

# **Political Models of Budget Deficits: a literature review**

Maria Manuel Pinho



FACULDADE DE ECONOMIA

UNIVERSIDADE DO PORTO

[www.fep.up.pt](http://www.fep.up.pt)

# POLITICAL MODELS OF BUDGET DEFICITS: A LITERATURE REVIEW<sup>♦</sup>

MARIA MANUEL PINHO<sup>\*</sup>

Rua Dr. Roberto Frias  
4200-464 Porto, Portugal  
email: [mpinho@fep.up.pt](mailto:mpinho@fep.up.pt)

## ABSTRACT

Economic literature on the explanation of public deficits has been focusing on two main issues. On one hand, the accumulation of public debts in recent decades and, on the other hand, the large observed cross-countries differences on public deficits and debt. Economic arguments alone are not sufficient to explain this behavior. Therefore, recent political economy literature emphasizes the role of political and institutional factors in the explanation of the fiscal policy and, in particular, of the budget balances behavior. This paper surveys a set of political-economic models of budget deficits, providing an up-to-date, critical review of the main models. The main conclusion is the need of conducting more rigorous empirical tests.

**Keywords:** budget deficits; public debt; political economy

## RESUMO

A literatura económica sobre défices públicos tem assentado em duas questões fundamentais. Por um lado, a acumulação da dívida pública, nas últimas décadas, e, por outro lado, nas expressivas diferenças observadas, ao nível do défice e da dívida públicos, entre países. Por si só, os argumentos económicos não têm sido capazes de explicar este comportamento. A literatura político-económica tem sublinhado o papel dos factores políticos e institucionais na explicação da política orçamental e, em particular, no comportamento do saldo orçamental. Este trabalho discute um conjunto de modelos político-económicos dos défices orçamentais, fornecendo uma revisão actualizada e crítica dos principais modelos. A principal conclusão assenta na necessidade de desenvolver uma análise empírica mais rigorosa.

**Palavras chave:** défices orçamentais; dívida pública; economia política

**JEL classification:** D72; D78; H61; H63

---

<sup>♦</sup> The editor wants to acknowledge Prof. Manuel António Mota Freitas Martins for his invaluable contribution in commenting and reviewing the present article.

<sup>\*</sup> The author thanks Prof. Manuel Mota Freitas Martins and Prof. Aurora Teixeira for helpful comments on previous versions of this paper.

## **1. INTRODUCTION**

Observed fiscal policy, in last decades, has varied greatly, both across time and across industrialized countries. The same has happened with the composition of spending. This trend however has been accompanied by persistent public deficits and, therefore, growing public debts.

This paper discusses how the political economy literature has been answering the following questions: 1) Why did certain industrialized countries, but not others, accumulate large public debts? and 2) Why did these fiscal imbalances appear in the last thirty or twenty years rather than before?

These issues have been analyzed for a long time but in a normative perspective (Barro, 1979 and Lucas and Stockey, 1983). This literature has particularly focused on the median-voter equilibrium, which applies to policy issues where disagreement between voters is likely to be one-dimensional. In this kind of set up, a political equilibrium selects the policy preferred by the voter with median preferences.

One of the basic predictions of such an analysis is that the parties that run for an office will always announce platforms very similar among them and approaching the one preferred by the median voter. Therefore, one should not observe significant differences in the implemented policy depending on what party wins the electoral competition. On theoretical ground the failures of median-voter predictions have been explained using arguments related to the observation that usually the political space concerns much more than one single dimension.

More recently, in the context of the public choice school, a positive approach of these questions has emerged from the combination of economic and political analysis (Cukierman and Meltzer, 1989; Roubini and Sachs, 1989, and Alesina and Tabellini, 1990). There has been an increasing agreement on the way one should approach the analysis of public policies. Now, it is usually assumed that policy choices are not made by a hypothetical benevolent social planner, but rather by purposeful political agents participating in a well defined decision-making process. The natural way to deal with such a situation is to combine economic theory with the analysis of alternative collective choice procedures (Fortunato, 2001).

This paper is organized in the following way. Section 2 consists of a brief description of the observed public debt and deficits path across industrialized countries and over

time. Section 3 presents the tax-smoothing model, showing that this approach alone cannot provide complete answers to the questions above. In particular, economic arguments alone are not sufficient to explain the large cross-countries differences among industrialized democracies, all with high levels of *per capita* income. Section 4 provides a brief literature survey on politico-institutional determinants of the government budget. Recent empirical evidence on the issue is presented in Section 5 and finally Section 6 concludes.

## 2. PUBLIC DEBT AND DEFICITS: SOME EVIDENCE

The literature on political models of budget deficits has been focusing on two main questions. The first one concerns the explanation of why there has been in the last years a significant accumulation of the debt-to-GDP ratios, in the industrialized countries.

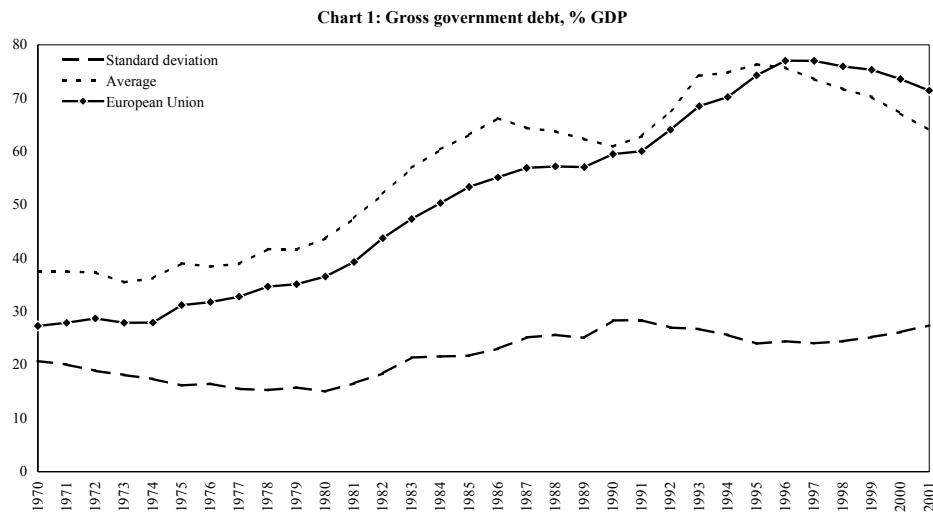


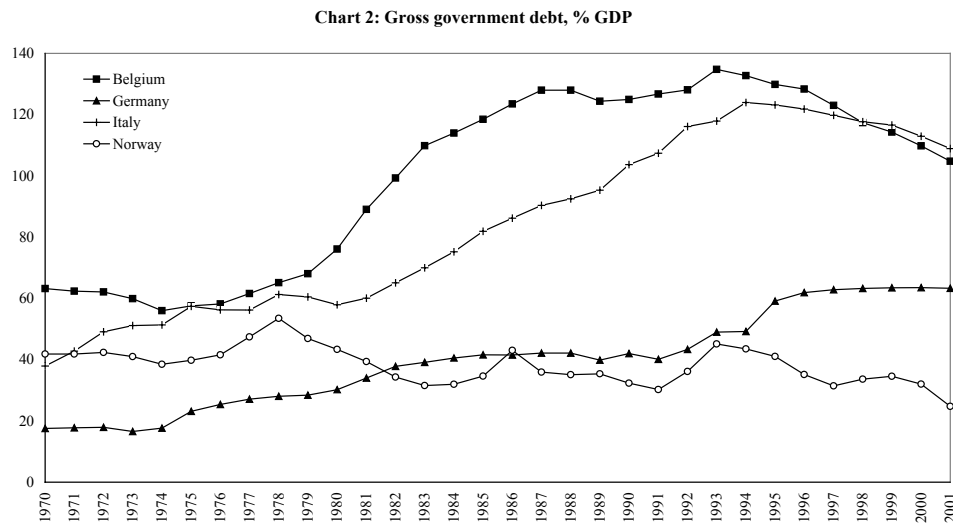
Chart 1 shows that, for the data in Table 1 (see the Appendix<sup>1</sup>), there has been an increase in the debt-to-GDP ratio average from 1970 (37,5%) to the middle of the eighties (66,3%, in 1986). After a short stable period, the debt-to-GDP ratio average has begun to increase again, from 1990 (60,9%) to 1995 (76,3%). In the past six years, the debt-to-GDP ratio has been decreasing. The overall evolution of the past

<sup>1</sup> The sample includes the following countries: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Japan, Netherlands, Norway, Portugal, Spain, Sweden, United Kingdom and the United States of America.

thirty years shows a tendency of increase (from an average of 37,5%, in 1970, to 64,0%, in 2001).

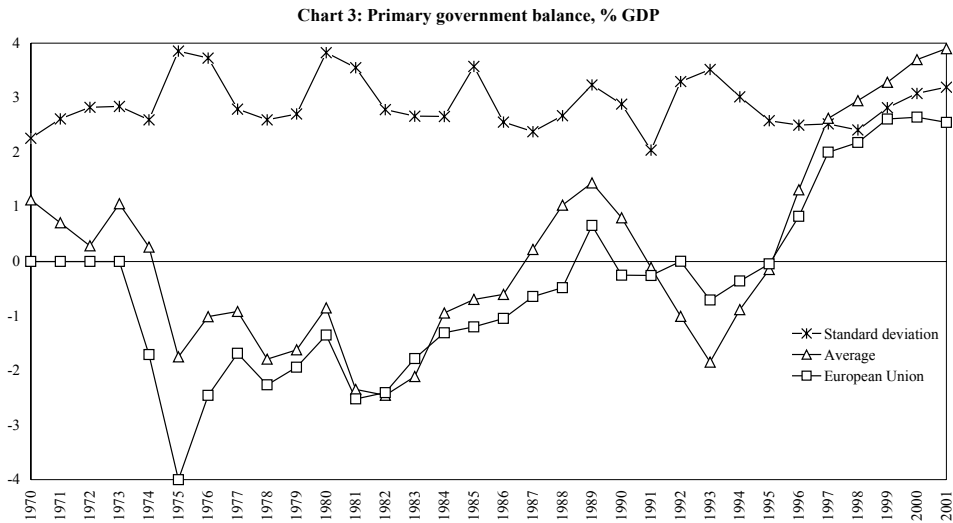
The second question concerns the large cross-countries differences of the debt-to-GDP ratio. The standard deviation has been in the last thirty years, on average, of 22 points, revealing large cross-countries differences.

Chart 2 shows the evolution of the two countries with the highest average in the sample period (Belgium and Italy) and the two with the lowest average (Norway and Germany)<sup>2</sup>.



