Politics and business cycles in industrial democracies

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1. Introduction

Macroeconomics and politics are deeply interconnected. Elections are won or lost as a result of economic conditions. However, ideological and electoral incentives influence politicians' choices of macroeconomic policies. This paper investigates how the level of inflation, unemployment, and economic growth is influenced by political forces in several industrial economies, with particular emphasis on Western Europe. It is probably fair to view politicians as mainly driven by two fundamental motivations. First, they strive to remain in office as long as possible. Second, they are partisan and wish to deliver benefits to their constituencies. Clearly, the influence of politics on macroeconomic policy depends upon the predominant motivation of politicians. Exclusive emphasis on electoral motivations characterizes the 'political business cycle' theory (henceforth, PBC) popularized by Nordhaus (1975). According to this view, politicians attempt to create the most desirable economic conditions immediately before elections, even though their policies may require costly adjustments after the elections. In particular, the economy is overstimulated before the elections with expansionary policies. Short-sighted voters reward the incumbent government, without realizing that a recession will be needed after the election to reduce inflation. Thus, the political cycle generates sub-optimal and unnecessary economic cycles, since the timing of macroeconomic policy is artificially affected by the timing of elections. There exist a number of well known instances when this appealingly simple story has occurred.

Politics

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Summary

Influences from political competition on macroeconomic policy are often thought to be a source of economic fluctuations. Politicians are described as being driven by two, not mutually exclusive, main motivations: they want to be reelected and they harbour political, or ideological, biases. When such theories are confronted with actual cycles in a number of industrial countries, the pattern of inflation, unemployment, output, and budget deficits indicates that partisan policy making is a fairly widespread phenomenon, with more limited evidence that electoral preoccupations result in major fluctuations. The combination of partisanship and electoral cycles may easily result in socially undesirable outcomes. In particular the degree of politico-institutional stability and the independence of the Central Bank have a bearing on macroeconomic outcomes. These observations raise a number of important questions about the design of political institutions.

The median voter in practice
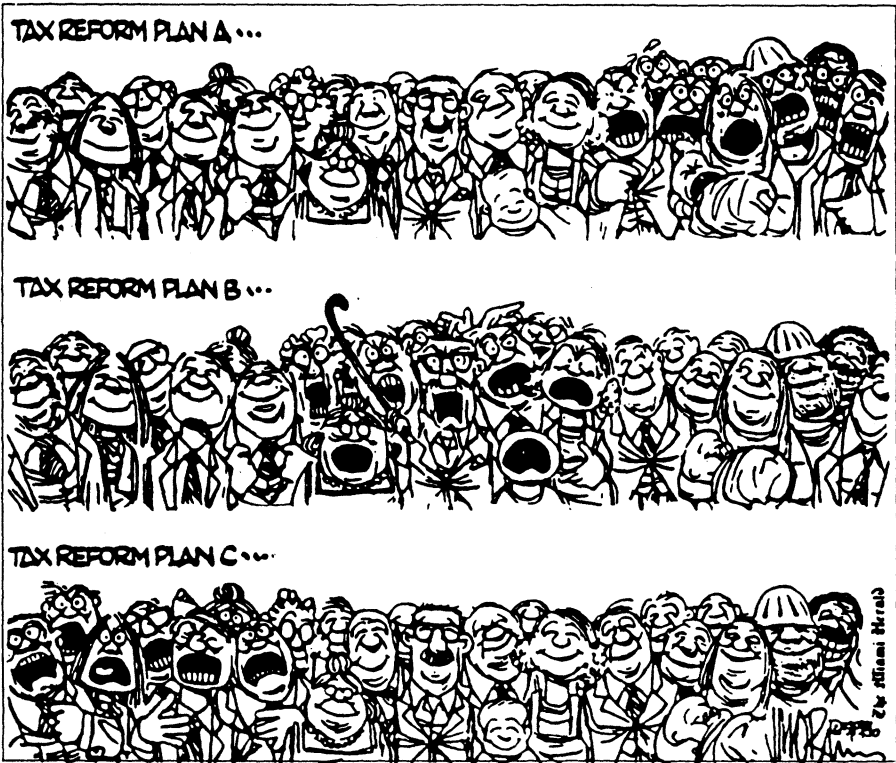
For example, a few weeks before the November 1972 election, President Nixon increased social security benefits by about 20% and indexed them to inflation, while money supply grew by more than 8% over 1972 as compared to about 4% in the preceding and following three years. However, the empirical work that has followed Nordhaus' insight has not been overly supportive of the PBC hypothesis.

Emphasizing the partisan behaviour of politicians in his 'partisan theory' (henceforth, PT), Hibbs (1977) has argued that political parties have different preferences over the trade-off between inflation and unemployment because macroeconomic outcomes have important redistributive consequences. As a low unemployment/high inflation outcome is favourable to the lower middle class, while the upper middle class benefits from the opposite combination, left-wing parties choose points on the Phillips curve with higher inflation and lower unemployment. Indeed, in the 1960s, countries with predominantly Socialist governments had a lower average unemployment and a higher average inflation than countries with predominantly non-Socialist governments. This view raises the possibility of a second political cycle and of a second type of inefficiency as the partisan behaviour of politicians may generate excessive economic fluctuations. Socialist parties underestimate the cost of inflation and overstimulate the economy; Conservative parties are too callous with respect to unemployment, when they fight inflation. Quite clearly, and this has been pointed out by Frey and Schneider (1978), the PBC and PT approaches are not necessarily mutually exclusive.

In the mid-1970s, both the occurrence of stagflation and the 'rational expectations revolution' questioned the existence of an exploitable Phillips curve, with two important implications for political business cycle theories. First, according to the new approach policymakers cannot engineer the kind of carefully timed expansions and recessions predicted by the PBC and, anyway, rational voters should not be easily 'fooled' by well timed pre-electoral expansions. Second, since employment remains unaffected beyond the short run by aggregate demand policies, identifying partisan governments should be harder beyond the short run. These 'rational' criticisms of the PBC and PT have been incorporated in the recent works of Cukierman and Meltzer (1986), Rogoff and Sibert (1988), and Rogoff (1987) based on Nordhaus' insights while Alesina (1987) has focused on the partisan theory. Once they incorporate rational expectations, the new approaches have different empirical implications from the original Nordhaus' and Hibbs' contributions. Thus, empirical support for the new partisan theory has been provided by Alesina and Sachs (1988) and Alesina (1988a) in the case of the US. Evidence regarding several industrial democracies in the

1970s and 1980s is presented in the present paper and suggests three main results.

First, partisan effects are significant. The pattern of unemployment, output growth and inflation tends to be systematically related to the political orientation of governments. However, this systematic difference is typically short-lived and occurs primarily in a short period after a change of government. On the contrary, the evidence of a systematic cycle on output and unemployment predicted by the PBC is rather inconclusive. If politicians try to expand the economy before elections they are not often successful. Another possible interpretation is that different governments are fighting different problems when elections are approaching: Conservative governments are often fighting unemployment after an early recession, and Socialist parties are trying to control inflation which resulted from their expansionary policies. Both types of government are trying to appear 'moderate' to win the support of the voters, but in order to appeal to the 'middle of the road voters' they have to follow different, often opposite policies. Second, there is a correlation between politico-institutional stability and economic performance: more polarized and unstable political systems have been associated with poorer economic performance as measured in terms of inflation and unemployment. Third, the results have a number of normative implications about the desirability of policy rules versus discretion, of institutional reforms, of an independent Central Bank, and of economic policy coordination. In particular, a better understanding of the political economy of macroeconomic policy is a crucial prerequisite for the design of efficient institutions.

The rest of the paper is divided into three sections. Section 2 reviews alternative politico-economic theories of inflation and unemployment and identifies the empirical implications which are examined in Section 3 for several industrial countries. Section 4 explores the relationship between political and economic stability. Section 5 considers several normative issues. The last section summarizes the main results of the paper.

2. Political theories of inflation and unemployment

The traditional view about politicians' behaviour is that they are self-interested individuals, maximizing their individual 'rents'. Since political 'rents' are associated with being in office, politicians simply maximize their popularity to increase the probability of reappointment (Downs, 1957). An implication is that one should presumably observe some policy convergence in a two party system: both parties seek to pursue the policy most desired by the median voter. Still, politicians might have

different strategic motives, so that the convergence of policy is not robust; more importantly this result does not always fit with the empirical evidence. Lack of policy convergence, that is the fact that different parties follow different policies when in office, is quite widespread. This lack of policy convergence can be explained in several ways. For example, a self-interested politician in the US, in order to become President, needs to win the nomination in the primaries. Thus, he has to adopt a policy position close to the median voter of one of the two parties. Since the platform adopted in the primary is a constraint (for credibility reasons) on the choice of a platform for the presidential elections, even self-interested politicians may have to choose polarized policies. Other considerations, such as the threat of entry of a third candidate (Palfrey, 1984), or abstentions of voters with extreme preferences because of alienation, may destroy the result of policy convergence even in a world of purely office-motivated politicians. In multi-party systems, focus on the median voter will not be the rule, and very little is known about the optimal location of parties in this system (see Shepsle and Cohen, 1988 for a survey). There is no presumption that in a multi-party system with self-interested politicians one should observe policy convergence.

A different approach to politicians' behaviour has been suggested by Wittman (1977) and developed by Calvert (1985) and Alesina (1988b). Politicians not only care about winning elections but also act as if they had preferences defined over policy issues. Individual politicians are self-interested and represent the 'ideology' of their party or constituency. According to this 'partisan' view, different constituencies, social and/or ethnic groups support different parties, which, in turn, follow different policies in order to retain this support. In particular, different constituencies would support policies which imply income redistribution in their favour. Clearly, elections have to be won in order to implement the desired policies. However, even when partisan politicians want to win, this approach does not predict fully policy convergence aimed at the median voter's preferences.

