shows the effect of the Conservatives making John Major leader and, hence, Prime Minister. The first two lines of the table show the average values of seven re-election indicators for the periods 1989(1) to 1990(3) and 1990(4) to 1992(2) respectively. Both periods are of seven quarters, with the latter covering the period from when John Major became leader up to the 1992 election. The last two lines show the value of each indicator in the quarters either side of the leadership election.

Table 8.1: The effect of leadership change

<table>
<thead>
<tr>
<th>Period</th>
<th>Lead</th>
<th>Winner</th>
<th>APM</th>
<th>LDIF</th>
<th>GESE</th>
<th>FE</th>
<th>UE</th>
</tr>
</thead>
<tbody>
<tr>
<td>89(1) - 90(3)</td>
<td>-8.70</td>
<td>51.90</td>
<td>33.55</td>
<td>-3.98</td>
<td>-2.19</td>
<td>26.05</td>
<td>13.19</td>
</tr>
<tr>
<td>90(4) - 92(2)</td>
<td>0.29</td>
<td>51.26</td>
<td>49.21</td>
<td>12.32</td>
<td>28.05</td>
<td>46.24</td>
<td>-40.29</td>
</tr>
<tr>
<td>90(3)</td>
<td>-12.50</td>
<td>46.67</td>
<td>31.13</td>
<td>-9.07</td>
<td>-19.67</td>
<td>28.00</td>
<td>-22.33</td>
</tr>
<tr>
<td>91(1)</td>
<td>3.83</td>
<td>60.67</td>
<td>55.43</td>
<td>17.67</td>
<td>4.33</td>
<td>35.67</td>
<td>-54.00</td>
</tr>
</tbody>
</table>

Source: Gallup Political and Economic Index (Various Editions), Gallup Opinion Polls Ltd, London.

Lead = Government's popularity lead  Winner = Winners' index
APM = Approval rating of Prime Minister  LDIF = Leadership differential
GESE = General economic situation expectations  FE = Financial expectations
UE = National unemployment expectations

Table 8.1 shows that for five of the seven indicators its average value rose in the seven quarters following the leadership triumph of John Major. Even more noticeable is the short-term impact as can be seen from the values of the indicators either side of the leadership contest. These show that only the value of the unemployment expectations' index did not improve. The popularity lead indicator shows that a Labour lead over the Conservatives of 12.5% became a Conservative lead over Labour of
3.8%. The approval rating of the Prime Minister increased by over 24% and the leadership differential by nearly 27% with the latter becoming a positive as opposed to a negative differential. Significantly, nearly 61% of people believed that the Conservatives would win the next election after John Major became leader as compared to 47% prior to the election.

The figures show that after John Major’s leadership victory, leadership approval favourably affected the values of other re-election indicators. In this case a change of leader was the ultimate act of pre-election opportunism.

8.6 Conclusions

Chapter 8 continued to develop the partisan indicator model. It paid particular attention to the definitions of opportunism and ideology. However, while one of the most important issues for political business cycle theorists is the modelling of opportunism and ideology, the issue of internationalisation must not be over-looked. With the increasing interdependence of economies the predominantly domestically-focused political business cycle literature is in danger of becoming marginalised. It is important that we consider within a politico-economic framework the implications of economic and political externalities.

We analysed the scenario of one dominant economic nation and another economically weaker nation. We then considered the implications for the established political business cycle models, as well as the partisan indicator model, of overlapping election periods and/or economic externalities. Our principal interest was the political effect on the weaker economy’s government. The area of internationalisation would appear ripe for further empirical research.

In the final chapter we draw together what we see as the important findings in the thesis and suggest those areas that continue to need investigating within the field of political business cycles.
APPENDIX TO CHAPTER 8

Figure 8.1  Partisan indicator model: ideology and opportunism.
Figure 8.2  Strong partisan theory: ideological ranges.
Figure 8.3  Partisan indicator model: behavioural change.
Figure 8.4  Partisan indicator model: ideological overlap.
FIGURE 8.2

Rate of Unemployment

CU

CL

LU

LL

Conservative ideological range

Labour ideological range

Time
FIGURE 8.4

Utility

CL

CL

LL

CU

LU

ideological overlap
CHAPTER 9

CONCLUSIONS

9.1 Why political business cycles?

The advantage of a political business cycle approach over a purely economic approach in modelling business cycles is that it acknowledges the political as well as the economic system. Moreover, it looks at the behavioural possibilities of political actors within the political market.