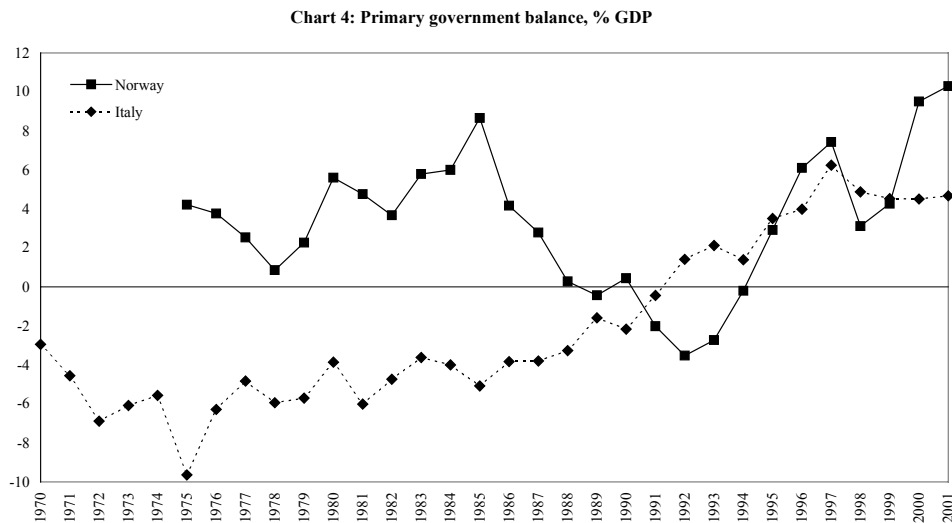
In 1970, the highest value belonged to the United Kingdom (78,0%) and the lowest to Japan (10,5%). In 2001, the highest value belonged to Japan (119,4%) and the lowest to Australia (22,6%).

<sup>2</sup> Note that for Australia there is only data available for the period after 1987.



Turning the analysis to the primary government balance, Chart 3 (see Table 2 in the Appendix) shows that the primary balance-to-GDP ratio average has been rather unstable. Note, however, that in the European Union the performance has been, on average, improving from the end of the nineties. Norway, Denmark and Finland show the best performances in the sample period while Italy, Greece, Spain and Japan exhibit the worst performances. The lowest value of the sample period belongs to Sweden in 1993 (-10,8%) and the highest to Norway in 2001 (+10,3%).

Chart 4 shows the performance of Norway, the country with the best performance on average, and Italy, the country with the worst one.



### 3. THE TAX-SMOOTHING MODEL AS A BENCHMARK

The tax-smoothing theory of the government budget (Barro, 1979 and Lucas and Stokey, 1983) serves as a normative benchmark from which political economy models depart, although some authors view this approach as a description of actual fiscal policy. In fact, most of the recent political models are positive explanations of the observed deviations from the tax-smoothing approach (Alesina and Perotti, 1995). In general, positive theories of budget deficits try to explain the differences between normative predictions and empirical evidence by relaxing the assumptions of the normative theory concerning actor's preferences or institutional arrangements.

The standard tax-smoothing argument notes that the government, who is a "benevolent social planner" that maximizes the utility of the representative agent, needs to finance a certain amount of spending in every period through taxes on labor income (it assumes a closed economy without capital). Taxes are distortionary because they affect labor supply. Both the government and the agent have an infinite temporal horizon, which means that neither intergenerational effects nor the finite terms of office for government are taken into account. The representative agent consumes, works and saves. The representative's agent utility function depends upon private consumption and leisure but not on the amount of the public good defined as defense spending.

The government's aim is to keep the tax rate constant. The level of taxes is determined by the intertemporal budget constraint, which implies that the present value of spending (exogenously given) has to be equal to the present value of taxes. When public deficits result in an increase of the debt, the agents know that the government will need to raise taxes. As, according to the theory of permanent income, each agent determines his level of consumption according to the present value of his future income, it is equivalent to finance public spending by taxation or by deficits.

Therefore, given the distortionary effects of taxation, the optimal strategy of the government is to use budget deficits and surpluses to smooth the economy, given a certain path of spending: deficits occur when spending is temporarily high and surpluses when spending is low. Therefore, according to the model, budget deficits follow economic cycles: low in period of economic growth, high in periods of recession.

If spending is high today and low tomorrow, a balanced budget policy would imply high taxes today and low taxes tomorrow. On the other hand, a tax-smoothing policy, with constant tax rates, leads to a deficit today and a surplus tomorrow, which, in present value terms, compensates for today's deficit.

The tax-smoothing policy dominates because the government's loss function is concave in taxes, that is, variations in the tax rate over time are costly. So, the additional tax distortions today more than compensate for the utility gains of the lower taxes of tomorrow, due to decreasing marginal utilities.

The principle of tax-smoothing is clear: budget deficits and surpluses are used optimally to minimize the distortionary effects of taxation, given a certain path of spending. This principle can be extended to the cyclical fluctuations of tax revenues due to the business cycle. In this context, tax rates should be approximately constant over the business cycle. Therefore, deficits should be observed under recessions and compensated by surpluses in expansions, so that cyclical fluctuations of output imply a cyclically adjusted balanced budget rule: the budget should be balanced over the business cycle but not every fiscal year.

More generally, whatever level of spending governments may desire, fixing the time-path of tax rates would be the optimal way to finance it, implying that optimizing governments should incur in deficits only when there are unanticipated or temporary shocks to revenues or spending. Therefore, the government should borrow when the expected long-run growth-rate exceeds the expected long-run real-interest-rate because, under those conditions, the expected ability to repay debt is growing faster via growth of the tax base than debt would be expected to grow via its real-interest burden. The government should reduce debt when the opposite relationship holds (Franzese, 2001).

According to Alesina and Perotti (1995), in spite of its validity as a normative theory, the tax-smoothing approach is deficient as a positive theory of fiscal budgets. In fact, this explanation does not answer the questions of why there are cross-country differences and why there has been a debt accumulation in the past years. Positive contributions have searched for political and institutional determinants of budget deficits and public debts.

On one hand, the large increases in debt-to-GNP ratios in some countries, than begun in the middle of the 70's, cannot be explained by the miscalculations of the rates of growth that followed a period of recession in 1973-74. On the other hand, different countries may have been hit by different shocks and their expectations about future spending might have been different but this is not sufficient to explain the large observed cross-country differences.

Previous empirical work on the tax-smoothing hypothesis emphasized atypical government spending increases associated with wars. However, since 1945, wars have not been important sources of fluctuations in spending or revenues in developed democracies; large movements in unemployment, growth rates, and interest rates, contrarily, have been. Also, the tax-smoothing theory was developed and tested primarily within closed-economy frameworks. But the basic intuition that governments should debt-finance temporary shocks and tax-finance permanent spending requirements extends easily to open economies. Weak (strong) economic performance due to adverse (beneficial) terms-of-trade shocks, if expected to be temporary, should induce governments to increase (decrease) debt. Thus, the relevant empirical implications of normative theories are that governments' debts and deficits respond to movements relative to expected permanent levels in unemployment, economic growth, debt-service costs (past debt), differences between expected real-growth and expected real-interest rates, and terms-of-trade (Franzese, 2001 and Imbeaud and Chenard, 2002). Therefore, the tax-smoothing theory provides the baseline model and is used only to identify the economic variables for which any empirical work of public debt determination should control.

The unique aspect of tax-smoothing theory is its distinction between temporary and permanent movements, which models without foresighted policy-makers would emphasize much less. Unfortunately, no commonly accepted method of empirically distinguishing unexpected and expected-temporary from expected-permanent shocks has been developed (Franzese, 2001).

#### **4. RECENT POLITICAL ECONOMY LITERATURE AND THE ROLE OF POLITICAL AND INSTITUTIONAL FACTORS: MAIN THEORETICAL MODELS**

This section presents a survey on the economic literature of political-economic models of budget deficits, which are basically organized following Alesina and

Perotti (1995) and Alesina *et al* (1997). For easy of exposition, we group the different models into seven classes<sup>3</sup>:

- i) models based upon opportunistic policy-makers and naïve voters with fiscal illusion
- ii) models based upon the assumption of ideological policy-makers
- iii) models of debt as a strategic variable
- iv) models of redistribution conflicts
- v) models of conflicts among political parties
- vi) models of geographically dispersed interests
- vii) models emphasizing the effects of budgetary institutions

### **Models of opportunistic behavior**

These models, developed by the public choice school, are based on two main assumptions. On one hand, voters do not take into account the government's intertemporal budget constraint (in particular, they overestimate the benefits of current expenditures and underestimate current and future tax burdens). On the other hand, policy-makers are opportunistic and take advantage of voters' myopia and, therefore, use budget deficits to increase their chances of being reelected.

Opportunistic politicians who want to be reelected take advantage of voters' illusion by increasing spending more than taxes, in pre-electoral moments, to please the naïve voters. The theory of political business cycle, which predicts that deficits are higher before elections than in post-electoral periods, was first presented by Nordhaus (1975).

In fact, the political business cycle literature has brought some contributions to the fiscal illusion approach. The argument is that, in elections years, politicians follow

---

<sup>3</sup> Imbeau and Chenard (2002) propose a different grouping of these positive contributions based on two sets of modifications in the assumptions of the normative model: assumptions related to actor preferences and assumptions related to institutional arrangements. The former set includes models that discuss the opportunistic and ideological behavior of decision-makers as well as the hypothesis of infinite temporal horizon (models of debt as a strategic variable and models of intergenerational redistribution); the latter includes political and budgetary institutions considerations.

expansionary policies and are rewarded by these measures because voters do not learn that these pre-electoral expansionary policies lead to post-electoral recessions.

According to this school, discretionary stabilization policies become asymmetric: politicians are always willing to run deficits in recessions but never willing to run surpluses when recessions are over. This approach can explain expansionary fiscal policies in electoral moments, as voters do not punish politicians for conducting policies leading to excessive deficits.

These models have, however, been largely criticized. The notion of fiscal illusion is not considered reasonable because it implies a systematic bias in voters' errors. If those errors were uncorrelated, on average voters would not underestimate or overestimate the costs and benefits of taxes and spending. It is easily assumed that voters make mistakes and are not fully informed but it is not so obvious why these errors should be biased in a certain direction, that is, they systematically underestimate the tax burden relative to the benefits of spending.

Moreover, these models fail to explain the accumulation of debts and the existing differences between countries. On one hand, it is not conceivable that fiscal illusion appeared only in the 1970's. On the other hand, the only explanation for the large cross-countries differences would be the fact that voters are more naïve in some countries than in other countries, which does not seem a reasonable explanation. Some issues are, however, still being studied. Namely, the analysis of if different tax structure and fiscal institutions may lead to more or less fiscal illusion but more research has to be carried out on this subject (Alesina and Perotti, 1995).

As a consequence, these models have been also developed on the basis of rational expectations according to which rational voters cannot be deceived over long periods (Rogoff and Sibert, 1988). The rational approach supported the existence of electoral cycles concerning fiscal policy even when voters are not myopic being enough for them to be imperfectly informed; it is possible for the decision-makers to create temporary illusion so that voters can be, at least temporarily, fooled.

Therefore, models based on the notion of fiscal illusion are suitable for explaining short-run fluctuations in budget deficits around elections but not public debt long-run behavior, neither differences across industrialized countries.