2.1. Partisan theories of macroeconomic policy

Hibbs' (1977) hypothesis (PT) is based upon the belief that left-wing parties prefer, on average, higher inflation and lower unemployment than right-wing parties. The basic idea is that politics is about income distribution. Macroeconomic outcomes have important redistributional consequences; indeed, the lower middle class, which mostly supports the left, tends to suffer during recessions relatively more than the upper middle class. Yet, it is rather difficult to isolate the effect of

macroeconomic policies on income distribution. The available evidence gathered by Hibbs (1987) for the US is unambiguous concerning the effect of unemployment: when unemployment rises the income shares of the two poorest quintiles decrease and the shares of the two richest quintiles increase while the middle quintile is essentially unaffected. However, these redistributive flows while substantial are not dramatic: a one-year increase in the rate of unemployment from 6 to 10% would shift 0.95 percentage points of income from the bottom two-fifths to the upper two-fifths of the income distribution.

The redistributive effects of inflation are less clear cut. In principle several channels are possible: the income tax brackets if they are not adjusted for inflation; the interaction between the tax structure and a firm's financial structure; the effect of inflation on the real value of nominally denominated assets; and changes in the relative prices of the baskets of goods purchased by different income groups. Hibbs' (1987) conclusion is that if inflation has had any overall effect on income distribution in the US, it has been from the rich to the poor. Minford (1985) suggests a similar effect for the UK and argues that the right is relatively more averse to inflation than the left because the right is more concerned with defending the real value of nominally denominated assets which are held in greater proportion by the upper middle class relative to the lower class. In summary, the evidence, though limited, provides some support for the view that redistributional considerations provide an incentive for the left to be expansionary and unemployment-fighting and for the right to be inflation-fighting and less concerned about unemployment.

Hence, if there is an exploitable Phillips-like trade-off, the left should opt for lower unemployment and higher inflation than the right. These systematic differences in economic activity should be relatively persistent and should be observed for the entire term of office of the various governments. This theory is inconsistent with the 'rational expectations' critique which suggests that expansionary policies result in higher inflation with very little benefit in terms of real economic activity beyond the short run. A 'rational partisan theory' (henceforth, RPT) has been proposed by Alesina (1987) and Alesina and Sachs (1988).[1] In a world of partisan politicians, electoral uncertainty generates uncertain expectations. Suppose that a recently elected right-wing government implements an anti-inflationary policy. If the public had accounted for the possibility that the left (less anti-inflationary) could have won the

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[1] A 'rational politico-macro model' was also proposed in an insightful early paper by Minford and Peel (1982). The emphasis and modelling strategy of that paper is, however, different from the present paper.

election it must have (rationally) assumed an average inflation rate above actual inflation. In the presence of nominal rigidities (such as non-indexed labour contracts), economic decisions taken before the election (and based upon rational expectations), cannot be immediately readjusted after the regime change. This implies some real effects in output and employment and the magnitude of these effects is positively related to the difference between the policies expected from the rival parties. This argument is strengthened if there is a backward-looking component in expectations formation (for instance if not everybody is rational or aware of the policy change).[2] Once expectations have caught up with the new regime the level of economic activity returns to its natural level. Inflation remains low if the government is from the right and has chosen an anti-inflation stance. With a left-wing government, new expansionary policies create a temporary increase in the level of economic activity above its natural level and once expectations have adjusted, inflation remains high. One reason is the problem of 'time-inconsistency' described by Kydland and Prescott (1977) and Barro and Gordon (1983); the problem is that, since left-wing governments have a reputation for fighting unemployment, the public expects high inflation from them. In fact, a low inflation policy announced by a government concerned with unemployment would not be credible; indeed, if expected inflation was 'low', this government would create an inflation surprise in order to reduce unemployment. Instead, the public expects high inflation and the government's best course of action is to 'accommodate' those expectations to avoid a recession. As a result, the economy is 'trapped' into a high-inflation equilibrium. An expansionary government may thus produce rising inflation and unemployment in the latter part of its term of office.

The RPT differs in an important way from Hibbs' approach. In the latter, differences in output and unemployment persist and actually increase throughout the entire term of office of different governments. In contrast, the RPT predicts that such differences are transitory and should occur immediately after the change of government. Both views do, however, share an emphasis on the difference between left-wing expansionary parties and right-wing anti-inflationary parties. The partisan theory, and in particular the RPT does not rely upon voters' shortsightedness. On the contrary, it is consistent with the view that intelligent voters correctly understand the difference between parties and vote accordingly. The uncertainty about the electoral results is due

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[2] In addition, imperfect information about the preferences of a newly elected policymaker can prolong the adjustment if the public has to learn the preferences of the new policymaker (see Barro, 1986).

to changes in voters' preferences, which are not perfectly predictable. Interestingly, voters' preferences may also change as a result of economic outcomes; for instance, a period of high inflation may increase the degree of inflation-aversion in the public and generate a movement toward the right. Arguably several countries have experienced such changes of opinion in the late 1970s or early 1980s.

2.2. Political business cycles

The PBC approach of Nordhaus (1975) emphasizes exclusively the electoral motivations of policymakers. All politicians simply maximize their chances of remaining in office and subsequently follow identical policies. Nordhaus' PBC is based upon two crucial assumptions. First, the voters are backward-looking and short-sighted; they vote for the incumbent if the economy is 'doing well' (low unemployment, high growth, low inflation) immediately before the elections. They forget quickly about the past and do not understand the economic relationship between inflation and unemployment. Second, the economy is characterized by a Phillips curve which is easily exploitable because of backward-looking expectations. In this context, every incumbent stimulates aggregate demand before elections. In addition, given that the inflationary consequences of an expansion are normally lagged, the stimulus can be timed in such a way that inflation will only appear after the election. At that time inflation is brought under control by a demand-induced recession, which voters soon forget in time to be fooled again before the following election.

Recent work by Cukierman and Meltzer (1986), Rogoff (1987), and Rogoff and Sibert (1988) builds a 'rational political business cycle' theory (henceforth, RPBC). They show that Nordhaus' (1975) insights may survive even when voters are not myopic and gullible as long as they are imperfectly informed about some characteristics of the environment, the policymaker's objectives, or his ability to manage the economy. For instance, immediately before elections, incumbents may want to appear as 'efficient' as possible in providing new public goods, services, or transfers. By 'hiding' or delaying the budgetary consequences, the incumbents may succeed in creating a temporary illusion of prosperity, before the voters realize that they will have to pay for it with post-election taxes. The budgetary process is sufficiently complicated, that even relatively informed and attentive voters may be 'fooled' at least temporarily. This analysis thus predicts a pre- and post-electoral manipulation of policy instruments. However, it is difficult to obtain regular and predictable four–five years' fluctuations of output and unemployment in this rational framework, since it is unrealistic to imagine that

imperfect information on policy choices can last for several years. The RPBC theory is thus compatible with relatively short-run cycles of budget deficits, transfers, and money supply growth around the election date but it does not have clear implications for a longer cycle of output and unemployment.

2.3. Summing up

Four politico-economic views of the inflation-unemployment tradeoff have been presented. The first approach, the PBC, is based upon non-ideological politicians and myopic voters. It implies a recession at the beginning of every government's term of office and an expansion immediately before new elections, with no partisan differences. The second approach, the RPBC, allows for both non-ideological politicians and rational voters. This cycle has implications similar to that of the PBC on certain policy instruments (budget deficits, money supply), but has no clear implications for a several-year cycle on output and unemployment. The third approach, the PT, is based upon partisan politicians and an exploitable Phillips curve. This approach predicts a low unemployment–high inflation outcome for the entire term of office of left-wing governments and the opposite combination for right-wing governments. The fourth and last approach, the RPT, includes both ideological politicians and rational voters. It predicts an expansion at the beginning of a left-wing government and a recession at the beginning of a right-wing government. In the latter part of the term of office, output and unemployment should be indistinguishable between governments, while inflation may remain higher during left-wing administrations.

3. Empirical evidence on politico-economic cycles

Most of the available empirical work on politically induced business cycles has been performed on US data, and, to a lesser extent, on British data. The reason is presumably that such cycles are more difficult to study in European democracies; first of all, economic fluctuations in small open economies are deeply linked to the condition of world demand. Thus, politically induced 'recessions' or 'expansions' should be defined relative to the world economy. In addition, international monetary agreements such as the EMS have constrained European monetary policies relatively more than in the US. Second, European unemployment shows signs of strong persistence, due to various characteristics of the labour market (see Blanchard and Summers, 1986, and

the references quoted therein). As a consequence demand policies are hardly the only determinant of unemployment. Several other difficulties relate to the politico-institutional structure. For instance, it is sometimes difficult clearly to identify changes of political regimes. Realignments of coalitions and government crises with changes of personnel occur rather frequently in several countries and often not as a result of general elections. In addition, it is sometimes hard to place coalition govern-ments in the right–left dimension because the relative weights of the various members of a coalition may vary over time, even though the parties forming the coalition remain unchanged. More generally, coali-tion governments may behave rather differently from single party governments. Hence, the structure and cohesiveness of coalitions is an important matter to consider on the top of the left–right distinction. Furthermore, the timing of elections is often endogenous so that policy makers can call elections in 'good times' rather than create good times when elections are approaching. Finally, any attempt to establish general patterns and correlations between politics and economic variables for a large sample of countries implies that country-specific institutions, events or personal characteristics of individual politicians have to be assumed away.

It is quite clear that one has to make rather strong assumptions to provide statistical tests or even simply to organize the data. In an insightful paper, Alt (1985) identifies these problems and deals with some of them. His empirical evidence from several European countries favours the partisan theory of unemployment. However, he does not consider output growth and inflation, he does not confront directly the PBC and the PT, nor does he consider the RPT as a possible explanation of the empirical evidence.

3.1. Tests of partisan theories

Table 1, based upon Alt (1985) and Banks (1987), identifies all the changes of regimes in the sample period 1968–86. Note that this table considers only *changes of* governments. It does not indicate when a party or coalition is reelected. In addition to the western European countries, the US and Australia are also included to enlarge the sample. Not included in the table are: Switzerland, due to the lack of any political change; Italy, because of its chaotic electoral history; Ireland, for data problems; and Portugal, Spain and Greece because of their recent transitions from dictatorships to democracies, a major change of political regime hardly comparable to the other changes of governments included in the table. These countries are, however, considered in Section 3.3, where some international comparisons are attempted.