We do not believe that a political business cycle model alone can be used to totally explain the business cycle. This was not the purpose of this thesis. Ours was a more modest aim. In acknowledging that traditional economics frequently lacks any description of underlying political processes and their relationship with the economic system, we believe that economics can only offer a partial explanation of business cycles. Public choice can compliment traditional economic theory. Thus, this thesis asks whether by considering choices within the political market, as economists do in the economic market, we can model the way in which political actors help to shape the economy.

A public choice perspective focuses on individuals and their self-interest. In effect, it allows for the methodology of economics to be applied to the political. However, we must be aware of those public choice theorists who use the methodology to argue for small government on the basis that the incentives in the political market infer inefficient excessive government. While public choice alerts us to the possible causes of government failure it should not be taken that the market option offers a simple solution. Indeed, in offering a rationale for the public sector one only needs to look at the failings of the market.

While we do not doubt that the notion of self-interest can be applied to political as well as economic actors it must not be done in a cavalier fashion. A pragmatic approach is needed.
9.2. Opportunism or ideology?

The political business cycle literature has all too often been characterised by the need to consider a choice between modelling politicians as opportunistic or ideological, thus ignoring the possibility that they can be both. In modelling them as opportunistic one captures the popular caricature of politicians as hungry for power, whose actions serve not the public good but their own need to retain power. The pure political business cycle pictures government shaping the economy so as to retain power. The incentive to hold office involves bribing the representative voter into believing that the actual performance of government is better than the usual performance of government. If this voter has a decaying memory span over the election period and rewards their popularity according to the score hypothesis, then government will be inclined to engage in pre-election expansions and post-election contractions.

The fact that analysis can detect periods which were more overtly opportunistic and periods that were more overtly ideological is an admission that we cannot ignore the possibility that both motivating forces are of relevance. The general message from Chapter 3, which focused on UK outcome cycles, and from Chapter 5, which focused on UK general government expenditures, was when we looked at individual governments over specific election periods it was impossible to say that either opportunistic or ideological behaviour alone was dominant. We would have been surprised if that was the case. While there will be a need for opportunistic behaviour, equally politicians will desire to act ideologically.

In modelling the motivating forces of opportunism and ideology only Frey and Schneider have developed the necessary mechanism that allows for both forces to be analysed in conjunction rather than in isolation. They allow for both types of behaviour by incorporating a switch mechanism. Their popularity lead indicator model takes the re-election probability of government as dependent upon the value of the government's popularity lead over the main opposition party relative to some critical value. The critical value defines re-election safety. Below this value a negative popularity lead differential leads to opportunistic behaviour. Above this value a positive popularity lead differential leads to ideological behaviour.

It was the ability of the popularity lead indicator to incorporate both ideological and opportunistic behaviour, and the inability of the other political business cycle models to consistently and significantly explain patterns in outcomes and government expenditures, that led to the refinement and development of the popularity lead indicator model. This was done through the partisan indicator model.
The thesis, however, only scratches the surface of a multitude of issues that need further research in the area of political business cycles and politico-economics. Beyond redefining the activator of ideological and opportunistic behaviour, further research needs to acknowledge issues that arise from the increasing integration of economies. This is particularly the case of an open economy like the UK, which is a member of the European Community (EC). The implications of internationalisation go beyond merely economic considerations, but extend to political considerations which in turn have economic implications. Chapter 8, began the internationalisation approach by taking the political business cycle models that we have, including the partisan indicator model, and considering the implications of internationalisation. The tendency has been for the political business cycle literature to be predominately domestically-focused. Increasing integration, however, renders the implications of purely domestically-focused models less relevant.