### **Models of ideological behavior**

According to the theory of partisan cycles, politicians are ideological (Hibbs, 1986). In the simplest version of the theory, it is assumed that there are two types of policy-makers, both maximizing the interest of the supporting voters.

The author concludes that left-wing voters belong, in general, to low-income groups and are mainly owners of labor, suffering more seriously the costs of unemployment. On the other hand, the owners of capital are mainly right-wing voters being particularly sensitive to inflation. Therefore, left-wing supporters are more averse to unemployment while right-wing supporters are more averse to inflation.

Fiscal policy tends to reflect these interests: left-wing governments favor expansionary policies and right-wing governments tend to conduct restrictive policies. The left-wing party supporters favor more public spending and therefore more deficits while right-wing voters favor less expenditure and lower deficits.

In summary, the partisan cycles theory predicts that deficits will be higher when a left-wing party is in power and lower when a right-wing party is in office. Of course, this theory may help to explain some cross-country differences, although it is not always consistent with reality, but does not help to explain the generalized observed public debt accumulation.

### **Models of debt as a strategic variable**

There are several political-economic explanations for the recent accumulation of government debt in industrialized countries. In the strategic debt behavior models, the assumption of an infinite temporal horizon, assumed in the tax-smoothing approach, is relaxed. The idea is that the current policy-maker can affect the economic conditions inherited by his successors through his choice of fiscal policy. If the government anticipates the possibility of defeat in the next election, it can use the debt strategically in order to influence the policy of its successor. In other words, one can look upon debt as a commitment device in a political game between current and future governments, where future tax revenues are committed to debt service.

If current and future governments have different preferences on fiscal policy, the policy conducted by the current government will impose some restrictions on the

choices made by the next governments as fiscal choices determine the size of the debt. The stock of debt links past policies to future policies.

Different governments in office at different times can take advantage of this strategic possibility and this political game will lead to an accumulation of the debt level above the optimal level prescribed by the tax-smoothing theory. Pettersson (2001) mentions two different approaches, both of which emphasize strategic considerations in the making of debt policy. The first one was developed by Alesina and Tabellini (1990) and the other one by Persson and Svensson (1989). In both contributions, governments with different preferences alternate in office.

The first approach is presented by Alesina and Tabellini (1990) who assume a two-party system in which the two parties differ with respect to their preferences about the composition of government spending. For example, consider a government who wants to spend a lot on defense and little on welfare, and assume that it knows that it is going to be replaced by another government who has the opposite preference. The current government realizes that defense spending will be cut in the future anyway so it borrows a lot now because the marginal cost of repaying the extra currency unit of debt will fall on welfare which it cares little about. In other words, a deficit bias will emerge because the government who borrows faces an asymmetry. When the policy-maker borrows, he can spend the extra sources in the way he wants but uncertainty about who will be appointed in the future prevents the current policy-maker from fully internalizing the future costs of the spending cuts. So, today's government can reduce spending of future governments, by committing future tax revenues to debt service. But the incumbent can also limit its opponent chances of reelection by deliberately creating ineffectiveness.

This strategic interaction will lead to deficits even though a social planner who maximizes the weighted average of utilities of the two groups would choose to balance the budget in every period. The more polarized are the two groups' preferences on the composition of public spending and the more unlikely is that today's government will be reelected, the larger will be the amount of borrowing of today's government.

Persson and Svensson (1989) find, however, that the level of government spending is questionable. They consider a conservative government and a liberal or a left-wing

government. The conservative government wants a lower amount of spending than the liberal. Suppose that the conservative government is certain to be replaced by its opponent in the next election. Then the conservative government faces a trade-off between distortionary taxes and debt. It is assumed that the only way to raise money for government spending is through a distortionary tax. By lowering taxes and issuing debt, the conservative government constrains future spending. However this creates a suboptimal distribution of tax distortions since the taxes today are too low, which implies that future taxes are going to be too high when the debt becomes due. If the conservative government puts more weight on reaching its preferred level of spending than on the welfare cost of a distorted tax profile over time, it will issue more debt than the successor would prefer. On the other hand, the left-wing government has exactly the opposite incentive. By raising taxes and reducing debt, it creates surpluses to encourage increases in future spending decisions.

In both contexts, public debt plays a role in linking the various governments. The more priority the current government gives to current spending, that is, the less it internalizes the costs of current spending, the larger this conflict will be. The same happens, the more electoral uncertainty there is. This political explanation of budget deficits relies on different preferences among different parties in office and on alternation of the parties in office.

These models suffer from the problem that public debt does not commit future governments if the latter can default. The costs of default imply a constraint on the current government's ability to issue debt: at most, today's government can issue an amount of debt that makes the next government indifferent between defaulting and serving the debt.

The two approaches have different empirical implications concerning debt. Alesina and Tabellini (1990) predict that there is a deficit bias irrespective of the incumbent's political ideology, while Persson and Svensson (1989) predict that only the right-wing government should issue debt whereas the left-wing government should leave a surplus. Nevertheless, both models predict that the strategic use of deficits or surpluses are larger, the greater the disagreement between different policy-makers and the more likely that the current government will be replaced. And, in fact, the 1970's and the 1980's have witnessed much more frequent changes of government from left

to right and vice-versa than previous decades and it is possible that political and economic instability were connected. Some tests also support the relation between high-debt countries and more polarized political parties and electorate. Therefore, these models are testable and can provide answers to the questions addressed above. So far, the major problem these models present, despite some evidence, is the need of conducting more rigorous empirical tests (Alesina *et al*, 1997).

### **Models of redistribution conflicts**

Models of intergenerational redistribution are a special case of this type of models. As in the strategic use of debt, the assumption of an infinite temporal horizon is also relaxed. The intertemporal nature of fiscal decisions creates links across generations. If each generation cares enough about its offspring, the finite horizon of each generation is immaterial.

However, these models emphasize the fact that public debt can redistribute the tax burden across generations. For example, by increasing debt today, the current generation can make the tax burden heavier to future generation. The current generation has a political advantage over future generations as it can vote and choose current policy while future voters cannot. Therefore, a selfish generation could vote for policies that shift the burden of taxation to future generations. However, this behavior is limited by intergenerational altruism: present generations care about future generations.

Cukierman and Meltzer (1989) present a particular model of intergenerational redistribution. This model assumes that in the present generation there are rich and poor parents. The rich parents are those who leave positive bequests to the future generation and for whom debt policy is indifferent because they can compensate any change in current taxes and deficits with adjustments in their bequests. Poor parents are those who would like to run government deficits and so, indirectly, borrow from future generations. Therefore, rich parents are indifferent to debt policies while poor ones favor public debt. The result is that the social choice is likely to lead to debt as society usually mainly consists of poor people.

Other contributions suggest that intergenerational redistribution interplay with intragenerational redistribution. A choice of default redistributes from debt holders to

taxpayers, that is, from the old to the young and from the rich, who hold the debt, to the poor, who do not (Alesina and Perotti, 1995).

Persson and Tabellini (1999) focus on redistributive programs and, in particular, how voters' preferences shape these programs. They emphasize both intergenerational and intragenerational redistribution and present six possible conflicts.

In the case of a conflict between young and old individuals, there are two dimensions of heterogeneity (income and age). Voters' preferences over the generosity of the pension system are systematically related to their age as well as their income, that is, public pensions redistribute both across and within generations. The study shows that poor and elderly voters support large public pensions and the size of social security exceeds the social optimum because future generations of tax payers cannot participate in the voting. This explains why pension expenditures have been growing so rapidly.

In a situation of redistribution between rich and poor, Persson and Tabellini (1999) assume that heterogeneity is one-dimensional (income) and voters' preferences over a general income tax are monotonically related to their own productivity. The analysis is on the influence of political forces on the observed growth of social transfers over time as well as on the cross-country differences in the size of these transfers. The authors show that the size of redistributive programs increase with a specific measure of pre-tax income inequality.

A third conflict concerns employed and unemployed individuals. In this case, voters' preferences are shaped by the risk of becoming unemployed over the generosity of unemployment insurance and the structure of other market labor programs. There are income risks that should be insured - it is the case of unemployment insurance and public health insurance. Redistributive transfers programs play a major role in providing this type of insurance. So, voters evaluate these programs not only on the basis of their relative income but also based on their relative risk. However, the distribution of risk among individuals is also determined by government regulation on the labor market. The powerful majority of individuals with stable working conditions tend to support an over-regulated labor market and under-provision of unemployment insurance. Therefore, political equilibrium is characterized by low unemployment insurance and high restrictive labor market regulations.

This analysis can be extended to the conflict of redistribution between “insiders” and “outsiders”. The first are those with a well paid and protected job and the second are those who are either unemployed or in secondary labor markets. In this specification, the risk of future unemployment is lower for currently employed individuals who therefore want less unemployment insurance than the “outsiders”. “Insiders” prefer instead protections against unemployment even if those restrictions lead to more unemployment.

The fourth conflict mentioned is a regional one. In this case, individuals belong to two different regions, which have different average incomes. Regions are rich or poor accordingly to their natural resources endowments, their occupational composition, their cultural and sociological attributes or by historical reasons. Programs redistributing across individuals also redistribute across regions. But regions, unlike individuals, have the option to opt out of a redistributive program or joint it through integration. Redistributive gains may induce poor regions to seek integration with richer regions or regional conflict may lead to secession. However, there are other factors influencing integration or secession decisions such as cultural values and economies of scale in the provision of public goods.

In the fifth problem mentioned, the analysis concerns the conflict between labor and capital. It is about how the allocation of tax burden between these inputs is determined. Voters’ preferences over the structure of the tax system depend on the relative importance of these two tax bases in their income. According to basic principles of optimal taxation, labor should be taxed more than capital because capital is a more elastic tax base. However, the taxes on capital are higher than what is social optimum, in equilibrium, since capital income is more concentrated and a majority of voters primarily rely on income from labor.

Finally, Persson and Tabellini (1999) add another source of redistribution conflict: between organized groups and non-organized groups. Many economic policy decisions create concentrated benefits for a few well-defined groups with the cost diffused in society at large. Whenever economic policies benefit narrowly defined special interests, the political incentives to influence the design of such policies are much stronger for the beneficiary than for the majority bearing the cost. Public choice literature has emphasized the approach that assumes that beneficiaries are more likely

to get organized, due to their higher stakes in the various programs, while the interests of the unorganized general public tend to be neglected.

The authors also survey the literature that has focused on structural models of the political process, trying to identify specific features of the political system that confer some power to some groups rather than others or specific features that entail systematic biases in aggregate spending. In order to predict which political groups are most powerful in the search for benefits, the institutional details of the policy process have to be specified. But it is also important to analyze the effect of alternative institutions on the overall size of government. Interest groups may get organized into lobbies and be represented by powerful legislators giving them an advantage in the fight for policy benefits. Or they may have particular attributes as voters, which make them an attractive target for office-motivated politicians. Groups organized as a lobby have disproportionate influence on the final allocation, which generally result in suboptimal allocations. If taxpayers are less politically organized than the beneficiaries of the spending programs, because they have smaller stakes individually, a large government emerges.