Table 1. Changes of political orientation of governments (1968–86)

Country and date	Direction of movement	Explanation	Country and date	Direction of movement	Explanation
Australia			Germany		
12–72	Left	Labour-single-party	09–69	Left	SPD-FDP coalition
11–75	Right	Liberal	12–72	Right	FDP gains econ. min.
03–83	Left	Labour	10–82	Right	CDU/CSU–FDP coalition
Austria			Netherlands		
04–70	Left	Socialist	05–73	Left	Labour coalition
04–83	Right	SP-FP coalition	05–77	Right	Right coalition
			09–81	Left	Labour coalition
			11–82	Right	Right coalition
Belgium			Norway		
06–68	Left	CSP-socialist	10–71	Left	Socialist
01–73	Right	CSP-Soc-lib	10–72	Right	Nonsocialist coalition
03–77	Left	CSP-Soc-minor parties	10–73	Left	Socialist
12–81	Right	Nonsocialist coalition	10–81	Right	Conservative
10–85	Left	Socialist coalition	10–85	Right	Socialist

Denmark (a)		
10–71	Left	Socialist
12–73	Right	Lib-democrat
02–75	Left	Socialist
09–82	Right	4-Party conservative coalition
Finland (b)		
11–75	Right	Centre coalition
05–77	Left	Centre/left coalition
France		
05–81	Left	Socialist
Sweden		
10–76	Right	Right coalition
10–82	Left	Left coalition
UK		
06–70	Right	Conservative
02–74	Left	Labour
06–79	Right	Conservative
US		
11–68	Right	Republican pres.
11–76	Left	Democratic pres.
11–80	Right	Republican pres.

Source: Alt (1985) and Banks (1987).
Notes: (a) A short lived Social Democrat-Liberal coalition government (8–78/10–79) is not considered a significant change of regime from the previous government. For the same reason Alt (1985) excludes this government from his analysis; (b) short-lived changes in coalition governments in the period 3–70/10–71 are ignored.

Three economic indicators are considered: real output growth, unemployment and inflation. Since the world level of economic activity affects each country's economic conditions, we consider for all countries the deviation of these variables from their average over eighteen industrialized economies.[3] Henceforth, the terms 'inflation', 'unemployment' and 'output growth' will be used to indicate deviations from the average of the corresponding variables. The following indices are defined:

I_1 = (average output growth in the first two years after a change of regime) minus (average output growth in the preceding two years).

I_2 = (average output growth in the first two years after a change of regime) minus (average output growth for the entire term of office of the new regime).[4]

The RPT predicts that I_1 and I_2 will be positive for a left-wing regime and negative for a right-wing regime. In particular, a positive value of I_2 (not to be expected with Hibbs' PT) would suggest that the real effects of aggregate demand stimulation are stronger at the outset of the new term of office.

In principle, one would want to construct indices for unemployment analogous to I_1 and I_2. However, as pointed out by Blanchard and Summers (1986), European unemployment shows a very high degree of persistence which reflects a variety of supply-side phenomena. Thus, rather than working with the actual data, we isolate 'shocks' or innovation in the behaviour of unemployment which may be caused by shifts in aggregate demand[5] and use these measures to construct the two indicators, I_3 and I_4, otherwise defined exactly as I_1 and I_2. The signs predicted by the RPT for I_3 and I_4 are opposite to those of I_1 and I_2, that is, negative for left-wing governments and positive for right-wing governments. The strict and simple version of the RPT as formulated in Alesina (1987) and Alesina and Sachs (1988) would imply that these indicators (I_1 to I_4) may be different from zero even after the reappointment of the same government because of electoral uncertainty. Quite clearly real effects of demand policies are stronger when, in addition

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[3] The results do not change qualitatively if other 'reasonable' sets of countries are chosen to construct these indices. For instance, analogous results are obtained by considering the three indicators as deviation from the average of five major economies (US, Japan, Germany, France, and UK).

[4] The first year of a government is considered to be the calendar year following the year in which the change of regime occurred. The last year of a government includes the year in which the change of regime occurred. This choice is reasonable because it allows for a time lag between the change of government and the observable effects of new policies.

[5] Innovations are computed as the residuals of a first order regressive process. For every country a second lag is (with one exception) insignificant. The results of these regressions are available from the author.

to electoral uncertainty, the policy actually changes. Furthermore, in several cases of reappointment of the same government, the electoral uncertainty was very low as the likelihood of reappointment of the incumbent was very high. Some indirect evidence favourable to the more restrictive version of the RPT is presented in Section 3.2.

With respect to inflation, both the PT and the RPT predict that left-wing regimes should exhibit higher inflation than right-wing regimes. Since inflation is also highly persistent in the countries under review, inflation data were adjusted using the same procedure as the one for unemployment. The following index was constructed:

I_5 = (average inflation rate per year in one regime) minus (average inflation rate in preceding regime).

The partisan theory predicts that I_5 should be positive (negative) for left- (right-)wing governments.[6]

Table 2 reports these five indicators for all the changes of regimes described in Table 1. A yes (Y) stands for a sign of the indicator consistent with the RPT; a no (N), for a sign which is *not* consistent. The actual values of the indicators are reported in Table A1 in the Appendix. Table 2, with more than 70% of yes, provides some support for the RPT. The Netherlands is the only country which clearly does not exhibit the pattern predicted by the theory, particularly on unemployment. Excluding the Netherlands, out of the 33 regime changes listed in Table 1 only two are characterized by indicators inconsistent with the RPT (Norway in 1981 and Australia in 1972); in one case we also find an equal number of correct and incorrect signs (Germany in 1969). In all the other cases, the majority of the indicators have the sign predicted by the theory. For 22 changes of regime there are either zero or one sign not consistent with the RPT. Furthermore the indicators with the incorrect sign tend to be smaller in absolute value than the indicators with the correct sign: Table 3 shows that the indicators with the correct sign are on average larger in absolute value than the corresponding indicators with the incorrect sign, except I_4 for which there is a tie (see Table A1 for details). The difference in the averages for the output indicators is rather striking and it is relatively smaller for I_5 because of two 'large' incorrect signs (Belgium and Finland).

Several changes of regime in the late 1970s and early 1980s fit the RPT: France (1981), Sweden (1982), UK (1979), and the US (1980).

[6] The indicator I_5 is not defined on the first change of regime in the sample, since the average of the regime before the first change is not well defined. Also, we have not computed the index for the two regime changes occurring in 1985 (Belgium and Norway), since only one observation for the new regime is included in the sample.

Table 2. Test of partisan theories

	Output growth				Unemployment				Inflation		Total	
Indicators:	I_1 After minus before		I_2 First 2 years minus whole term		I_3 After minus before		I_4 First 2 years minus whole term		I_5 After minus before			
Theory prediction:												
Left	+		+		−		−		+			
Right	−		−		+		+		−			
Conformity outcome	Y	N	Y	N	Y	N	Y	N	Y	N	Y	N
Australia	2	1	2	1	1	2	3	0	2	0	10	4
Austria	2	0	2	0	2	0	1	1	0	1	7	2
Belgium	4	1	1	3	5	0	3	1	1	2	14	7
Denmark	4	0	2	0	3	1	1	1	3	0	13	2
Finland	2	0	1	0	2	0	0	1	0	0	5	2
France	1	0	1	0	1	1	1	0	NA	NA	4	0
Germany	2	2	3	0	2	1	3	0	1	1	10	4
Netherlands	2	2	0	3	0	4	1	2	3	1	6	11
Norway	3	2	2	0	3	2	1	1	2	1	11	6
Sweden	2	0	2	0	1	1	2	0	1	0	8	1
UK	2	1	3	0	2	1	2	1	2	0	11	3
US	2	1	3	0	2	1	3	0	2	0	12	2
Total	27	10	22	7	24	13	21	8	17	6	111	44
% of Yes	73		76		65		72		74		72	

Sources: Output is GNP or GDP, inflation is CPI growth rate, both from *IFS*, IMF. Unemployment rate: *Main Economic Indicators*, OECD. *Notes*: Indicators are defined in the text. All variables are relative to the average of 18 countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Italy, Japan, Netherlands, Norway, Portugal, Spain, Sweden, UK and US. Because of data problems, the unemployment average is constructed using 14 of these countries, excluding Australia, Denmark, Greece, and the Netherlands.

Table 3. Average absolute values of the indicators of Table 2

	I_1	I_2	I_3	I_4	I_5
Y	1.86	1.03	0.84	0.37	1.23
N	0.70	0.29	0.53	0.37	1.07

Notes: Computations based upon Table A1 in Appendix.

The case of the French Socialists is particularly suggestive of the RPT. In a period of world recession (1981–83), the French government pursued expansionary policies, keeping French economic growth positive, while many other major industrial economies were in a recession (see Sachs and Wyplosz, 1985, for a detailed analysis of this period). These recent examples are perhaps better known, but several other changes of regime are consistent with the theory. For example, in the mid-1970s, the Carter administration in the US and the Swedish Conservatives (1976) offer a particularly good fit. In Sweden, the output growth indicator fell from an average of about zero in 1975–76 to almost −4 in 1977, and almost −1 in 1978; in the US, from an average of −0.1 in 1973–76 to an average of more than 2 in 1977–78 (dropping to −1 in 1979–80). The unemployment and inflation indicators also conform with the RPT.[7]

Table 4 provides some additional evidence regarding the effects of regime changes on cyclical fluctuations. It shows the correlation between the output or unemployment indicators and the changes in political orientation of governments. To do so a variable 'left' is defined as follows:

$$\text{Left} = \begin{array}{ll} +1 & \text{in two years after a change of regime toward the left} \\ -1 & \text{in two years after a change of regime toward the right} \\ 0 & \text{otherwise.} \end{array}$$

Of course we could equally call this variable 'right' by changing its sign: the variable simply captures a change in orientation and has no particular 'partisan' implication. Table 4 displays the coefficients on the variable 'left' along with their *t*-statistics. Except for two instances where they are statistically insignificant (unemployment in the Netherlands and Norway), all the coefficients have the expected sign. More than half of them (13) are either strongly or marginally significant (they have a *t*-statistic above 1.5 in absolute value); four of the remaining

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[7] The results on the UK and the US confirm earlier related results favourable to the partisan theory. For the US, see, for instance, Alesina and Sachs (1988), Alesina (1988a) and the references quoted therein. For the UK, see Hibbs (1977), Minford and Peel (1982), Borooah and Van der Ploeg (1983), Minford (1985), and Alt (1985).