There are other issues that the thesis has not been able to explore. However, these issues need to be mentioned before concluding the thesis. Therefore, in this concluding chapter we will make reference to the importance of the relationships between central government and local government, the relationship between central government and a national central bank and between central governments and a European Central Bank. Further, there is a need to make use of more disaggregated data, particularly in relation to expenditures in order to more fully understand the behaviour of government. These issues are important to politico-economics and can provide areas for further research. Before turning to these issues we briefly summarise the partisan indicator model in 9.3.
9.3 The partisan indicator model

The partisan indicator model belongs to the conventional weak partisan school of models along with the Frey and Schneider popularity lead indicator model. The spirit of the model is that of Frey and Schneider in so far as we analyse the mechanism whereby behaviour switches between being opportunistic and ideological. There are, however, very important differences. Firstly, the model acknowledges that a voting intention index is an unreliable guide to government's chances of re-election. A voting intention index, from which we can calculate the government's popularity lead, is a noisy indicator because it can be used as a means of protest. In this way it is analogous to by-elections. If the voting intention index is not a reliable guide to re-election chances, and consequently is not the sole indicator to government in determining the nature of expenditure behaviour, then we would be erroneously defining periods as ideological or opportunistic. Indeed, if the tendency of the voting intention index is to underestimate government's re-election chances, particularly after any initial honeymoon period, then we would be exaggerating the magnitude and frequency of opportunistic behaviour. For instance, between 1987(3) and 1992(1), the Conservative Party's average popularity lead was 0.6% while an average of 57% respondents named the Conservatives as the likely winners of the next election. Information from re-election indicators can be particularly useful in dispelling the notion that elections necessarily equate with opportunistic behaviour.

The partisan indicator uses a re-election index rather than a solitary indicator. The re-election index is comprised of re-election indicators. In this thesis we have considered four types of re-election indicator: (i) Voting intention indicators; (ii) Expectations' indicators; (iii) The Winner's index; and (iv) Leadership approval. By considering a re-election index as opposed to a solitary indicator one is inevitably closer in determining the government's re-election chances. In chapters 6 and 7 when we considered these re-election indicators in isolation there was evidence that the winners' index and the unemployment expectations indicator, in particular, were a more significant factor in explaining the pattern of UK government expenditures than the popularity lead variable. Particularly interesting was the result in Chapter 7 where a simple re-election index was calculated from the four re-election indicator types. When used as a variable in explaining government expenditure behaviour it was continually a more significant factor than the popularity lead variable.

We believe that Chapters 6 and 7 are one step in improving upon the Frey and Schneider popularity lead model. By making use of information from other re-election indicators and from qualifying indicators, we can model more successfully how
government's objective function influences government expenditures. In so doing we have maintained the essence of the government's objective function whereby a variable weight can be attached to the ideological and opportunistic variables. Other than the conventional weak partisan school, political business cycle models take either the ideological or opportunistic variable to be weighted by a constant factor of 1 while the other takes a constant weight of zero.

In Chapter 8 we also acknowledged the importance of defining the terms "opportunistic" and "ideological". Further analysis of what appears at first sight a simple matter is critical. We have suggested that we define ideological behaviour in terms of an ideological bliss point. We were concerned with government expenditures and defined the bliss point in terms of a rate of growth of real expenditures. Around this bliss point lay the ideological range which was defined as offering an ideological return. If there was no re-election constraint then each party would attempt to remain within the ideological bliss point since this offers higher utility than those expenditure points outside the ideological range. However, the re-election constraint will mean that the party of government will, from time to time, lie outside the ideological range.

Given our definition of opportunistic and ideological expenditure behaviour, if we were to define an opportunistic parameter, $\alpha$, this would take a value between 0 and 1. A value of 0 would indicate pure ideological behaviour and thus a position in accordance with the ideological bliss point. Conversely, a value of 1 would indicate pure opportunistic behaviour. The value of this parameter is able to shift during the election period. The definition is also useful in understanding the dilemma that faces theorists analysing the popularity lead indicator model when distinguishing between a left-wing party's ideological and opportunistic expenditure policy. Further, analysis is needed in defining opportunistic and ideological, particularly since another possible dilemma exists in the popularity lead indicator model in distinguishing between taxation policy under a right-wing party during periods of opportunistic and ideological behaviour. Our definition may again help to solve this dilemma and it may be that in so doing we have solved simultaneously both the expenditure and taxation dilemma.