These conflicts, however, are present everywhere and so these models do not help to explain public debt differences between countries. For instance, it is not fully acceptable that intergenerational altruism is stronger in certain countries than it is in others.

Furthermore, this theory does not explain why only in recent decades there has been a clear accumulation of budget deficits. Note that if growth is increasing, then it might make sense for the current generation to shift the tax burden to the next one. However, growth has, if anything, been decreasing in industrialized countries, in particular OECD countries, in the last decades.

### **Models of conflicts among political parties**

The theoretical models that focus on disagreement among agents in the decision-making process are perhaps the ones that have received more attention from the empirical literature. They are based on the conflict among policy-makers or parties that have influence on budgetary decisions, at the same time. The deeper the conflicts among such agents, the greater the difficulties encountered when reducing budget

deficits. Such policy conflicts are more prominent in countries with coalition governments and, in this case, the concern is about the polarization of parties that are members of the same coalition government. Game theory suggests that cooperation is more difficult when the number of players is large. In this view, coalition governments will find it more difficult to reduce budget deficits after adverse shocks, since parties in the coalition will veto spending cuts or tax increases that go against the interests of their respective constituencies.

Roubini and Sachs (1989) have stressed that governments do not have full control of available policy instruments and manage them according to some well-defined objective function. Central in the reasoning of these authors is that politicians have limited ability to achieve agreements among coalition parties within a given government. First, individual parties in the coalition have different constituencies. In response to an adverse shock, each party only proposes budget cuts, which do not negatively affect its own constituency. Second, individual coalition members have a veto. Each party has enormous power to block a proposal of another coalition member, but at the same time it has only little power to implement its own program. Third, there are weak enforcement mechanisms among coalition partners in reaching the co-operative outcome. Coalition parties know that the electorate is not able to discern which party is responsible for which part of policy. Lack of monitoring weakens the enforcement mechanisms.

There is an additional reason why coalition governments may have more difficulties to keep budgets in line. Enforcement mechanisms among coalitions will also be very weak because they generally have a high turnover rate. A short tenure will limit the possibilities to play the repeated decision-making game. The parties' incentives to cooperate are therefore reduced. So, in this argument, it is not the number of players that is crucial, but the instability of the government. Clearly, this argument takes it for granted that coalition governments have a shorter tenure than have one-party, majoritarian governments.

In this context, Alesina and Drazen (1991) proposed a model, "war of attrition model", of delayed fiscal adjustments in which different sociopolitical groups fight about the distribution of the fiscal burden. The model assumes that an initial exogenous permanent fiscal shock creates budget deficits, at the existing tax rates,

and debt begins to accumulate. A social planner would react immediately to the shock by raising tax revenues to balance the budget. If there are, instead, two political parties in office, they have to agree on a fiscal policy, that is, they must agree on how to share the fiscal burden of stabilization. The longer it takes, the more the debt accumulates and the longer the fiscal distortions persist. An immediate agreement on how to share the fiscal burden of stabilization makes both groups better off relative to the same agreement reached with delay.

Nevertheless, a rational stabilization delay can occur either if one of the groups has to bear a disproportionate share of the fiscal burden or when the two groups are not informed about how costly it is for the opponent to postpone the fiscal stabilization. The first situation emphasizes the economic costs (of preventing the other group from imposing an undesirable fiscal policy) and the second the political ones (lobbying and direct political actions). So, they are not mutually exclusive.

As none of the groups wants to pay the larger share of the fiscal stabilization, the optimal concession time is determined by equating the marginal cost of waiting (which is the utility cost of living another instant in the distorted economy) with the marginal benefit of waiting (which is given by the conditional probability that the other group will concede in the next instant multiplied by the difference between paying the lower or the higher share of the fiscal burden).

So, the point of the model is that the distributional conflict among social groups delays the adoption of the efficient policy of balancing the budget. And when it appears it is partly financed by external debt accumulation and partly by some sort of distortionary taxation. Stabilization is defined as a change of policy that stabilizes debt-to-GNP ratio and substitutes previous taxation with a less distortionary form of taxation. The more unequal is the burden of stabilization, which may be an indicator of political polarization, the higher are the benefits from waiting and so the later is the expected time of stabilization.

In opposition to a coalition government where the “war of attrition” can delay stabilization measures, a single-party government can lead to an excessive reaction in order to reach stabilization because it has the power to protect its supporting constituency from a heavy fiscal burden. Therefore, there may be a trade-off between

the relative inaction of coalition governments and the partisan overreaction of majority single-party governments (Alesina *et al*, 1997).

Hahm (1996) suggested an empirical refinement to this analysis. This author differentiates between three political systems: presidential, stable parliamentary and unstable parliamentary. According to Hahm's theoretical model, the Roubini-Sachs approach is valid only in unstable parliamentary systems, but in the other systems the relationship between strength of government and fiscal position is different. In a stable parliamentary system, the strength of the government is hypothesized to have no systematic effect on the deficit and, in a presidential regime, if the party in power is strong, there is a tendency for increases in the deficit. Hahm reports evidence supporting this view.

Persson and Tabellini (1999) present another model of conflicts among political parties based on the importance of "swing-voters" on the choice of the electoral platforms by two parties who maximize the probability of winning the election. They make binding promises of policy favors to interest groups ahead the election. The two candidates are not identical and different voters have ideological preferences for one or the other. When choosing which party to support, voters trade-off their predetermined ideological party preferences against the announced economic benefits. Political power reflects the distribution of voters' ideological preferences across groups; however, more powerful groups include a large number of "swing-voters" - voters who move across parties because they do not care about ideology. To win the election, both parties tend to direct economic benefits towards these voters.

Although these models are suitable for the explanation of why countries delay adjustments, they do not explain the cause of the shocks that originate the fiscal budget. On the other hand, empirical evidence shows that weak coalition governments have delayed fiscal adjustments and have accumulated debt. Moreover, it has been shown that the higher the number of parties in a coalition government, the higher is public debt and that longer-lived government are associated to smaller deficits (Alesina and Perotti, 1995). As coalitions have, in general, shorter lives and the nature of party systems and of government structure depend on the electoral system, it is possible to establish a relationship between the type of political system and public debt. These models have found large support from empirical evidence.

### **Models of geographically dispersed interests**

These models emphasize the interaction between the organization of legislatures and fiscal decisions. The argument is that political representatives of geographically-based constituencies overestimate the benefits of public expenditure in their region relating to their financing costs because these costs are borne by all the taxpayers and not only by those living in that region (Alesina and Perotti, 1995; Alesina *et al*, 1997, and Imbeau and Chenard, 2001). The overestimation of these benefits leads to a level of government spending over the optimal one. The local authorities or the geographically elected representatives do not fully internalize the effects of their decisions over the aggregate budget. The incentives for the local authorities are different if they are responsible for both the tax and spending decisions.

The main idea of these models is that the geographical distribution of costs, benefits and decision power are important factors in explaining aggregate deficit.

Even though these models can help to explain the size of government spending and therefore the size of the budget, they fail to explain the intertemporal allocation of taxes and expenditures and therefore budget balances because they are static models. Moreover, they focus on the public expenses that are geographically based which are not necessarily those which have grown more in recent years.

Alesina and Perotti (1995) mention there is evidence that there has been an increase in the fiscal responsibilities of local authorities. However, according to the authors, more research has to be done in order to find out if this kind of cross-country and temporal variations can explain budget deficits because these models have not yet been sufficiently tested.

### **Models of budgetary institutions**

Models emphasizing the preferences of politicians and voters do not explain all the cross-country and cross-temporal variations of public deficit and debt. The models emphasizing the role of institutions offer an alternative explanation for the differences found in public deficit and debt, as these institutions vary considerably across countries and time.

Budgetary institutions encompass all the laws, regulations and rules according to which budgets are drafted, approved, implemented and evaluated. They have an effect

on fiscal policy outcomes if two conditions hold: first, if they are more difficult to change than the budget law itself and, second, if they influence the final vote and the implementation of the budget. In fact, budget institutions cannot be changed as frequently as the budget itself otherwise they would be ineffective. According to Alesina and Perotti (1995), whether or not budget institutions affect the outcome of a legislative vote is still being discussed by political science. Different types of budgetary institutions have been identified by the literature: formal laws, voting rules and procedures and the degree of transparency of the budget document.

First, formal laws establish fiscal constraints such as balanced budget laws or other restrictions that affect the choices concerning fiscal policy - these regulations usually lead to lower average deficits and to quick responses to shocks.

Among the voting rules or procedures in the formulation of a budget proposal within the executive as well as in the presentation and approval of the budget in the legislature, two issues have been emphasized: the type and timing of parliamentary votes and the rules concerning the limits, or the lack of them, to parliamentary amendments to the budget. Over time, these institutions have been shaped by social, political and historical facts, but growing deficits and debts, in recent decades, have led to the re-examination of what can be done in this context to promote fiscal discipline without losing the flexible use of the budget as a fiscal tool.

As for the type and timing of parliamentary votes, the general idea is that voting first on the aggregate size of the budget and then on the allocation of spending programs leads to more budget discipline, although there are some arguments that do not support this view (Alesina *et al*, 1997).

As for amendments rules, they might be distinguished between closed rules and open rules. A closed rule is one in which the legislature must vote immediately either for or against the proposal made by a member of the legislature. If it is accepted, the budget is approved; if it is rejected, another proposal can be made and voted. These rules lead to the allocation of the benefits to a majoritarian fraction of the legislature and limit the legislature's prerogatives to amend the executive's proposal. An open rule is one in which the proposal made by the member selected can be asked for a vote by another selected member or this other member can propose an amendment. In this last case, the amendment is balloted against the proposal and then a new member is

selected and so forth. These rules delay the approval of a proposal but the distribution of the benefits within the winning majority is more egalitarian than with a closed rule (Alesina *et al*, 1997).

Political power reflects the assignment of agenda setting or amendment rights. Institutions that centralize decision-making power, in particular budgetary power, by conferring strong proposal rights and limiting amendments on spending proposals seem to promote more fiscal discipline and induce a small size of government but distort allocation in favor of those who hold such powers (Persson and Tabellini, 1999).

The third type of institution is the degree of transparency of the budget document and the amount of flexibility in the implementation process. Politicians have no incentives to produce transparent budgets for two reasons: voters' illusion and, in the rational voters framework, the advantage policy-makers can retain over not fully informed voters. Facing naïve voters, opportunistic policy-makers can engage in preelectoral fiscal manipulation based on less transparent budgets procedures and documents. This is possible because naïve voters tend to overestimate the benefits of public spending and underestimate current and future tax burdens. Therefore, opportunist decision-makers are able to favor one lobby group or another. Even under rational behavior with not fully informed voters, by making it less clear how fiscal policies translate into outcomes, policy-makers are able to conduct electoralistic measures that may lead to opportunistic cycles. This informational disadvantage would disappear with transparent procedures.

In summary, as policy outcomes are influenced by politico-institutional variables, in order to improve policy-making, the intervention must also be made at the institutional level. There are mainly two types of institutional reforms: changes in the legislation regarding the budget formation and more general institutional reforms such as electoral laws.