Table 4. Correlation with changes to the left (1966–86)

Countries	Output	Unemployment	Countries	Output	Unemployment
Australia	0.87	−0.29 (a)	Germany	0.39	0.50
	(1.38)	(−1.08)		(0.78)	(−2.31)
Austria	1.04	−0.24	Netherlands	0.67	0.36
	(1.89)	(−1.64)		(0.78)	(0.40)
Belgium	0.21	−0.53	Norway	1.04	0.01
	(0.40)	(−2.26)		(1.51)	(0.14)
Denmark	0.67	−0.42	Sweden	1.44	−0.16
	(1.35)	(−1.28)		(2.00)	(−0.69)
Finland	2.32	−1.00 (b)	UK	1.51	−0.42
	(2.47)	(−2.77)		(1.55)	(−1.56)
France	0.31	−0.67	US	2.51	−0.66
	(0.14)	(−2.42)		(3.73)	(−1.80)

Notes: The variable 'left' is defined in the text; the regressors are a constant and the variable left; *t*-statistics are given in parentheses; (a) 1968–86; (b) the unemployment regression for Finland is the only one which exhibits first order autocorrelation of the residual, thus, a lagged dependent variable is used as an additional regressor.

coefficients have a *t*-statistic above 1. In every country except for the Netherlands and Australia, at least one of the two coefficients is statistically significant.

The results on I_2 and I_4 and Table 3 support the RPT rather than the PT, by indicating that the effects of changes in regime on output and unemployment seem to be transitory. Note, however, that there is a slighly different way of formulating a partisan theory with transitory effects. For instance, Alt (1985), and informally Cohen (1988), suggest that these real effects may be transitory not only because of expectation adjustments which shift the Phillips curve, but because economic policies change and become more cautious in the second part of governments' terms of office. Left-wing governments may turn to less expansionary policies, for instance, if the early expansion has created problems of external balance and/or if inflation is growing too fast. In other words, left-wing governments in the latter part of their terms of office often face an economy with high inflation and growing unemployment. They are thus forced to fight inflation, even though new elections may be approaching, and the more so if opinion polls show the public's concern with inflation. In some sense, left-wing governments end up following a pattern of policies opposite to the prediction of the PBC theory. The policies of the Carter administration and of President Mitterrand are perhaps the two clearest examples.

As argued in Section 2.1, the different preferences for macro-economic policies of left and right-wing parties are due to divergent

Table 5. Changes in real disposable under Reagan and Thatcher

Change in average household real personal disposable income:

	Reagan 1980–84	Thatcher 1978–79 to 1981–82
Top 20%	+8.7	+4.7
Next 20%	+3.4	−4.3
Middle 20%	+0.9	−6.4
Next 20%	−0.7	−1.1
Lowest 20%	−7.6	−9.7
Total	+3.5	−1.1

Household share of real personal disposable income:

	Reagan		Thatcher			
	Post-tax		Post-tax		Pre-tax	
	1980	1984	1978–79	1981–82	1978–79	1981–82
Top 20%	37.0	38.9	39.7	42.0	42.6	45.0
Next 20%	24.5	24.5	24.8	24.0	24.7	23.9
Middle 20%	18.5	18.1	17.0	16.1	16.5	15.6
Next 20%	13.2	12.5	11.5	11.5	10.3	10.2
Lowest 20%	6.8	6.1	7.0	6.4	5.9	5.5

Source: Alt (1988).

goals regarding distributional matters. A relevant question is, then, whether the left and the right have succeeded in achieving the desired redistributions. The answer to this question for the US and the UK appears to be affirmative. For the US, Hibbs (1987) show than an index of income inequality tends to fall when a Democratic President is in office and *vice versa*. This is partly because recessions occurred primarily under Republican Presidents and, as pointed out in Section 2.1, recessions tend to increase income inequality. An additional factor is the composition of government expenditure and transfer programmes. A similar picture applies to the UK: during the 1960s and 1970s the proportion of taxable personal income received by the top half of income taxpayers has a negative trend, indicating an increase in equality during this period (Rose, 1980). The pattern of income distribution in these two countries in recent years during the 'conservative' policies of President Reagan and Prime Minister Thatcher is particularly 'partisan'. Table 5, borrowed from Alt (1988), shows that the top 20% of British taxpayers gained almost 5% of real disposable income in a three-year period in which the total disposable income fell more than 1%. During the first Reagan administration, the lowest quintile lost almost 8% despite a 3.5% overall growth.

3.2. Political business cycles

The PBC theory predicts a recession at the beginning of each new term of office and an expansion immediately before the new election, with no partisan distinctions. The implications for inflation are less clear cut and depend upon how quickly the inflation rate adjusts to the pre-electoral expansionary policies: one may observe inflation starting to increase before or after the election. Because the implications of the PBC on inflation are not clear cut this variable will not be considered as a test of the PBC. Previous empirical research has provided support to the PBC. Even though a few episodes seem to fit the PBC rather well (e.g. Nixon in 1972), when many elections are considered the predicted systematic cycle can hardly be identified; for the US this conclusion is reached by Alesina (1988a) who presents a survey of the literature. Much fewer results are available for the other countries, but they also provide a rather weak support for the PBC. For instance, Paldam (1978) concludes very cautiously that, overall, only very weak signs of PBC, if any at all, can be found in European democracies.

In order to design a test for the PBC hypothesis, one should take into account the fact that the PBC and the RPT have similar empirical implications for right-wing governments since both theories predict a recession at the beginning of these governments. Consider, for instance, the first Reagan administration. In 1981–82, the US economy was in a sharp recession, while in 1983–84 it was recovering: this observation cannot indicate if the Reagan administration was mainly driven by electoral or partisan motivations, or indeed by both at the same time. On the contrary, because the PBC and the RPT have opposite predictions for the pattern of output and unemployment during the terms of left-wing governments, these governments provide excellent observations to compare the two hypotheses. For the countries included in Table 1, Table 6 considers all the periods during which left-wing governments have been in office for at least three years. Four indicators are considered:

I_6 = (rate of growth of output in the election year) minus (average rate of growth of output for the entire term of office).

I_7 = (average rate of growth of output in the election year and the preceding year) minus (average rate of growth of output for the entire term of office).[8]

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[8] The 'election year' is defined as the year in which elections are held, if the election date is after June 1. In the few cases in which elections are held before June 1, we considered the preceding year as the election year. The first year of a term of office is defined as the first year after the year in which election took place, for an election date after June 1, and the election year for elections occurring before June 1. Note that Table 6 includes both the cases in which an incumbent left-wing government has been or has not been reappointed.

Table 6. Test for 'Political Business Cycles' (1969–86)

	Output growth		Unemployment		
	I_6 Election year minus whole term	I_7 Election and previous year minus whole term	I_8 Election year minus whole term	I_9 Election and previous year minus whole term	Total
Theory prediction	+	+	−	−	
Austria					
10–71/10–85	*Y*	*N*	*Y*	*Y*	
10–75/05–79	*N*	*N*	*N*	*N*	
05–79/04–83	*N*	*N*	*Y*	*N*	
Belgium					
12–78/09–81	*N*	*Y*	*N*	*N*	
Denmark					
02–77/12–79	*Y*	*Y*	*Y*	*Y*	
Finland					
01–72/09–75	*N*	*N*	*Y*	*Y*	
03–79/03–83	*N*	*N*	*N*	*N*	
France					
05–81/09–86	*Y*	*N*	*N*	*N*	
Germany					
09–69/11–72	*N*	*N*	*N*	*N*	
11–72/10–76	*Y*	*Y*	*Y*	*Y*	
10–76/10–80	*N*	*N*	*Y*	*Y*	
Norway					
11–73/11–77	*N*	*N*	*N*	*N*	
11–77/11–81	*N*	*N*	*Y*	*Y*	
Sweden					
10–70/10–73	*Y*	*Y*	*Y*	*Y*	
10–73/10–76	*N*	*N*	*N*	*Y*	
10–82/10-85	*N*	*N*	*N*	*N*	
UK					
02–74/06–79	*N*	*Y*	*Y*	*Y*	
US					
11–76/11–80	*N*	*N*	*N*	*N*	
Total	5 *Y* 13 *N*	5 *Y* 13 *N*	9 *Y* 9 *N*	9 *Y* 9 *N*	28 *Y* 44 *N*
% of Yes	28	28	50	50	39

The indicators for unemployment, I_8 and I_9, are defined like I_6 and I_7, respectively, using the same unemployment innovations as in Table 2. An entry Y in Table 4 indicates a sign of the indicator consistent with the PBC (i.e., positive for I_6 and I_7 and negative for I_8 and I_9). An entry N indicates a sign not consistent with the PBC.

Overall, Table 6 shows that left-wing governments do not systematically follow a PBC pattern. More than 60% of the indicators have a sign inconsistent with the PBC. In only five of the 14 cases considered are

Table 7. The budget and the political business cycle theories

Theory prediction: Conformity of outcome?	I_{10} election year minus preceding year		I_{11} election year minus following year		Total	
	Y	N	Y	N	Y	N
Australia	3	2	1	3		
Austria	1	2	0	3		
Belgium	4	0	3	1		
Denmark	3	1	2	2		
Finland	3	0	1	2		
France	2	1	0	3		
Germany	0	4	4	0		
Netherlands	2	1	2	1		
Norway	1	2	1	2		
Sweden	2	2	2	2		
UK	2	1	3	0		
US	2	2	3	0		
Total	25	14	18	18	43	32
% of Yes	64		50		57	

Source: Mueller and Price (1985) for cyclically adjusted, inflation adjusted budget balance.
Notes: This table includes all the general elections in the sample period, but excludes elections which took place with less than a two-year interval. Election years are: Australia: 5–74, 12–75, 12–77, 10–80, 12–84; Austria: 10–75, 5–79, 4–83; Belgium: 3–74, 4–77, 12–78, 11–81; Denmark: 2–77, 10–79, 12–81, 1–84; Finland: 9–75, 3–79, 3–83; France: 9–74, 9–77, 5–81; Germany: 11–72, 10–76, 10–80, 3–83; Netherlands: 5–77, 7–80, 9–83; Norway: 10–73, 10–77, 10–81; Sweden: 10–73, 10–76, 10–79; 10–82; UK: 2–74, 6–79, 6–83; US: 11–72, 11–76, 11–80, 11–84.

the majority of the indicators consistent with the theory, and in one case out of two, there is either one indicator with a consistent sign, or none. The lack of evidence in favour of the PBC is particularly clear on output growth. The cases of the Mitterrand's government (1981–86), the Carter administration (1976–80), the German Social Democrats (1976–80), and the Swedish Social Democrats (1983–85) show a pattern opposite to the one prescribed by the PBC, while consistent with the RPT. These economies were doing much better in terms of growth and unemployment in the early parts of the terms in office than in the subsequent parts.