The partisan indicator model also suggests that opportunistic and ideological behaviour may lead to specific components of expenditure being favoured over others. This would be dependent upon the various indicators and the timing of any qualified deficit or a surplus. For instance, if inflationary pressures are of prime concern then the government may attempt to squeeze public sector wages. However, this may be less true if this concern was expressed close to an election. Thus, the composition of
expenditures as well as the total becomes a matter of political expediency. Furthermore, there is scope within the partisan indicator models for a few components of expenditures to behave differently from what would seem appropriate given the value of indicators. This could be particularly true of what we will refer to as the “sacred cows” of government expenditures. So while the indicators might suggest a comfortable election victory and no need for pre-election expansions, there may be some categories of expenditure within the whole expenditure package that do show this pattern. This might be particularly true of the N.H.S. which is an emotive British beast. However, as an aggregate government expenditure would continue to observe the steady-as-you-go approach.

9.4 Government’s majority

Political business cycle theorists do need to analyse in greater detail the effect of the voting system. In the UK the first-past-the-post system does mean that governments can be elected without achieving a majority of the votes cast. This is shown in table 9.1. The table shows the political party that formed the government after post-war elections, the percentage share of the votes received by the party of government and the main opposition party, the majority number of seats in parliament and, finally, the proportion of the electorate that voted.

Table 9.1

<table>
<thead>
<tr>
<th>Election date</th>
<th>Party</th>
<th>Govt %</th>
<th>Opp %</th>
<th>Majority</th>
<th>Turnout %</th>
</tr>
</thead>
<tbody>
<tr>
<td>5th July 1945</td>
<td>Labour</td>
<td>48.3</td>
<td>39.8</td>
<td>146</td>
<td>73.3</td>
</tr>
<tr>
<td>23rd February 1950</td>
<td>Labour</td>
<td>46.1</td>
<td>43.5</td>
<td>5</td>
<td>84.0</td>
</tr>
<tr>
<td>25th October 1951</td>
<td>Conservative</td>
<td>48.0</td>
<td>48.8</td>
<td>17</td>
<td>82.5</td>
</tr>
<tr>
<td>26th May 1955</td>
<td>Conservative</td>
<td>49.7</td>
<td>46.4</td>
<td>60</td>
<td>76.8</td>
</tr>
<tr>
<td>8th October 1959</td>
<td>Conservative</td>
<td>49.4</td>
<td>43.8</td>
<td>100</td>
<td>78.7</td>
</tr>
<tr>
<td>15th October 1964</td>
<td>Labour</td>
<td>43.4</td>
<td>44.1</td>
<td>4</td>
<td>77.1</td>
</tr>
<tr>
<td>31st March 1966</td>
<td>Labour</td>
<td>47.9</td>
<td>41.9</td>
<td>96</td>
<td>75.8</td>
</tr>
<tr>
<td>18th June 1970</td>
<td>Conservative</td>
<td>46.4</td>
<td>43.0</td>
<td>30</td>
<td>72.0</td>
</tr>
<tr>
<td>28th February 1974</td>
<td>Labour</td>
<td>37.1</td>
<td>37.9</td>
<td>-33</td>
<td>78.1</td>
</tr>
<tr>
<td>10th October 1974</td>
<td>Labour</td>
<td>39.2</td>
<td>35.8</td>
<td>3</td>
<td>72.8</td>
</tr>
<tr>
<td>3rd May 1979</td>
<td>Conservative</td>
<td>43.9</td>
<td>36.9</td>
<td>43</td>
<td>76.0</td>
</tr>
<tr>
<td>9th June 1983</td>
<td>Conservative</td>
<td>42.4</td>
<td>27.6</td>
<td>144</td>
<td>72.7</td>
</tr>
<tr>
<td>11th June 1987</td>
<td>Conservative</td>
<td>42.2</td>
<td>30.8</td>
<td>102</td>
<td>75.3</td>
</tr>
<tr>
<td>9th April 1992</td>
<td>Conservative</td>
<td>41.9</td>
<td>34.4</td>
<td>21</td>
<td>77.7</td>
</tr>
</tbody>
</table>

It can be seen that on three occasions a government has been formed by a party with a lower percentage share of the vote than the leading opposition party. Maximising votes and maximising a majority are not one and the same.