The introduction of regulations that limit the discretion of each government in running deficits, or more specifically, a balanced budget law is the most commonly referred reform of the budget process. The costs of a balanced budget law are the loss of flexibility and of fiscal stabilization over the cycle. Moreover, the enforceability of a balanced budget law is also a problem.

Therefore, the choice of the budget procedure is based on a trade-off: the more difficult it is to change the law, the more credible are the commitments but the less flexible it is and so the more difficult it is to respond to unforeseen shocks. The same happens with the size of the majority needed to break the rule: the bigger it is, the more credible but less flexible is the budget process.

An important issue is who exercises power in the budget process. At the executive level, there are two models: a hierarchical one in which key ministers exercise considerable power and a collegial model in which power is more equally distributed. The effect of intragovernmental conflicts is reduced, and therefore fiscal discipline increases, if either the prime-minister or the finance minister has a strong role in the budget formation process because spending ministers are more likely to be sensitive to special interest pressures while the former are more sensitive to the overall size and financing of the budget. At the legislative level, procedures that impose first a vote on the size of total spending and then a discussion of specific items are more likely to limit deficits because it avoids the increase in the deficit as a way to solve conflicting spending needs. Finally, independent central banks may enforce fiscal responsibility by limiting government's access to monetary finance.

These models have been mainly developed for the USA and have been more oriented to explaining the size of the government rather than the intertemporal allocation of taxation and spending. However, empirical research has found evidence that budgetary institutions influence fiscal policies. An obvious example is the European Stability and Growth Pact (Eichengreen and Wyplosz, 1998). Moreover, the great variety of these institutions among countries can help explaining cross-country differences in public debt but the fact that they are relatively stable overtime makes it more difficult to explain the temporal performances of public debt.

## **5. EMPIRICAL EVIDENCE ON POLITICAL MODELS OF BUDGET DEFICITS**

Public choice researchers have not limited their work to theoretical developments on deficits and debts; they have also deducted hypothesis in order to empirically test their theories. This section presents some of the most recent empirical evidence on political models of budget deficits. Although it is not a complete survey, it intends to reflect the empirical results that dominate the most recent economic literature and, therefore, to assess the validity of the various models. The results are summarized in Table 3 in

the Appendix. This table highlights the fact that it is not possible to draw a line separating the various models, as there are many points of contact between them.

As for both the models of fiscal illusion and the models of geographical dispersed interests there has not been a significant empirical exploration for the reasons mentioned in the previous section. The models of redistribution conflicts, due to their complexity that goes beyond the scope of this work, will be left out of this section. Empirical evidence on the other models is surveyed next.

### **Debt as a strategic variable**

The models that focus on the strategic use of debt have been largely analyzed. Pettersson (2001) provides a recent empirical study on the strategic debt behavior as a political-economic explanation for the accumulation of large government debts in many countries in the last 20 years. Furthermore, his paper tries to make a direct test of strategic debt behavior by generating predictors of the expectation of electoral defeat from an auxiliary model and by discriminating between the two main theories of strategic debt behavior mentioned in Section 4: Alesina and Tabellini (1990) and Persson and Svensson (1989).

According to the author, previous empirical studies have either rejected the strategic explanation of debt or have not been able to isolate this effect; he mentions four empirical studies. Grilli *et al* (1991) use data from a sample of the OECD countries and find that short government durability plays a crucial role in explaining public deficits and debt. However, this study cannot discriminate if this is due to the strategic reason or to government weakness. Crain and Tollison (1993) develop an empirical analysis on USA data from 1969 to 1989 and the results indicate that legislature stability and executive terms limits are correlated with less volatility of budget deficits/surpluses. This finding is interpreted as consistent with strategic debt behavior, but it is not obvious that this is the right conclusion to draw since there are two competing strategic debt models and only one of them necessarily predict less volatility. Franzese (2001) is also unable to find any effects of strategic debt behavior on a panel of OECD countries. Lambertini (2003) using USA and OECD pooled data finds little evidence of strategic use of debt.

Pettersson (2001) argues that these findings are not that surprising since there are several potential difficulties using USA (related to the scarcity of observations from elections) or OECD (due to sample heterogeneity<sup>4</sup>) data to test the strategic behavior approach. To overcome these problems, the author used a panel data set from Swedish local governments, which, according to the author, meet the required autonomy so that strategic debt theories are applicable. The main advantages of this panel data set are the homogeneity of the sample (same political system, elections held at fixed intervals of time, highly comparable measures of debt) and the large number of observations from elections (about 2000).

The main findings of Pettersson's (2001) paper strongly suggest that a right-wing government accumulates more debt during its term of office if it thinks that it will be defeated as compared to when it expects to remain in office. On the other hand, a left-wing government decreases the level of debt the higher the possibility of its defeat. Moreover, the larger the inherited debt, the more a newly elected government has to reduce spending and raise taxes. These results are consistent with the predictions from the model developed by Persson and Svensson (1989). According to their model, the inherited debt should affect a newly elected government's decision on taxation and spending. A high debt forces the new government to decrease spending and raise taxes. Moreover, all regressions illustrate the same principle: a left-wing party, on average, reduces the level of debt while a right-wing party does the opposite, the higher the probability of defeat.

Pettersson (2001) also concludes that the frequency of government changes has no significant impact on the accumulation of debt (the sign of the coefficient is also opposite from what would be expected). Thus, this result confirms the previous findings that the two political blocs have opposite incentives regarding the strategic use of debt. Furthermore, it shows that it can be very misleading to use the frequency of government changes to infer strategic debt behavior. The author also finds a negative relationship between inherited debt and change in spending and a positive

---

<sup>4</sup> The problem of heterogeneity concerns, on one hand, how to get comparable measures of the incumbent's expectation of electoral defeat proxies since the OECD countries differ, among other things, with respect to electoral system (presidential or parliamentary) and type of election (election occurrence is fixed or flexible). On the other hand, it concerns the exercise of constructing primary deficits free of the effects of the business cycle variations, since one needs to separate the business

relationship between inherited debt and taxes. Overall, Pettersson's results strongly support the strategic explanation suggested by Persson and Svensson (1989).

### **Conflicts among political parties**

In an empirical study which address this issue, Roubini and Sachs (1989) use a variable to identify the type of government in power, in order to explain the growth of government debt in a sample of OECD countries. These authors find that broad coalition governments experienced higher deficits, other things being equal, than did one-party, majoritarian governments. However, subsequent research found less support for this so-called weak government hypothesis. Ohlsson and Edin (1991) argue, for instance, that the political cohesion variable used by Roubini and Sachs captures the effects of minority governments rather than majority coalition governments. De Haan and Sturm's (1997) paper reinforces the idea that the Roubini-Sachs power dispersion index appears to contain some errors.

Kontopoulos and Perotti (1999) have broadened this approach by arguing that the previous literature overlooked what they call size fragmentation. One possible source of fragmentation of fiscal policy-making is the number of decision-makers. The larger the number of decision-makers, the less each will internalize the costs that a certain policy will impose on others. It can be argued that the relevant group here is each political party in government. The authors present new estimates for a broad sample of 21 OECD countries, for the period 1979–1995, to investigate whether political and institutional characteristics of policy mechanisms can explain cross-country differences in fiscal policy outcomes. In sharp contrast with previous findings of Roubini and Sachs (1989) and Ohlsson and Edin (1991), the authors find that growth of government debt is not associated with the power dispersion index of Roubini and Sachs, nor with the variant suggested by Ohlsson and Edin. This conclusion is reached no matter which concept of government debt is used: gross or net general government debt or central government debt. Also, if one distinguishes between stable and unstable representative regimes, one does not find any effect of the type of government on fiscal policies pursued.

---

cycle component from the strategic component (if there is one), to assess the role of strategic debt behavior.

This result therefore does not corroborate Hahm's (1996) findings, whose empirical analysis provided mixed support for the work of Roubini and Sachs (1989). Hahm reports evidence supporting the view that the Roubini-Sachs approach is valid only in unstable parliamentary systems.

Spolaore (2003) develops a political-economy model of adjustment in alternative systems of government. He finds that the degree of political fragmentation in society (the number of political agents with conflicting interests over adjustment policies) plays a fundamental role in the dynamics of adjustment within each system and in their relative performance. The results are consistent with empirical work that relates delayed stabilizations in coalition governments to the number of parties within the coalition. Alesina and Perotti (1995) also found that coalition governments are less likely to introduce successful fiscal adjustment measures.

De Haan and Sturm (1994) concluded that the growth of government debt is positively related to the frequency of government changes and negatively to budget procedures (empirical evidence on models of budgetary institutions is presented below). This implies that countries with more unstable governments may have more difficulties to control their public debt. But, introducing tight fiscal criteria may compensate the internal political instability. Furthermore, in countries with left-wing governments, the growth of the share of government spending in total output generally tends to be higher.

Another paper (De Haan *et al*, 1999) shows new evidence on the hypothesis that coalition governments will find it more difficult to keep their budgets in line after an adverse economic shock than do one-party, majoritarian governments. The estimates are based on a broad sample of OECD countries, for the period 1979–1995. Using various specifications as suggested in the literature, the authors do not find evidence that the type of government affects cross-country variation in fiscal policy.

Perotti and Kontopoulos (2002) explore on a panel of 19 OECD countries the role of fragmentation in determining fiscal outcomes over the 1970-95 period. Fragmentation of fiscal policy-making is empirically measured by the number of decision-makers and the rules of the budget process. The authors test these determinants against each other and against ideology and show that cabinet size (the number of ministers) and to

a less extent, coalition size (the number of political parties in a coalition) and ideology affect fiscal policy outcomes.

Volkerink and De Hann (2001) extend the literature in a number of ways. First, they notice that one serious shortcoming of most previous empirical work in this line of research is that the data used refers to general government, whereas the theoretical notions that underlie the estimates usually refer to central government. Second, other theoretical hypotheses, besides size fragmentation, are analyzed: the government's position *vis-à-vis* parliament, the ideological complexion of government and the political fragmentation of government.

The results on the size fragmentation of government analysis suggest that the effective number of parties as well as the number of spending ministers affect the budget deficit of central government but the impact of the latter is stronger and more robust than the effective number of parties in government. The results suggest that the effective number of parties in parliament also affects the budget deficit: the more fragmented parliament is, the higher is the central government's budget deficit; this is, in fact, the most robust influence the authors found. Moreover, the more politically divided parliament is, the less government may have to fear from the opposition. The results on ideological complexion of government analysis suggest that left-wing governments do not to have higher deficits than right-wing governments. This indicates that even though left-wing governments spend more, they also tax more, so the balance is not affected. The political fragmentation of government is the degree to which political parties in the coalition have different ideologies and the ideological coherence of a cabinet may matter for fiscal policy outcomes as well. The results, however, do not support the hypothesis that large ideological differences will make compromising more difficult.