Even though this evidence is not overly supportive of a PBC on unemployment, pre-electoral manipulation of policy instruments such

as the government budget might nevertheless occur. As noted above, recent developments in the Nordhaus tradition have emphasized 'political *budget* cycles' rather than unemployment cycles. In fact, a 10– 18 month cycle in budget deficits and money supply, around election time, would be consistent with the absence of a cycle in output and unemployment, particularly with rational expectations. Table 7 considers the inflation adjusted, cyclically adjusted budget balances computed by the OECD (Mueller and Price, 1985). In order to check whether indeed fiscal policy is loose in election years, we consider two indicators:

I_{10} = (budget balance in election year) minus (budget balance in the preceding year).

I_{11} = (budget balance in election year) minus (budget balance in the following year).

The election years are defined as in Table 6. The electoral budget cycle predicts that I_{10} and I_{11} should be negative, implying that deficits increase, or that surpluses are reduced in election years. Table 6 reports the results for the period 1972–84 over which the budget data are available. In the majority (almost 65%) of the cases considered, the budget deteriorated in the election year relative to the preceding year. Additional evidence of a political cycle, on personal transfers in the US, is also provided in Tufte (1978) and Alesina (1988a).

3.3. Summing up

The stylized facts described in the preceding two sections suggest the following picture. When conservative governments are elected, they fight inflation, and they tend to create a recession, particularly if they inherited a high inflation rate. After the disinflation is over, and once inflation expectations have adjusted to the new regime, the economy grows at about the natural rate and inflation remains low. When left-wing governments are elected, they attempt to expand the economy to reduce unemployment which is their main concern. They usually succeed in the short term, but then inflation expectations catch up and the economy is locked into a high-inflation equilibrium. A few years after the election of a left-wing government, the economy may show decreasing growth and increasing inflation. The reduction in real growth is even sharper if the government attempts to fight inflation in the second part of the term. Left-wing governments thus often face new elections with decreasing real growth; this has been the case for President Carter (1980), the German Social Democrats (1980), Mitterrand (1986), and the Swedish Social Democrats (1985). On the contrary, conservative

governments reach new elections with an economy recovering from an early recession; this occurred with President Reagan (1984), Margaret Thatcher (1983), and the Swedish conservatives (1979). Note that if conservative and socialist governments want to 'put the house in order' before new elections, and compete for the 'middle of the road' voters, they often need to fight opposite problems: the conservatives need to speed up the recovery, the socialists need to fight inflation. In addition, and consistent with the PBC general hypothesis, both types of govern-ment may try to avoid so-called 'unpopular' fiscal measures in election years. Indeed there is some evidence that the budget balance tends to deteriorate in election years.

Finally, one may ask how the voters react to all of this. One view, which is compatible with the PBC approach, sees the voters as rather naive and easily gullible. A well-timed short-run expansion is sufficient to increase significantly the incumbent's chances of re-election. Empirical evidence in support of this view in the US is presented by Kramer (1971), Fair (1978), and others. Another view is that voters are well informed and understand the differences between parties. Thus, they turn to the left when they want to see unemployment reduced, and to the right when they are more concerned with inflation. Evidence in support of this latter view is presented, for the US, by Kiewiet (1983) and Alesina and Rosenthal (1989).

4. Political stability and economic stability

The preceding sections have focused on the pattern *over time* of infla-tion, output, and unemployment in several economies. Political variables can also explain differences *across countries*. This is what Hibbs (1977) found for the inflation rate in the 1960s. Hansson (1987) convincingly argues that this pattern persists in the 1970s and 1980s if one accounts for other economic and institutional differences between countries; relevant considerations would include the degree of unionization and of wage indexation, differences in the effects of oil shocks and the degree of Central Bank independence. The recent politico-macroeconomic literature suggests that the degree of political instability is an additional explanation for cross-country differences in economic outcomes. Two arguments have been presented to explain why politi-cally unstable and polarized countries should exhibit relatively 'poor' economic outcomes. The first one is directly related to the 'partisan theory' and suggests that, in highly polarized countries, 'partisan' governments follow divergent policies. Economic uncertainty is thus increased and expectations are destabilized. Excessive instability and polarization of economic policies can generate sub-optimal outcomes.

This point is implicit in the RPT of inflation and unemployment and made more explicit in the context of fiscal policy by Alesina and Tabellini (1987), Tabellini and Alesina (1988), and Persson and Svensson (1987). Furthermore, if a government is unlikely to be reelected, it has an incentive to follow particularly shortsighted policies, since it is not concerned with a future in which it is likely to be out of office. The second argument emphasizes the effects of unstable coalition governments. Roubini and Sachs (1988) argue that for large and fragile coalitions it may be difficult to implement 'tough' economic policies when needed, either because they have a short horizon or because of political deadlocks due to disagreements between members.

Table 8 shows that the degree of political instability may be associated with poor economic performance as measured in terms of inflation and unemployment. In this table, and in the related discussion, inflation and unemployment should be interpreted as the actual variables (not as the deviation of innovations from a multi-country average). An index of political stability ranging from 1, the most stable, to 4, the least stable, is compared to the average level of inflation and unemployment (1973–86) in 20 countries. This stability index is a summary of several politico-institutional characteristics of each country which accounts for: the political cohesion of governments, using an index proposed by Roubini and Sachs (1988); the occurrence of major institutional changes, such as the transition from dictatorships to democracies; the existence of politically relevant extreme parties; the frequency of early elections; and the presence of regional/ethnic/linguistic conflicts. The construction of this index is described in the Appendix.

The positive correlation between instability, as measured by the index of Table 8, and Okun's misery index (the sum of inflation and unemployment) is quite strong. With only one exception (still the Netherlands), none of the least stable countries – those with an index of stability of 3 and 4 – are in the bottom half of the 18 countries for which the misery index is available. Systematically the countries with an index of 4 have the highest misery index and the highest inflation rates. The two countries with an index of 1 have two of the three lowest misery indexes. In addition, Spain and Greece show the worst economic performance (particularly in terms of inflation) in the transition period from dictatorship to democracy, therefore in the period of the highest political instability and uncertainty. The economic outlook has substantially improved when more stable democratic institutions have been established in these countries. The UK represents an interesting outlier, combining a rather high misery index with a quite stable political index (2). This country has a 'textbook' style, institutionally robust two-party system. However, most observers would agree that British politics is

Table 8. Inflation, unemployment and political stability (1973–86)

	Average inflation (rank) (a)	Average unemployment (rank) (b)	Misery index (rank) (a)+(b)	Index of political stability
Portugal	19.0 (1)	NA	NA	4
Greece	17.2 (2)	NA	NA	4
Spain	13.6 (4)	11.3 (2)	24.9 (1)	4
Italy	13.7 (3)	8.1 (4)	21.8 (2)	4
Belgium	6.9 (14)	11.9 (1)	18.8 (3)	3
UK	10.7 (6)	8.1 (4)	18.8 (3)	2
Canada	7.8 (13)	8.5 (3)	16.3 (5)	2
Denmark	8.8 (10)	7.2 (6)	16.0 (6)	3
Australia	9.7 (8)	6.2 (8)	15.9 (7)	2
France	9.2 (9)	6.5 (7)	15.7 (8)	3
Finland	9.8 (7)	4.8 (10)	14.6 (9)	2
New Zealand	12.0 (5)	2.2 (13)	14.2 (10)	2
US	6.9 (14)	7.2 (6)	14.1 (11)	2
Netherlands	5.5 (17)	7.8 (5)	13.3 (12)	3
Sweden	8.7 (11)	2.4 (12)	11.1 (13)	2
Norway	8.4 (12)	1.7 (15)	10.1 (14)	2
Germany	4.1 (19)	5.7 (9)	9.8 (15)	2
Japan	6.4 (16)	2.1 (14)	8.5 (16)	1
Austria	5.4 (18)	2.9 (11)	8.3 (17)	2
Switzerland	4.1 (19)	0.5 (16)	4.6 (18)	1

Sources: Inflation and unemployment: see footnote 10; Index of political stability see the Appendix.

rather polarized: the Labour and Conservative parties are probably more differentiated ideologically than, say, the Democratic and Republican parties in the US, which is another two-party system with the same index of stability as the UK, and a much lower misery index. This example is a useful reminder that it is quite difficult to account for ideological distances between parties in different countries and the proposed index suffers from this defect.

What Table 8 shows is that there exists an association between economic outcomes and political stability, but it does not establish any direction of causality. However, we have suggested, implicitly at least, an interpretation which asserts causality running primarily from political stability to economic stability. The reasons are the same as those advanced by Roubini and Sachs (1988), and reproduced here almost literally: first, the regime character crucially depends upon its institutional process (for instance, voting rules); and, second, the regime character is rather stable over time. Needless to say, these arguments do not exclude some role for a reverse causality, or some interplay between the two.

Table 9. Inflation and Central Bank independence (1973–86)

	Average inflation	Index of Central Bank independence
Italy	13.7	1/2
Spain	13.6	1
New Zealand	12.0	1
UK	10.7	2
Finland	9.8	2
Australia	9.7	1
France	9.2	2
Denmark	8.8	2
Sweden	8.7	2
Norway	8.4	2
Canada	7.8	2
Belgium	6.9	2
US	6.9	3
Japan	6.4	3
Netherlands	5.5	2
Switzerland	4.1	4
Germany	4.1	4

Sources: Inflation: see footnote 6; index of Central Bank independence: see the text and Alesina (1988a) for more details.