The existing majority is an important factor in understanding government behaviour and helps to explain why expenditure behaviour between governments in otherwise similar positions is different. A wafer-thin majority of 3 may provide government with a greater incentive to engage in those politically expedient policies traditionally associated with the pure political business cycle than a majority of 144. Therefore, the importance of government’s majority has to be recognised within the partisan indicator model.

The first-past-the-post system affects the incentive of central government to engage in policies aimed at particular constituencies. The more favourable treatment of marginal constituencies, in addition to the loyal constituencies, can offer a high political return. The need to engage in such activities will again depend upon whether it is politically expedient. Political expedience in turn is defined by the universal set of indicators.

9.5 Local government

The thesis has concentrated on general government expenditure behaviour. General government, however, consists of local and central government. We have viewed government expenditure behaviour as if general government was synonymous with central government. However, research needs to consider the relationship between these two levels of government. In particular, one needs to appreciate that political actors at both these levels of government will have their own objective functions. We should not expect that these objectives to necessarily coincide. Local government may be of a different political persuasion to central government or it may be subject to either more frequent elections or to elections that do not coincide with the elections to central government. To the extent that objective functions may differ between the layers of government the issue of control becomes important. How constrained is local government in achieving the objectives within its utility function? How able is local government to thwart the objectives of central government? The answers to these questions will depend upon the political and economic system in question and will change over time.
In the UK there is clear evidence of greater central government control. This can be seen from table 9.2.

Table 9.2

(i) Relative size of UK local government expenditures (%)

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>%</td>
<td>32.5</td>
<td>35.0</td>
<td>28.3</td>
<td>25.7</td>
<td>27.9</td>
<td>27.9</td>
<td>28.3</td>
<td>28.8</td>
<td>28.3</td>
<td>26.8</td>
</tr>
</tbody>
</table>

(ii) Composition of UK local government revenue (%)

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Central govt grants</td>
<td>40.9</td>
<td>49.8</td>
<td>47.2</td>
<td>48.4</td>
<td>49.0</td>
<td>47.3</td>
<td>45.8</td>
<td>58.0</td>
<td>67.0</td>
<td>70.0</td>
</tr>
<tr>
<td>Local charge</td>
<td>30.5</td>
<td>25.7</td>
<td>29.5</td>
<td>35.0</td>
<td>31.4</td>
<td>33.1</td>
<td>36.6</td>
<td>20.8</td>
<td>10.2</td>
<td>11.6</td>
</tr>
<tr>
<td>Other</td>
<td>28.6</td>
<td>24.5</td>
<td>23.3</td>
<td>16.6</td>
<td>19.6</td>
<td>19.6</td>
<td>17.6</td>
<td>21.2</td>
<td>22.8</td>
<td>18.4</td>
</tr>
</tbody>
</table>

(iii) Contribution of local charge to local expenditure (%)

<table>
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</tr>
</thead>
<tbody>
<tr>
<td>%</td>
<td>26.9</td>
<td>22.0</td>
<td>28.0</td>
<td>35.4</td>
<td>31.3</td>
<td>33.7</td>
<td>37.1</td>
<td>22.2</td>
<td>11.5</td>
<td>11.3</td>
</tr>
</tbody>
</table>

Source: National Income Accounts and Expenditures, HMSO, Various Editions

From the table it is readily apparent that central government block grants are increasingly dominating the revenue composition of UK local government. In 1994, local charges comprised close to only one-tenth of local government revenues compared with three-tenths in 1970. These figures are mirrored by the proportion of local government expenditures funded by a local charge. The proportion of local expenditures financed locally increased during the mid to late-eighties to in excess of 37%. However, the Community Charge or Poll Tax meant that the financial relationship between local and general government changed. Cullis, Jones and Morrissey (1993), show how this changing relationship can be analysed in terms of politico-economics.