### **Budgetary institutions**

Finally, we will focus on the models of budgetary institutions. Kirchgaessner (2001) provides a survey on the empirical research on fiscal institutions of the last three decades. The main results are the following.

Balanced-budget rules and limitations of expenditure, taxes and deficits have in most cases proved to be effective in cutting down public expenditure, revenue and debt.

However, at least in some cases this leads to a deterioration of the quality of the publicly provided services, especially with respect to schooling. Budgetary procedures matter and the interaction between budgetary procedures and the electoral system also matters: not all budgetary procedures have the same effect in all electoral systems. They might be less effective than constitutional or statutory balanced-budget or tax and expenditure limitation rules but, in a situation where it is impossible to introduce such rules, they might show a feasible second-best way to reach fiscal sustainability. A “first-best solution” might be to give the citizens direct political rights in the budgetary process. Citizens demand fewer public services and seem to force a sounder fiscal policy in systems with direct legislation than in purely parliamentary systems. This results in a lower public debt *per capita* under direct democracy. Finally, there is some evidence that fiscal federalism leads, *ceteris paribus*, to a smaller size of the government. There are also political institutions, which have an impact on the public budgets, and there are some interactions between the different institutions.

Kirchgaessner (2001) adds that, besides fiscal institutions and besides political factors like the ideology of the leading party of the government or the number of parties in a coalition, there are also political institutions that can have a considerable impact. At least two of them have also been discussed in the literature to a large extent and in recent years there has also been some empirical research in this respect. One question is about the impact a presidential system on public finance compared to a parliamentary system as most European countries have. The second question relates to the electoral system: majoritarian *versus* proportional electoral system.

According to the author, there are two major problems with the hypothesis that presidential regimes lead to a lower size of the government than parliamentary regimes and that majoritarian elections lead to a lower size of the government than proportional elections. First, it uses only the size of the central government as dependent variable. One reason for this might be that the political data used as explanatory variables is also from the federal level. These results are, however, hardly indicating anything about the total size of the government because they do not control for the different fiscal structures. Second, the characterization of the different countries as “presidential” or “parliamentarian” is highly debatable. This demands for

further investigations of the impact these political institutions have on the budgetary process.

The Stability and Growth Pact (SGP) consists in a real example of rules and procedures aiming at fiscal discipline. Eichengreen and Wyplosz (1998) review the reasons that have been advanced in favour of SGP. These arguments can be summarized as follows: the elimination of inflationary pressure and, in particular, the prevention of inflationary debt bailouts, the offsetting of Europe's political bias toward excessive deficits, the internalization of the cross-border interest rate spillovers, the encouragement of policy coordination in an integrated Europe. Although, according to the authors, the SGP will have some effect on fiscal outcomes, they alert for the fact that it might also have significant costs, by reducing the extent of automatic stabilization and by diverting political effort from more fundamental problems. Alternative procedures and rules are suggested: for instance, prudential limits on banks' exposure to public debts in order to reduce the risk of bank crisis following a government's failure to service its debt (one of the major rationales for the SGP). Wyplosz (2002) also offers a critical analysis of the SGP and suggests alternative ways to achieve the desired goals.

Following Kirchgaessner (2001), the main conclusion is that a prudent combination of institutions can help to reduce public deficits and debt.

## **6. CONCLUDING REMARKS**

Economic literature on the explanation of public deficits has focused on two main issues: the accumulation of public debts in recent decades and the large observed cross-countries differences on public deficits and debt. Economic arguments alone are not sufficient to explain this behavior. To overcome this caveat, recent political economy literature emphasizes the role of political and institutional factors in the explanation of the fiscal policy and, in particular, of the budget balances behavior. The present survey focuses on a set of political-economic models.

The review made suggests a distinction between two blocks of models: those that have been analyzed by the theoretical literature but have not been a strong concern of the empirical works and those that, besides having been developed under a theoretical perspective, have also been empirically largely assessed. Models of redistribution conflicts have not been considered in the empirical review due to their complexity.

Models based upon opportunistic policy-makers and naïve voters with fiscal illusion, models based upon the assumption of ideological policy-makers and models of geographically dispersed interests constitute the first block.

Models based upon the idea of fiscal illusion have been largely criticized as they can help explaining short-run fluctuations in budget deficits but not public debt long-run behavior, nor the observed differences across industrialized countries. The partisan cycles theory may help to explain some cross-country differences but does not help to explain the generalized observed public debt accumulation. The models of geographical dispersed interests can help to explain the size of government spending, but they fail to explain the intertemporal allocation of taxes and expenditures and therefore budget deficits because they are static models. They also focus on the public expenses that are geographically based which are not necessarily those which have grown more in recent years.

The other block gathers the models of the strategic use of debt, of conflicts among political parties and of budgetary institutions.

Both approaches of debt as a strategic variable argue that political polarization and frequent government changes should be associated with larger debts. And, in fact, recent decades have witnessed much more frequent changes of government from left to right and vice-versa than previous decades and it is possible that political and economic instability were connected. These models are testable and can provide answers to the questions addressed above. So far, the major problem of these models is the need of more robust empirical tests. The models of conflicts among political parties are perhaps those that have received more attention from the empirical literature. These models have found some support from empirical evidence. In fact, there is empirical support for the fact that higher public deficits and debts are positively correlated to coalition governments, to the frequency of government changes, to the number of parties in government, to the number of spending ministers and to the number of parties in parliament. These two last types of theoretical models have some empirical consequences in common. In fact, they both rely on the correlation between higher public deficits and debts, on one hand, and frequent government changes and political polarization, on the other hand.

The last type of models emphasizes the role of budgetary institutions. There is empirical evidence that the strength of the position of the prime-minister (or finance minister) in intragovernmental negotiations, the existence of balanced-budget rules, the type and timing of parliamentary votes and the rules concerning the limits to parliamentary amendments to the budget are important in controlling budget deficits. Direct democracy and fiscal federalism also promote fiscal discipline.

This survey has made clear that empirical investigation on political models of budget deficits has focused, particularly, on the models of the strategic use of debt, of conflicts among political parties and of budgetary institutions. However, even in these cases, empirical literature has always not been conclusive. This literature review has put forward the need of testing alternative methods as well as specifications, based on larger samples, both in time and countries, and on more reliable data. These empirical refinements would be interesting areas for future research. There is also scope for a more comprehensive empirical analysis of the relative importance of the various theoretical explanations.

#### REFERENCES

- ALESINA, Alberto and DRAZEN, Allan (1991), "Why Are Stabilizations Delayed?", *The American Economic Review*, 81 (5): pp. 1170-88, December.
- ALESINA, Alberto and PEROTTI, Roberto (1995), "The Political Economy of Budget Deficits", *IMF Staff Papers*, 42 (1), March.
- ALESINA, Alberto; ROUBINI, Nouriel and COHEN, Gerald D. (1997), *Political Cycles and the Macroeconomy*, The MIT Press, Massachusetts.
- ALESINA, Alberto and TABELLINI, Guido (1990), "A Positive Theory of Fiscal Deficits and Government Debt", *Review of Economic Studies*, 57 (3): pp. 403-414.
- BARRO, Robert J. (1979), "On the Determination of the Public Debt", *Journal of Political Economy*, 87: pp. 940-971, October.
- CRAIN, M. and TOLLISON, R. (1993), "Time Inconsistency and Fiscal Policy: Empirical Analysis of U. S. States, 1969-89", *Journal of Public Economics*, 51 (2): pp. 153-159.

- CUKIERMAN, Alex and MELTZER, Allan H. (1989) “A Political Theory of Government Debt and Deficits in a Neo-Ricardian Framework”, *The American Economic Review*, 79 (4): pp. 713-732, September.
- EICHENGREEN, Barry and WYPLOSZ, Charles (1998), “The Stability Pact: more than a minor nuisance?”, *Economic Policy*, pp. 65-113, April.
- FORTUNATO, Piergiuseppe (2001), “Voting over Redistribution: The Occurrence of Polarized Outcomes”, *University of Bologna Working Paper*, 421, October.
- FRANZESE, Jr., Robert (2001), *The Positive Political Economy of Public Debt: An Empirical Examination of the OECD Postwar Experience*, Workshop on Political Economy (Tel Aviv University), January.
- GRILLI, Vittorio; MASCIANDARO, Donato and TABELLINI, Guido (1991), “Political and Monetary Institutions and Public Financial Policies in the Industrial Democracies”, *Economic Policy*, 13: pp. 341-392.
- DE HAAN, Jakob and STURM, Jan-Egbert (1994), “Political and institutional determinants of fiscal policy in European Community”, *Public Choice*, 80: pp. 157-172.
- DE HAAN, Jakob and STURM, Jan-Egbert (1997), “Political and economic determinants of budget deficits and government spending: a reinvestigation”, *European Journal of Political Economy*, 13: pp. 739-750.
- DE HAAN, Jakob; STURM, Jan-Egbert and BEEKHUIS, Geert (1999), “The weak government thesis: some new evidence”, *Public Choice*, 101: pp. 163-176.
- HAHM, S. D. (1996), “The political economy of deficit spending: a cross comparison of industrialized democracies, 1955 – 90”, *Environment and Planning C: Government and Policy* 1996, 14: pp. 227 – 250.
- HIBBS, Douglas A., Jr (1986) “Political Parties and Macroeconomic Policies and Outcomes in the Unites States”, *Politics and Economic Policies*, 76(2): pp. 66-70.
- IMBEAU, Louis M. and CHENARD, Kina (2002), *The Political economy of public deficits: a review essay*, EPCS-2002 Conference.
- KIRCHGAESSNER, Gebhard (2001), “The effects of fiscal institutions on public finance: a survey of the empirical evidence”, *CESifo Working Papers*, 617.

- KONTOPOULOS, Yianos and PEROTTI, Roberto (1999), "Government Fragmentation and Fiscal Policy Outcomes: Evidence from OECD Countries", *Fiscal Institutions and Fiscal Performance*, J. Poterba and J. von Hagen (eds), Chicago.
- LAMBERTINI, Luisa (2003), "Are Budget Deficits Used Strategically?", *Boston College Working Papers in Economics*, 578, June.
- LUCAS, Robert E. and STOKEY, Nancy (1983), "Optimal Fiscal and Monetary Policy in an Economy without Capital", *Journal of Monetary Economics*, 12: pp. 55-93, July.
- NORDHAUS, William D. (1975), "The Political Business Cycle", *Review of Economic Studies*, 42 (2): pp. 169-190, April.
- OHLSSON, Henry and EDIN, Per-Anders (1991), "Political Determinants of Budget Deficits: Coalition effects versus Minority effects", *European Economic Review*, 35: pp. 1597-1603.
- PEROTTI, Roberto and KONTOPOULOS, Yianos (2002), "Fragmented Fiscal Policy", *Journal of Public Economics*, 82: pp. 191-222, November.
- PERSSON, Torsten and SVENSSON, Lars (1989), "Conservative Would Run a Deficit: Policy with Time-Inconsistent Preferences", *Quarterly Journal of Economics*, 104: pp. 325-345.
- PERSSON, Torsten and TABELLINI, Guido (1999), "Political Economics and Public Finance", Prepared for the Handbook of Public Economics, Vol. III, Alan Auerbach and Martin Feldstein (eds).
- PETTERSSON-LIDBEM, Per (2001), "An Empirical Investigation of the Strategic Use of Debt", *Journal of Political Economy*, 109: pp. 570-583.
- ROGOFF, Kenneth e SIBERT, Anne (1988), "Elections and Macroeconomic Policy Cycles", *Review of Economic Studies*, 55: pp. 1-16.
- ROUBINI, Nouriel and SACHS, Jeffrey (1989), "Political and Economic Determinants of Budget Deficits in the Industrial Democracies", *European Economic Review*, 33: pp. 903-933, May.
- SPOLAORE, Enrico (2003), "Adjustments in Different Government Systems", *Economics & Politics*, forthcoming.