Finally, Table 9, based upon a similar table in Alesina (1988a), shows a positive relationship between an index measuring how independent is the Central Bank from the Executive branch and the inflation rate. (A model consistent with this regularity is presented in Rogoff, 1985a). Central Banks are classified in four groups from the least independent (1) to the most independent (4). This classification, based on Bade and Parkin (1985) and Masciandaro and Tabellini (1988), accounts for several institutional characteristics of different central banks, such as: the formal institutional relationship between the Central Bank and the Executive (for instance who appoints the head of the central bank, and how often, the presence of government officials on the executive boards of the Central Bank, and so on); the extent of informal contacts between the Executive and the Central Bank; and the existence of rules forcing the Central Bank to automatically accommodate fiscal policy. Table 9 shows that the four most independent Central Banks (Japan, US, and especially, Germany and Switzerland) have been associated with four of the five lowest inflation rates. Much as in the case of political stability, this association does not necessarily imply a causality link. However, it may suggest that countries with a preference for low inflation prefer

to set up independent Central Banks as the most effective means of achieving this goal.

5. Policy Implications

5.1. Rules, discretion and institutions

The politico-economic approach brings new arguments to the debate on policy rules versus discretion. For some time now this debate has been profoundly influenced by the important contributions of Kydland and Prescott (1977) and Barro and Gordon (1983). They have strengthened the traditional case for monetary policy rules, based on the view that governments have an inherent tendency to misuse or overuse the instruments at their disposal. Starting from the same premise that discretionary policymakers face an incentive to inflate the economy to achieve short-run reductions in unemployment, the more recent contributions further note that the repeated use of this policy instrument raises inflationary expectations with the result that, in the end, unemployment is unaffected and inflation remains too high. The politico-economic approach shows that the partisan behaviour of different successive governments may well produce magnified economic fluctuations: partisan behaviour may have a destabilizing effect on the economy because of an excessive variability in policymaking. An implication is that an agreement of all political parties on a set of policy rules, by reducing each government's discretionary power, may be beneficial if it reduces excessive variability of partisan policies and/or an electoral use of macroeconomic policy. In other words, commonly agreed policy rules, such as a monetary rule and/or a budget balance rule, can bring about some degree of 'intertemporal policy coordination' between governments in office at different times in a particular country. In order to reduce excessive volatility through intertemporal cooperation, for the current government to follow an agreed-upon rule, it must believe that preceding governments have done the same, and that future governments will continue to do so. Policy rules of this type need an enforcement mechanism; otherwise each government, when in office, would abandon the rule and follow its own partisan policies.

One institutional mechanism to enforce policy rules could be provided by independent agencies (such as Central Banks) not subject to each government's discretion. The issue of Central Bank independence has been extensively discussed. The 'conventional wisdom' is that independent Central Banks are desirable, because they are less subject to political pressure. There are, however, three difficulties with this view. The first

is that it is very difficult, if not impossible, completely to eliminate indirect and informal political pressure over Central Bankers. For instance, Woolley (1984) provides several convincing examples of the influence of American Presidents over the relatively independent Federal Reserve. The second argument against independence is that it may create problems of monetary and fiscal policy coordination. A conflict of goals between the fiscal and the monetary authorities may lead to a sub-optimal choice of uncoordinated policy instruments. The third argument is simply that one may not want to give up democratic control over monetary policy. Indeed, society may want to make sure that the goals of an independent agency, such as a Central Bank, do not deviate from the social objectives. Thus, it may be impossible or even undesirable to set up a completely independent Central Bank. The question then is which is the more desirable form of political control over monetary policy. The preceding sections suggest that it may be desirable to isolate monetary policy from direct influence of 'partisan' executives. Consider, instead, the following institutional set up. The general rules governing monetary policy are chosen by the legislature, with a qualified majority. The requirement of a qualified majority would ensure that each government with a simple majority in the legislature could not abrogate the rule. The Central Bank would then implement the rule. The existence of the rule would make it difficult for the executive to influence the Central Bank, which would be responsible to the legislature for the implementation of the rule. This arrangement ensures democratic control over monetary policy, limiting the effects of excessive partisan volatility and of an electoral use of this instrument. Related arguments in support of a legislative control of monetary policy are also suggested in Monti (1985).

It should be emphasized at this point that nothing in the arguments provided so far suggests which is the 'best' rule. In particular, there is no presumption that a monetarist fixed growth rate is the optimal rule. The optimal rule may, in fact leave some role to stabilization policy by specifying under what circumstances which policy action ought to be taken. However, it is well known that the more complicated is the rule, the harder it is to monitor its implementation. Thus relatively simple rules should be designed. Since simple rules may perform rather poorly under exceptional circumstances, one may want to leave a certain degree of discretionality in policymaking to avoid the risk of being institutionally locked into a monetary rule which becomes highly inefficient in a particularly exceptional time. In summary, the institutional design sketched above should target the optimal point on the tradeoff between rigid rules and discretion.

5.2. International economic policy coordination

The problem of intertemporal policy coordination between governments in office at different times is closely connected with the issue of economic policy coordination between countries at a given point in time. Several authors have emphasized the potential benefits of international economic policy coordination (a survey is provided by Fischer, 1987). Policy coordination is always beneficial if policymakers are 'benevolent social planners' following the optimal policy.[9] In practice international agreements are not set up by 'social planners,' but by real world politicians. Putnam and Bayne (1987) document the connections between domestic political incentives and the outcome of international summit meetings of the Seven Powers. Lohmann (1987) and Tabellini (1987) formalize the interaction between international and intertemporal problems of policy coordination. The basic message is the need to distinguish between two types of international policy coordination.

The first type is one in which coordinated discretionary policy decisions are taken by each government in office at a particular point in time: countries coordinate with each other but political parties do not. This type of international policy coordination can easily be counterproductive because two cooperating 'partisan' governments may well team up and reduce the overall social welfare as they strive to make their respective constituencies better off. The second type of international policy coordination implies simultaneously solving the domestic intertemporal coordination problem: political parties in each country agree to cooperate through policy rules which are also internationally coordinated.

An international agreement to adopt some specific discretionary policy decisions at some point in time may easily fall in the first category. Putnam and Bayne (1987) argue, for instance, that at the 1978 Summit, the coordination of three major 'left-wing' governments (US, West Germany, and UK) led to an 'overestimation' of the world economy which, coupled with the second oil shock, led to the high inflation of the late 1970s and early 1980s. Similarly, in the early 1980s the almost contemporaneous turn to anti-inflation policies by the conservatives in the same three countries may have magnified the dimensions of the world recession. In contrast, the international agreement which led to the creation of the EMS can be interpreted as a policy coordination of the second type, since it is an agreement on a policy rule, rather than on a specific, discretionary action at one particular point in time.

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[9] For an example of counterproductive policy coordination with social planners having domestic time consistency problems, see Rogoff (1985b).

5.3. Are democratic institutions 'bad' for the economy?

All the politico-economic theories of the inflation-unemployment trade-off examined above, have in common the implication that elections may have costs for the economy. However, there are at least two reasons why elections can have *economic* benefits.[10] The first one is an argument of efficiency. Elections can be a device for distinguishing the competent policymakers from incompetent ones. Rogoff (1987) and Rogoff and Sibert (1988) show that politicians may bend backward before elections and adopt sub-optimal policies in order to successfully make voters believe that they are very 'competent'. Then, if elected to long terms of office, 'incompetent' policymakers could remain in office for a long time. As a result, frequent elections may have the costs of frequent sub-optimal cycles but the benefits of avoiding long terms of office of incompetent policymakers. Second, elections can serve the purpose of signalling (possibly evolving) social preferences in a world of partisan politicians. Even if different parties agree to some form of intertemporal policy coordination and 'cooperate' over time with each other, electoral results change the relative size of the parties. As a result, elections influence the parties' bargaining power and therefore the choice of which cooperative agreement is reached. This argument of political bargaining is formalized in Alesina (1987 and 1988b).

These considerations inevitably bring to the forefront the question of the optimal frequency of elections and of the optimality of having exogenous timing of elections. Is it preferable (from an economic perspective) to have fixed election dates or to leave open the possibility of calling early elections? In the latter case, early elections may be strategically called by an incumbent government to take advantage of particularly favourable economic conditions. This may distort the policymakers' incentives and generate suboptimal economic outcomes. On the other hand, early elections may solve political deadlocks and the lack of action associated with them. One has to trade-off costs and benefits of the two alternatives and the evaluation of this trade-off may be related to the structure of the party system. For instance, in multi-party systems with large coalition governments, the possibility of costly political deadlocks is higher than in two-party systems so that endogenous election timing may be beneficial. Perhaps the optimal arrangement would be to make it difficult, but not impossible, to call early elections by clearly identifying the cases in which this option is available.

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[10] There is no need to emphasize the obvious non-economic benefits of democratic institutions.

This point leads to an even more fundamental question: what is the 'optimal number' of parties? The number of parties can obviously be influenced by institutional design, such as voting rules. The recent results by Roubini and Sachs (1988) and those presented here in Section 3.3 suggest, at least tentatively, that multiparty systems with large coalition governments, *ceteris paribus*, exhibit relatively high budget deficits and high 'misery indexes' (inflation and unemployment). However, these results have to be taken cautiously since it is hard to establish precise causality links.

6. Conclusions

The 'partisan theory' of economic policy, emphasizing systematic differences between political parties, appears to be supported by the evidence of several industrial economies over the last 20 years. The difference in real economic outcomes under different governments is for the most part transitory and concentrated at the beginning of the terms of office. Thus Conservative parties often start their terms in office with below-average growth, an increase in cyclical unemployment, and a reduction of inflation. The opposite outcome often occurs at the beginning of left-wing governments. In the latter part of the terms in office, the difference in real economic outcomes tends to disappear, even though inflation may remain (on average) higher with left-wing governments. The evidence in favour of the 'political business cycles' theory is more problematic. Several conservative governments show a pattern of growth and unemployment which is consistent with this view. However, this pattern – recession at the beginning, recovery toward the end of the term of office – is also consistent with the partisan theory, with transitory effects. On the contrary, there is very little, if any, evidence that left-wing governments have usually followed this pattern.