The relationship between local and central government will determine the constraint on both levels of government in meeting their objective functions. In the UK, central government has deemed it increasingly important that it has the fullest possible control of fiscal and monetary matters and in the process has reduced the ability of local government to hamper the attainment of these macroeconomic
objectives. In so doing it has had to accept increased welfare losses from the divergence between central government preferences and those of the local electorate. It would, therefore, seem fruitful to consider how the relationship between local and central government affects each player's pursuit of politically expedient policies.

9.6 Central banks

The partisan indicator model has avoided issues concerning central banks. To the extent that the relationship between local government can be analysed in terms of the effect on political expediency a similar analysis can be carried out on how the political expediency of central governments is affected by central banks. From a public choice perspective it is important to realise that both organisations have their own objective functions. This is true of both politically dependent and politically independent central banks. Further, from a public choice perspective it is important to analyse the contractual relationship between governments and central banks. The framing of any institution will have important implications for its operations. Thus, normative issues of public choice will enable us to understand the implications of a European Central Bank.

It would be interesting to pursue how the increasing attempt to separate central banks from governments by giving central banks independence affects the pursuit of central government political expediency and particularly re-election. Do governments have to accept a trade-off between credible macroeconomic policy and re-election?

9.7 Internationalisation

Perhaps it should surprise us that political business cycle models continue to be so domestically-focused. With the increasing integration of economies the implications of domestically-focused political business cycle models, particularly for weaker economies, are likely to become increasingly less relevant.

The concept of internationalisation is perhaps best understood when we take the scenario whereby in a group of integrated economies there exists an economically dominant economy and a group of weaker economies. Then by considering the degree of election period synchronisation we can focus on the possible implications under different political business cycle models for the dominant and, more particularly, weaker economies. We believe that there is a series of testable hypotheses in relation
to both the existing political business cycle models and the partisan indicator model. The intuitive appeal of several of these hypotheses makes it somewhat surprising that research appears to have been limited in this area. For instance, if a pure political business cycle approach is taken one could consider whether because of the constraint imposed upon weaker economies there is a greater turnaround of governments in these weaker economies. If this is not found to be the case can we offer some alternative politico-economic rationale?

In applying internationalisation to the partisan indicator model one immediately sees the importance of the universal set of indicators. We argued that an imported expansion from a dominant to a weaker economy need not relax the re-election constraint on the government of the weaker economy. This result was in stark contrast to the popularity lead indicator model of Frey and Schneider where an imported expansion necessarily relaxes the re-election constraint. Conversely, in the partisan indicator model an imported contraction need not tighten the re-election constraint on the weaker economy, whereas in the popularity lead indicator model the re-election constraint would indeed be tightened.

9.8 Final comments

It seems to be unfortunate that those economists who have come across the term “political business cycle” take it to imply that politico-economic behaviour means the creation of persistent cycles across election periods. In terms of government expenditures this naive view would see government continually pumping up expenditures around the time of an election. Those that use this as the basis for empirical work, more often than not, find little or no support for this hypothesis. The thesis would concur. Political business cycle theorists need to understand when it is in the politician’s interest to act opportunistically or ideologically.

We have used the term political business cycle loosely. We have used it interchangeably with politico-economics to refer to politically induced behaviour. The important point for those reading the literature, and particularly those who wish to embark on empirical work, is that there may be occasions when inducing booms (or busts) is simply undesirable. Equally, it is naive to say that government can always do better. There are times when a “steady-as-you-go” approach is the most politically expedient. The implication is that the traditional Nordhaus (pure) political business cycle need not equate with political expediency. This statement would seemingly alarm
many political business cycle theorists. However, it is an important acknowledgement in building a more accurate politico-economic model.

There are strong grounds for rejecting the traditional perceptions attributed to the political business cycle literature. While there will be occasions when government has an incentive to engage in the creation of instrument and outcome cycles these will be those politically expedient occasions. Political expedience is dependent upon a series indicators of which popularity is only one. Instrument or outcome cycles can be politically inappropriate. Let political business cycle theorists retain their title, but lose the need to show that there are cycles.
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