VOLKERINK, Bjørn and DE HAAN, Jakob (2001), “Fragmented government effects on fiscal policy: new evidence”, *Public Choice*, 109: pp. 221-242.

WYPLOSZ, Charles (2002), *Fiscal Policy: Rules or Institutions?*, Paper prepared for the April 16, 2002 meeting of the Group of Economic Analysis of the European Commission, March.

## APPENDIX

Table 1: Gross Government Debt, % GDP

Country	Australia	Austria	Belgium	Canada	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Japan	Netherlands	Norway	Portugal	Spain	Sweden	United Kingdom	United States	European Union
1970	-	18,9	63,2	54,1	-	-	-	17,5	17,6	-	37,9	10,5	49,4	41,8	18,7	-	30,4	78,0	49,2	27,3
1971	-	17,8	62,4	55,2	-	-	-	17,7	18,1	-	42,8	11,7	47,2	41,8	18,4	-	30,2	74,6	49,8	27,9
1972	-	17,2	62,1	53,4	-	-	-	17,9	19,1	-	49,1	15,5	44,2	42,4	17,2	-	29,6	69,4	48,2	28,7
1973	-	17,2	59,9	47,9	-	-	-	16,6	16,1	-	51,1	15,1	41,1	41,0	15,9	-	28,8	65,0	45,4	27,9
1974	-	17,1	56,0	45,7	-	-	-	17,7	16,7	53,8	51,4	15,9	39,2	38,5	15,6	-	30,1	65,3	44,5	28,0
1975	-	23,1	57,6	45,1	-	-	-	23,1	18,5	59,5	57,4	20,1	40,2	39,8	22,6	-	29,5	62,1	48,0	31,2
1976	-	26,3	58,2	43,5	-	-	-	25,4	18,3	63,8	56,3	25,7	39,7	41,6	27,5	13,0	27,2	61,7	48,1	31,8
1977	-	28,6	61,6	45,0	-	-	29,1	27,1	18,5	60,9	56,2	30,7	39,2	47,5	28,8	14,0	28,7	60,6	46,9	32,8
1978	-	32,3	65,1	47,9	-	-	30,2	28,1	24,3	62,8	61,3	38,8	40,5	53,5	32,3	13,8	32,8	58,1	45,8	34,7
1979	-	34,2	68,1	45,1	-	-	30,5	28,4	22,8	67,9	60,5	43,3	42,4	46,9	22,0	15,8	38,3	54,8	44,5	35,1
1980	-	35,8	76,1	45,5	43,7	-	30,1	30,2	22,9	69,3	57,9	48,3	45,1	43,4	32,2	20,0	42,7	54,5	45,2	36,6
1981	-	37,6	89,1	46,7	53,7	-	29,4	34,0	27,1	73,7	60,1	52,7	48,9	39,4	40,5	24,6	50,3	55,1	44,4	39,3
1982	-	40,0	99,3	52,4	65,5	-	33,4	37,9	29,8	79,4	65,1	56,3	54,2	34,3	43,4	31,0	59,6	53,9	49,3	43,8
1983	-	44,3	109,9	58,1	76,2	-	34,6	39,1	34,0	92,7	70,0	61,3	60,2	31,6	48,5	37,4	63,4	53,9	52,4	47,3
1984	-	46,8	113,9	61,2	77,5	-	36,3	40,6	40,9	96,8	75,2	63,4	64,2	31,9	54,0	43,7	64,7	60,8	54,0	50,3
1985	-	48,8	118,5	66,4	74,9	-	37,9	41,6	47,8	99,7	81,9	63,8	68,7	34,6	57,0	48,6	64,4	59,4	59,0	53,3
1986	-	53,2	123,5	70,5	71,8	-	38,8	41,5	48,4	110,8	86,2	67,1	70,6	43,0	66,8	49,4	63,9	58,6	62,6	55,1
1987	30,3	57,1	128,0	70,8	68,6	-	40,1	42,2	52,6	112,1	90,4	67,5	73,1	36,0	64,3	48,6	57,0	56,3	64,1	56,9
1988	25,8	58,4	128,0	70,3	66,7	-	40,0	42,2	62,7	108,5	92,5	65,8	76,0	35,1	65,0	45,0	51,3	49,9	64,7	57,2
1989	23,8	57,6	124,4	71,5	65,0	-	39,9	39,9	65,7	99,1	95,3	63,3	76,0	35,4	63,3	46,5	46,7	43,2	65,0	57,1
1990	22,6	56,8	124,9	74,5	65,8	14,3	39,5	42,0	89,0	92,6	103,7	61,5	75,6	32,4	65,3	48,5	42,7	39,1	66,6	59,5
1991	23,8	57,1	126,7	82,2	66,7	22,7	40,3	40,1	91,2	92,4	107,4	57,9	75,7	30,3	67,3	49,6	51,4	40,1	71,4	60,1
1992	28,1	57,0	128,1	90,4	70,6	45,3	44,7	43,4	97,5	90,0	116,1	59,3	76,4	36,1	59,9	52,1	68,6	46,9	74,1	64,1
1993	31,4	61,6	134,8	98,2	83,8	58,5	51,6	49,0	110,2	94,0	117,9	63,7	77,6	45,1	63,1	63,4	73,7	56,2	75,8	68,5
1994	41,1	64,6	132,7	98,7	77,7	60,0	55,3	49,2	107,9	88,1	124,0	68,8	74,0	43,5	63,8	65,5	77,9	53,7	75,0	70,2
1995	42,8	68,4	129,8	101,4	73,9	66,0	59,3	59,1	108,7	80,8	123,1	76,2	75,5	41,1	65,9	68,4	76,9	58,9	74,5	74,3
1996	40,0	68,3	128,3	100,9	68,1	66,6	62,4	61,9	111,3	74,1	121,8	80,5	75,3	35,2	64,8	72,2	74,5	58,5	73,9	77,0
1997	38,3	63,9	123,0	97,9	64,7	64,9	64,7	62,8	108,5	65,3	119,8	84,6	70,3	31,5	62,0	70,9	74,0	58,9	71,6	77,0
1998	33,0	63,5	117,4	97,0	59,8	61,5	65,2	63,3	105,4	55,6	117,7	97,4	67,0	33,7	57,8	69,0	73,3	56,2	68,6	76,0
1999	26,2	64,9	114,3	93,0	55,4	63,4	65,0	63,5	104,4	51,9	116,6	105,3	63,7	34,6	58,3	67,6	68,3	53,0	65,1	75,3
2000	23,6	64,3	109,8	85,1	50,8	58,5	63,9	63,5	103,8	42,9	112,9	112,8	59,7	32,0	58,8	65,7	58,1	49,7	60,2	73,6
2001	22,6	63,4	104,8	80,3	46,7	53,6	62,6	63,3	100,3	33,5	108,9	119,4	56,5	24,7	57,3	62,1	52,3	46,9	56,2	71,4

Source: OECD Statistical Compendium.