The empirical results adduced in the present study suggest the following stylized facts. Once in office, conservative governments tend to fight inflation, particularly if they inherited a high inflation rate. This causes an early recession; once the economy adjusts, a recovery occurs usually in time before next elections and conservative governments certainly do not fight the pre-electoral recovery if inflation remains low. Particularly good examples of this view are the first Reagan term, the first term of the Swedish conservatives, the first government of Thatcher, and, perhaps, the Kohl government. On the other hand, when left-wing governments are elected, they fight unemployment and achieve an economic expansion early in their terms. Once inflation catches up, they allow the rate of growth to fall, even in preelectoral periods as inflation may actually be perceived as the main economic problem. In

such circumstances the pattern of output growth and unemployment is the opposite of the one predicted by Nordhaus (1975). Particularly good examples are President Carter (1976–80), President Mitterrand (1981–86), the German Social Democrats (1976–80), and the Swedish Social Democrats (1983–85). Finally, a closer and more specific look at fiscal policy may suggest that, consistent with the spirit of the 'political business cycle' approach, fiscal policy is rarely tightened immediately before elections, regardless of the ideological orientation of the government.

Economic stability and political stability may be highly correlated. Countries with relatively stable and less polarized political systems and political histories, show superior economic outcomes. Even though it is generally difficult to establish causality links in this context, a number of arguments indicate that the causality goes from political stability to economic stability. Finally, the explicit consideration of the interaction between politics and economics has important normative implications for institutional design. Several normative issues such as the desirability of policy rules, Central Bank independence, and international economic policy coordination cannot be usefully addressed without an explicit consideration of the political factors affecting economic policy.

Discussion

James Mirrlees
Nuffield College, Oxford

Alberto Alesina has drawn together recent work on the impact of politics upon the economy, and most valuably confronted theory with data for many countries. It is a stimulating paper. He supports one particular theory, the rational partisan theory, a theory that combines Hibbs' earlier partisan theory with rational-expectations macroeconomic theory.

The rational partisan theory has many elements. It is based on the hypothesis that different political parties have distinctly different positions, particularly different distributional values. This is plausible, but different from the Hotelling–Downs theory that predicted parties would come to essentially similar positions, in the game of trying to capture as many voters from the other side as possible. Alesina has indicated some of the reasons that make one doubt the validity of the Hotelling theory; for example, the two-stage American presidential election. Money clearly matters in politics, more in some countries than others, and in itself provides reasons for parties to differ distinctly. If they were the same, there would be little to pay for. The existence of third parties

also makes a difference. All of these considerations vary so much from country to country that one may wonder whether it is reasonable to expect the same theory to hold for many different countries. Sadly, it must be virtually impossible to test the theory statistically for any single country.

Other elements of the theory are less attractive. It is assumed that governments always have the same theory of the economy, and always use the same policy instruments. In Alesina's model, no government doubts the natural rate of unemployment theory, and no government considers using price and income controls, or international capital controls.

Alesina tests his theory alongside the political business cycle theory, which he does not favour. In the political business cycle theory, any party adopts expansionary policies as an election approaches, after a period of contraction in the earlier part of its term of office. In the partisan theory, left wing parties (giving greater weight to high employment and less to low inflation than parties of the right) adopt expansionary policies after they have won an election, whereas right-wing parties adopt deflationary policies. In each case, according to the theory, employment returns to its natural rate, and the inflation rate to a constant value.

These theories could be interpreted in an exclusive sense: the first, that governments are motivated only by continuing power; the second, that governments are motivated only by the distributional preferences they represent. It is more natural to interpret them as potentially both true, in some degree. Whichever view one takes, the method of testing used by Alesina is unsatisfactory. First he compares the RPT with an (implicit) alternative null hypothesis, in which neither right nor left parties bring in changed policies just after a change in regime. This alternative is implausible. Alesina claims that the data supports the RPT over the null. I think he overstates his claim, for the data in Table 2 could have occurred at random without excessive deviations from the mean outcomes expected under the null hypothesis. But between these two alternatives, one should accept the RPT, though not with perfect confidence.

Alesina then sets up a competition between theories that are not mutually exclusive. He compares the RPT with the PBC, restricting attention to left-wing governments, on the grounds that the theories make the same predictions for right-wing governments (which is not quite true, since timing during the electoral cycle is somewhat different under the two pure theories). His Table 6 actually shows that there is no association between the (adjusted) level of unemployment and the period of the government's life; and that there is a pronounced tendency

for growth to be lower just before an election. In effect he claims that, if one must choose between the RPT and PBC, one should accept the RPT because the observations are more probable given RPT than they are given PBC. But one does not have to choose between RPT and PBC.

It is conceivable that both influences are at work: possibly left-wing governments use expansionary policies when they follow right-wing governments, because they have different distributional values, and then use expansionary policies again when an election approaches. That would be consistent with the observations about unemployment. The observed tendency in this small and heterogeneous sample for growth to be lower towards the end of a term of office may just be due to falling growth rates in other industrial countries. In general, if both prudential and ideological considerations may potentially govern economic policy, their relative importance can be assessed only by examining the whole pattern of employment, output and inflation, throughout the period between elections. But this period is often quite short, and the available data insufficient to allow us to judge confidently the relative strength of these influences, far less to warrant estimating either influence as zero.

In the concluding part of his paper, Alesina discusses the desirability of economic agencies that are non-political, or at least much less sensitive to changes in governments than policies currently are. If successive governments do indeed follow the rational partisan theory, how could institutions be set up to smooth macroeconomic policy? There must be some substantial gain from their existence if the many reasons for reluctance to reduce the scope of politics are to be overcome. The gain is supposed to be a reduction in uncertainty: can it be large enough, I wonder?

An economic agency could achieve substantial continuity without being confined to simple, checkable rules. What would it do? If the government of the day were to set rates of taxation and levels of public expenditure, the agency would be left to determine the financing of the deficit: it would be a central bank. Is the conclusion then simply that the central bank should be less responsive to current government preferences? I think not. The argument from which we started is really one for reducing fluctuations in the distributional structure of public policy. The argument applies as much to the structure of taxation (including social security and other public expenditures), as to the inflation 'tax' and the form of the national debt. We are led to consider an institution for economic management that encompasses the full range of economic policies. In British terms, that would mean independence for the Treasury. I do not draw this conclusion as a *reductio ad*

absurdum, though it would be widely so regarded. It is a possibility to be taken seriously. It poses the challenge of adequately expressing the compromise distributional judgements that should govern the institution, in other words of determining the social welfare function.

Manfred J. M. Neumann
University of Bonn

Let me begin by discussing some analytical issues. The starting point of the political business cycle theory (PBC) is the deliberately restrictive assumption that politicians, whether called left or right, all behave as rational 'homines oeconomici' who maximise their own preferences – instead of just the 'social good'. This yields the strong implication that incumbents try to deceive voters about their level of competence by a suitable pre-electoral manipulation of policy instruments, in order to raise the probability of re-election. For this to be possible requires a second assumption that voters suffer from some informational disadvantage.

This second assumption is not too demanding (though Alesina is right that the early literature's voter myopia was too crude an assumption). So it is hardly surprising that cross-country observations on cycles in output, unemployment or inflation, do not allow us to reject the null hypothesis of pure random walks. A more relevant test of the PBC refers to short cycles in policy instruments. Alesina's Table 6, showing the budget balance in 12 countries, indicates that in 64% of cases the deficit was increased in election years. This observation is suggestive but inconclusive.

The PBC is a theory about the incumbent's behaviour, with implications for certain economic variables. In contrast, the 'rational partisan theory' (RPT), espoused by Alesina and others, does not explain the behaviour of the ruling party. It simply assumes that left-wing parties prefer a higher rate of expansion than right-wing parties. It uses this assumption to explain the effect of elections on macroeconomic variables. To do this it relies on election-induced uncertainty. If agents write contracts before an election, these contracts will be based on the probability-weighted expectation about the post-election rate of inflation. The actual rate of inflation will be either higher or lower than this expectation, depending on whether the left or the right-wing party takes office. So there will be a transitory expansion or contraction in real economic activity after each election.

I have two major reservations. First, why do rational agents not make contracts conditional on the result of the election, or simply time them

to expire on election day? Doing one or the other would eliminate election-induced real effects. Second, why should voters wish to vote for a party that can achieve real economic effects only by surprising – that is by deceiving – its own voters? Overall, the voter of the RPT-approach is no more shrewd than the voter of the traditional PBC-approach.

Alesina investigates a rich collection of data on inflation, real growth, and unemployment from 12 countries. Each of the five indicators he presents in Tables 2 and A1 appears to be consistent with the RPT. If the political regime shifts are independent events, we may use the binomial distribution to test the RPT against the null hypothesis that the observations were generated by random policies. Consider first the inflation indicator I_5. Excluding the German case of 1972 – which was not a regime shift – we observe that in 73% of the regime shifts sampled (16 out of 22) the average rate of inflation corroborates the prediction of the RPT. The null hypothesis is rejected at the 5% significance level.

The output and employment indicators are harder to interpret. A strong test is to stick to the sample of 22 regime shifts for which indicator I_5 is computable, and to examine Alesina's indicators I_1 to I_4 for this sample. Beginning with output indicator I_1 we find that only in 13 cases (59%) did post-election output behave as predicted by RPT. And the remaining indicators I_2 to I_4 do so in less than 50% of cases (respectively 10, 8 and 9 cases out of 22). The null hypothesis can certainly not be rejected. A weaker test is to include in the sample also those cases for which inflation indicator I_5 is not computable. The null hypothesis can then be rejected at the 5% level for the output indicators I_1 and I_2, but not for the unemployment indicators I_3 and I_4. Alesina also presents regressions of output growth and of unemployment on a regime change dummy (Table 4). While the parameter estimates have the sign predicted by RPT, most are not significantly different from zero.

In sum, we may tentatively conclude that there is weak evidence in support of the RPT. But there are further qualifications. First, the evidence has no direct bearing on the validity of the competing PBC-hypothesis: the theories make different predictions only when there are leftward shifts of regime. Second, for good reasons Alesina has not worked with the original country data but has tried approximately to eliminate the impact of the world level of economic activity. But in contrast to previous work, Alesina does not apply country weights in computing for inflation, output growth, or unemployment the world averages which are then subtracted from the raw data. The procedure introduces bias, and it is impossible to tell to what extent this might have affected the results.

In the last sections of his paper Alesina discusses the impact of political instability on economic performance. It is an important question which

institutions can best preserve continuity of policy. In principle it might seem to make no difference to the risk of inflation whether (as Alesina proposes) parliament sets a monetary rule that the central bank must obey, or instead establishes an independent central bank. After all, parliament can change its mind in either event. But in practice, as the experiences of Switzerland and Germany indicate, once enough time has gone by, parliaments no longer dare to disturb the independent status of the central bank which therefore provides a more credible insurance against inflation.

General discussion

The panel members discussed theoretical aspects of the connection between politics and macroeconomic policy, as well as the problems of measurement encountered in assessing those theories.

On the theory side, David Begg explained that he was not bothered as much as Manfred Neumann about the apparent lack of justification for the difference in objectives among governments in the partisan theory. In his opinion, a difference in the objectives of left- and right-wing governments might simply stem from a different perception of the constraints in economic policy. Left-wing governments would thus see the world as more Keynesian than right-wing governments. Still discussing the partisan theories, some panel members insisted that it was not rational for workers to enter into wage contracts covering an election period. Contracts contingent on the election results could be written. Alesina acknowledged this point but argued that the absence of such contracts, presumably difficult to set up, was a common assumption. Charles Wyplosz was concerned about the shortsightedness of both partisan and political business cycle theories. Indeed, governments in those models only consider one election at a time. It would seem more realistic to have a model where governments have long-term objectives covering several elections. In this respect, it is puzzling that in the context of partisan theories, left-wing governments should not be in office too often; indeed, the partisan theory suggest that left-wing governments will end up their term of office with higher inflation than right-wing governments, whereas unemployment is similar under the two regimes. This should not help the re-election of left-wing governments.

Following the comments of Mirrlees, there was a discussion as to whether partisan and political business cycle approaches should be seen as competing theories. Alesina pointed out that even though these approaches were complements rather than substitutes in terms of

explanations, yet they had sometimes opposite implications with regard to the evolution of inflation and unemployment. Assessing those implications could still indicate that one theory was more relevant than the other.

On the side of measurement, Jean-Pierre Danthine suggested that the reaction of the financial markets could be used to assess the validity of the partisan theory. Indeed, one would expect the financial markets to react differently according to whether a right-wing or a left-wing government is elected. Jeffrey Sachs indicated that in the US exchange-rate movements could well be related to election results along the lines of the partisan theory. Alesina acknowledged that a similar analysis should be performed for Europe. Sachs suggested that assessment of inflation surprises should not be limited to the year following an election. Governments could indeed use the exchange rate at the time of a fiscal expansion in order to postpone inflation. As a result, one should look at changes in inflation over a longer period of time.

Wyplosz suggested that maybe too much emphasis was put on macroeconomic variables to identify different policies. In his opinion, more attention should be given to changes in income distribution. He indicated that French governments were particularly creative in this respect.

Appendix

A1. Table A1: data for Table 2

This table reports the values of the five indicators in Tables 2 and 3 for every change of regime. Changes of regime toward the left (right) are identified by L(R). The definition of the indices is given in the text.

A2. Construction of the index of political stability used in Table 7

This index is constructed by summing seven indicators, displayed in Table A2, below.

Column 1 of Table A2 is based upon the index of Roubini and Sachs (1988) (R–S). This column reports the sum of the R–S yearly index for the period 1973–86. The R–S index assumes, in every year, these values:

  0 for one-party majority parliamentary governments; or presidential governments with the same party with the majority in the executive and legislative branch;
  1 coalition parliamentary governments with 2 coalition partners; or presidential governments, with different parties in control of the executive and legislative branches;

Table A1. Indicator values

		I_1	I_2	I_3	I_4	I_5
Australia						
12/72	L	−0.64	−0.85	0.05	0.35	NA
11/75	R	−1.60	−0.72	−0.29	0.01	−0.62
3/83	L	3.18	1.13	−1.21	−0.07	0.35
Austria						
4/70	L	1.11	1.03	−0.44	−0.14	NA
4/83	R	−1.05	−0.05	0.20	−0.09	0.87
Belgium						
6/68	L	2.15	1.00	−1.18	−0.41	NA
1/73	R	−0.10	0.25	0.76	−0.11	−0.02
3/71	L	−0.52	−0.19	−0.66	−0.26	−0.90
12/81	R	−0.23	0.35	0.21	0.76	1.67
10/85	L	1.62	NA	−0.63	NA	NA
Denmark						
10/71	L	1.76	NA	−0.41	NA	NA
12/73	R	−1.91	NA	2.22	NA	−1.43
2/75	L	2.73	1.02	−0.70	0.41	1.64
9/82	R	−0.30	−0.10	−0.36	0.52	−1.00
Finland						
11/75	R	−3.80	NA	2.01	NA	NA
5/77	L	4.63	0.68	−1.17	0.70	−1.48
France						
5/81	L	0.50	1.00	−0.46	−0.72	NA
Germany						
9/69	L	−0.17	0.15	0.31	−0.03	NA
12/72	R	−0.64	−0.98	0.91	0.50	−1.52
10/82	R	0.81	−0.05	0.07	0.15	0.35
Netherlands						
5/73	L	1.34	−0.08	0.31	0.32	NA
5/77	R	−1.50	0.24	−0.05	−0.72	−0.28
3/81	L	−0.64	NA	1.69	NA	0.90
11/82	R	1.14	0.07	−1.44	0.51	−0.76
Norway						
10/71	L	1.22	NA	−0.01	NA	NA
10/72	R	−1.68	NA	0.40	NA	−2.05
10/73	L	4.80	1.47	−0.52	−0.17	0.58
10/81	R	0.07	−2.34	−0.22	−0.03	1.17
10/85	L	−0.43	NA	0.62	NA	NA
Sweden						
10/76	R	−2.30	−1.05	1.00	0.26	NA
10/82	L	0.86	0.67	0.30	−0.17	0.43
UK						
6/70	R	2.02	−0.58	0.15	0.42	NA
2/74	L	0.12	0.01	1.01	0.56	2.04
6/79	R	−3.08	−2.49	2.18	1.13	−3.17
US						
11/68	R	−3.54	−2.81	1.14	0.29	NA
11/76	L	2.53	1.96	−1.55	−0.71	1.89
11/80	R	0.56	−1.37	−0.23	0.70	−2.22

Table A2. Construction of an index of political stability

	1 (R–S)	2 Dictatorship	3 Exogenous elections	4 Communist party	5 Extreme right	6 Conflict	7 No change	Total
Australia	0	0	0	0	0	0	0	0
Austria	-1	0	0	0	0	0	0	-1
Belgium	2	0	0	0	0	1	0	3
Canada	-1	0	0	0	0	1	0	0
Denmark	2	0	0	0	0	0	0	2
France	0	0	0	1	1	0	0	2
Germany	0	0	0	0	0	0	0	0
Finland	0	0	0	1	0	1	0	2
Greece	0	3	0	1	1	1	0	6
Italy	2	0	0	1	1	0	0	4
Japan	-2	0	0	0	0	0	-1	-3
Netherlands	2	0	0	0	0	0	0	2
New Zealand	0	0	-1	0	0	0	0	-1
Norway	0	0	-1	0	0	0	0	-1
Portugal	0	3	0	1	1	1	0	6
Spain	0	3	0	1	1	0	0	5
Sweden	1	0	-1	0	0	0	0	0
Switzerland	-2	0	-1	0	0	0	-1	-4
UK	-2	0	0	0	0	0	0	-1
US	-1	0	-1	0	0	0	0	-2

2 coalition parliamentary governments with 3 or more coalition partners;

3 minority parliamentary governments; (more details can be found in R–S, 1988).

The index of the first column of Table A2 assumes the following values:

-2 for countries with a R–S cumulative index of zero;

-1 for countries with a R–S cumulative index from 1 to 10;

$\ \ 0$ for countries with a R–S cumulative index from 11 to 15;

$\ \ 1$ for countries with a R–S cumulative index 16 to 20;

$\ \ 2$ for countries with a R–S cumulative index above 20.

Roubini and Sachs' (1988) sample of countries has been extended using Banks (1987).

Column 2 of Table A2 shows an index of major political change from dictatorship to democracy. This index assumes the values of:

3 for countries which experienced at least one change of regime from dictatorship to democracy (or vice versa);

0 otherwise.

The countries with an index of 3 in this column have an arbitrarily assigned zero index in column 1. Columns 1 and 2 viewed together, imply that country with a dictatorship-democracy transition are considered slightly more unstable than the more unstable democracies, according to R–S index.

Column 3 is an index of exogenous/endogenous elections. This column assumes the value of:

-1 for countries with exogenously given timing of elections or countries which did not have any early election in the sample period;

$\ \ 0$ otherwise.

Column 4 captures the existence of a significant communist party. This index assumes the values of:

1 in countries with one or more politically significant (according to Banks, 1987) communist parties;

0 otherwise.

Column 5 captures the existence of significant extreme right-wing parties. This index assumes the values of:

1 in countries with one or more politically significant (according to Banks, 1987) extreme right-wing party;

0 otherwise.

Column 6 captures the existence of regional/ethnic conflict. This index assumes the values of:

1 in countries with ethnic/regional conflicts;
0 otherwise.

Column 7 identifies the countries with no change of political orientation of the government in the sample period. This index assumes the value of:

−1 in countries with no changes in the political orientation of the government;
0 otherwise.

The total index of stability (last column of Table A2) is increasing in the degree of political instability. Given the qualitative nature of this index, rather than a complete ranking of these countries, four groups are formed based upon the Total:

$$\text{group } 1 \qquad \text{Total} \leq -3$$
$$\text{group } 2 \qquad 0 \geq \text{Total} \geq -2$$
$$\text{group } 3 \qquad 3 \geq \text{Total} \geq 1$$
$$\text{group } 4 \qquad \text{Total} \geq 4$$

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