Table 2: Primary Government Balance, % GDP

Country	Australia	Austria	Belgium	Canada	Denmark	Finland	France	Germany	Greece	Ireland	Italy	Japan	Netherlands	Norway	Portugal	Spain	Sweden	United Kingdom	United States	European Union
1970	0,7	1,8	0,6	1,9	-	5,8	1,1	-1,1	-	-	-2,9	1,4	0,1	-	3,1	-0,3	3,7	-	-0,4	-
1971	0,3	2,1	-0,3	1,2	-	5,6	0,8	-1,5	-	-	-4,6	0,8	0,5	-	2,6	-1,0	4,2	-	-1,2	-
1972	-0,3	2,6	-1,9	1,2	-	4,6	0,9	-1,7	-	-	-6,9	-0,4	0,8	-	1,2	-0,1	3,2	-	0,2	-
1973	0,2	1,8	-1,0	2,7	-	6,6	0,8	-0,3	-	-	-6,1	0,3	2,5	-	1,8	0,8	2,7	-	1,3	-
1974	-0,9	1,8	0,1	3,0	-	5,1	0,3	-2,7	-	-	-5,6	0,1	1,5	-	-1,2	-0,4	0,7	-	0,6	-1,7
1975	-3,1	-1,7	-2,2	-1,4	-	6,2	-1,9	-6,2	-2,1	-	-9,6	-2,9	-1,4	4,2	-4,8	-0,6	1,6	-	-3,6	-4,0
1976	-3,2	-2,5	-2,7	-0,5	-	8,2	-0,6	-3,4	-1,4	-	-6,3	-3,5	-0,9	3,8	-6,0	-1,1	3,1	-	-1,5	-2,5
1977	-3,3	-0,9	-1,9	-1,7	-	6,8	-0,6	-2,0	-0,8	-4,3	-4,8	-3,4	0,7	2,5	-3,1	-1,4	0,4	-	-0,4	-1,7
1978	-3,8	-1,0	-2,3	-2,1	-	4,6	-1,5	-1,7	-0,2	-5,9	-5,9	-4,8	-0,8	0,9	-4,5	-2,2	-1,6	-1,7	0,5	-2,3
1979	-1,9	-0,6	-2,5	-0,7	-	3,7	-0,1	-1,6	-0,7	-7,0	-5,7	-3,8	-1,6	2,3	-3,7	-2,0	-3,9	-0,4	0,8	-1,9
1980	-0,8	0,0	-3,7	-1,2	-	3,5	0,5	-1,6	-0,7	-7,9	-3,9	-3,2	-2,6	5,6	8,2	-2,4	-4,2	-0,2	-0,7	-1,3
1981	-1,0	0,2	-6,2	0,6	-	3,7	-1,0	-2,1	-5,7	-7,6	-6,0	-2,4	-3,3	4,8	-5,8	-4,0	-4,7	-0,5	0,1	-2,5
1982	-2,0	-1,1	-3,6	-2,8	-	2,5	-1,7	-1,3	-4,4	-6,8	-4,7	-2,1	-3,9	3,7	-2,9	-5,7	-5,1	0,4	-2,2	-2,4
1983	-3,0	-1,7	-3,4	-3,9	-	1,1	-1,3	-0,3	-4,1	-5,0	-3,6	-1,8	-2,5	5,8	-4,6	-4,6	-3,0	-0,2	-2,8	-1,8
1984	-2,4	0,1	-1,4	-3,0	-	3,0	-0,8	0,4	-4,7	-2,8	-4,0	-0,1	-2,0	6,0	0,2	-4,3	-0,5	-0,6	-1,6	-1,3
1985	-1,9	0,2	-0,1	-3,3	-	2,8	-1,0	1,1	-7,1	-3,4	-5,1	1,0	0,3	8,7	0,9	-4,8	-0,8	0,5	-1,8	-1,2
1986	-0,7	-0,9	0,4	-1,7	-	2,7	-1,1	1,0	-5,6	-3,3	-3,8	0,7	-1,2	4,2	2,2	-3,4	1,0	0,6	-2,0	-1,0
1987	1,2	-1,3	2,0	0,0	-	0,3	0,3	0,4	-3,6	-1,2	-3,8	2,0	-2,0	2,8	2,2	-0,5	5,8	1,2	-1,0	-0,6
1988	2,7	-0,2	2,4	1,2	5,8	2,9	0,0	0,2	-5,1	2,3	-3,3	2,7	-0,5	0,3	3,4	-0,7	4,3	3,3	-0,3	-0,5
1989	3,0	0,0	2,9	1,4	4,3	4,7	0,5	2,2	-7,9	4,6	-1,6	3,6	-1,2	-0,4	3,8	-0,3	5,7	3,4	0,2	0,7
1990	1,5	0,8	4,0	0,7	2,7	3,6	0,3	-0,1	-7,4	3,4	-2,2	3,7	-1,6	0,4	3,0	-1,1	4,2	0,8	-0,8	-0,3
1991	-1,3	0,4	3,0	-2,0	1,5	-3,1	0,2	-0,7	-3,4	2,8	-0,4	3,4	1,1	-2,0	1,8	-1,6	-1,0	-0,7	-1,3	-0,3
1992	-3,5	1,4	2,2	-2,9	0,9	-7,6	-1,5	0,1	-2,7	2,2	1,4	2,1	0,0	-3,5	4,2	-0,7	-7,2	-4,5	-2,2	0,0
1993	-2,7	-0,7	3,0	-2,7	0,6	-7,7	-3,0	-0,5	-2,8	2,1	2,1	-0,9	0,8	-2,7	0,1	-3,0	-10,8	-5,8	-1,4	-0,7
1994	-1,0	-1,5	4,0	-0,6	0,8	-4,6	-2,4	0,2	2,1	2,6	1,4	-2,3	0,2	-0,2	0,2	-2,3	-9,0	-4,2	-0,2	-0,4
1995	-0,2	-1,4	4,5	1,3	0,8	-2,8	-2,3	-0,1	1,0	1,7	3,5	-3,1	0,6	2,9	0,6	-2,4	-5,2	-2,8	0,6	0,0
1996	0,9	0,0	4,6	3,4	1,8	-1,7	-0,6	-0,3	3,1	3,0	4,0	-3,5	2,9	6,1	1,5	-0,2	-0,2	-1,5	1,3	0,8
1997	2,1	1,6	5,7	5,6	2,9	0,4	0,2	0,5	4,3	3,8	6,2	-2,3	3,2	7,4	1,8	1,2	1,4	0,9	2,4	2,0
1998	2,5	1,2	6,2	5,9	3,3	3,0	0,5	1,4	5,4	4,6	4,9	-3,8	3,4	3,1	1,2	1,4	4,9	3,0	3,5	2,2
1999	3,2	1,4	6,0	7,4	5,0	3,9	1,2	2,0	5,9	3,5	4,5	-5,7	4,3	4,3	1,3	2,2	4,8	3,3	3,8	2,6
2000	2,1	1,5	6,4	7,0	4,7	5,1	1,3	1,8	5,6	3,5	4,5	-5,2	4,1	9,5	1,7	2,7	5,3	3,2	4,2	2,6
2001	1,8	1,5	6,5	6,5	4,5	5,8	1,3	1,2	5,9	5,9	4,7	-4,9	3,3	10,3	1,8	3,0	5,8	3,0	4,0	2,5

Source: OECD Statistical Compendium.

**Table 3: Recent empirical evidence on the political-economic models of budget deficits**

	Models		
	of debt as a strategic variable	of conflicts among political parties	of budgetary institutions
Roubini and Sachs (1989)		- coalition governments experienced higher deficits than did one-party, majoritarian governments	
Olsson and Edin (1991)		- argue that the political cohesion variable used by Roubini-Sachs captures the effects of minority governments rather than majority coalition governments	
Grilli <i>et al</i> (1991)	- short government durability plays a crucial role in explaining public deficits and debt		
Crain and Tollison (1993)	- legislature stability and executive term limits are correlated with less volatility of the budget		
De Haan and Sturm (1994)		- the growth of government debt is positively related to the frequency of government changes - with left-wing governments the growth of the share of government spending in total output tends to be higher	- the growth of government debt is negatively related to tight budget procedures
Alesina and Perotti (1995)		- coalition governments are less likely to introduce successful fiscal adjustment measures	
Hahm (1996)		- the Roubini-Sachs approach is valid only in unstable parliamentary systems - in a stable parliamentary system, the strength of the government is hypothesized to have no systematic effect on the deficit - in a presidential regime, if the party in power is strong, there is a tendency for increases in the deficit	
De Haan and Sturm (1997)		- neither the growth of government debt nor the level of government spending is related to the corrected Roubini-Sachs power dispersion index - reinforce the idea that the Roubini-Sachs index has errors	
De Haan <i>et al</i> (1999)		- the type of government affects cross-country variation in fiscal policy - the number of political parties in government affects debt growth	

	<b>of debt as a strategic variable</b>	<b>of conflicts among political parties</b>	<b>of budgetary institutions</b>
Kontopoulos and Perotti (1999)		- the higher the number of parties in government, the more loose is fiscal policy - the growth of government debt is not associated neither with the Roubini-Sachs index nor with the Olsson-Edin variant	
Franzese (2001)	- finds no effects of the strategic use of debt		
Kirchgaessner (2001)			- balanced-budget rules have in most cases proved to be effective in cutting down public debt - budgetary procedures and the interaction between them and the electoral system matter - direct democracies promote fiscal discipline - fiscal federalism leads to a smaller size of the government
Pettersson (2001)	- the frequency of government changes has no significant impact on the accumulation of debt - a left-wing party reduces the level of debt while a right-wing party does the opposite the higher the probability of defeat - the two political blocs have opposite incentives regarding the strategic use of debt - the results support the strategic explanation suggested by Persson and Svensson (1989)		
Volkerink and De Haan (2001)		- the number of spending ministers and the number of political parties affect the budget deficit - the number of parties in parliament also affects the budget	
Perotti and Kontopoulos (2002)		- the number of spending ministers and, to a lesser degree, the number of political parties in a coalition and ideology affect fiscal policy outcomes	
Lambertini (2003)	- finds little evidence of the strategic use of debt		
Spolaore (2003)		- the degree of political fragmentation in society plays a fundamental role in the dynamics of fiscal adjustment	

## **Working papers mais recentes**

Nº 137	Natércia Fortuna, <a href="#"><u>Local rank tests in a multivariate nonparametric relationship</u></a> , Fevereiro 2004
Nº 136	Argentino Pessoa, <a href="#"><u>Ideas driven growth: the OECD evidence</u></a> , December 2003
Nº 135	Pedro Lains, <a href="#"><u>Portugal's Growth Paradox, 1870-1950</u></a> , December 2003
Nº 134	Pedro Mazedo Gil, <a href="#"><u>A Model of Firm Behaviour with Equity Constraints and Bankruptcy Costs</u></a> , November 2003
Nº 133	Douglas Woodward, Octávio Figueiredo and Paulo Guimarães, <a href="#"><u>Beyond the Silicon Valley: University R&amp;D and High-Technology Location</u></a> , November 2003.
Nº 132	Pedro Cosme da Costa Vieira, <a href="#"><u>The Impact of Monetary Shocks on Product and Wages: A neoclassical aggregated dynamic model</u></a> , July 2003.
Nº 131	Aurora Teixeira and Natércia Fortuna, <a href="#"><u>Human Capital, Innovation Capability and Economic Growth</u></a> , July 2003.
Nº 130	Jorge M. S. Valente and Rui A. F. S. Alves, <a href="#"><u>Heuristics for the Early/Tardy Scheduling Problem with Release Dates</u></a> , May 2003.
Nº 129	Jorge M. S. Valente and Rui A. F. S. Alves, <a href="#"><u>An Exact Approach to Early/Tardy Scheduling with Release Dates</u></a> , May 2003.
Nº 128	Álvaro Almeida, <a href="#"><u>40 Years of Monetary Targets and Financial Crises in 20 OECD Countries</u></a> , April 2003.
Nº 127	Jorge M. S. Valente, <a href="#"><u>Using Instance Statistics to Determine the Lookahead Parameter Value in the ATC Dispatch Rule: Making a good heuristic better</u></a> , April 2003.
Nº 126	Jorge M. S. Valente and Rui A. F. S. Alves, <a href="#"><u>Improved Heuristics for the Early/Tardy Scheduling Problem with No Idle Time</u></a> , April 2003.
Nº 125	Jorge M. S. Valente and Rui A. F. S. Alves, <a href="#"><u>Improved Lower Bounds for the Early/Tardy Scheduling Problem with No Idle Time</u></a> , April 2003.
Nº 124	Aurora Teixeira, <a href="#"><u>Does Inertia Pay Off? Empirical assessment of an evolutionary-ecological model of human capital decisions at firm level</u></a> , March 2003.
Nº 123	Alvaro Aguiar and Manuel M. F. Martins, <a href="#"><u>Macroeconomic Volatility Trade-off and Monetary Policy Regime in the Euro Area</u></a> , March 2003.
Nº 122	Alvaro Aguiar and Manuel M. F. Martins, <a href="#"><u>Trend, cycle, and non-linear trade-off in the Euro Area 1970-2001</u></a> , March 2003.
Nº 121	Aurora Teixeira, <a href="#"><u>On the Link between Human Capital and Firm Performance. A Theoretical and Empirical Survey</u></a> , November 2002.
Nº 120	Ana Paula Serra, <a href="#"><u>The Cross-Sectional Determinants of Returns: Evidence from Emerging Markets' Stocks</u></a> , October 2002.
Nº 119	Cristina Barbot, <a href="#"><u>Does Airport Regulation Benefit Consumers?</u></a> , June 2002.
Nº 118	José Escalera, <a href="#"><u>A Procura no Sector das Artes do Espectáculo. Tempo e Rendimento na Análise das Audiências. Um Estudo para Portugal</u></a> , June 2002.
Nº 117	Ana Paula Serra, <a href="#"><u>Event Study Tests: A brief survey</u></a> , May 2002.
Nº 116	Luís Delfim Santos and Isabel Martins, <a href="#"><u>A Qualidade de Vida Urbana - O caso da cidade do Porto</u></a> , May 2002.
Nº 115	Marcelo Cabús Klötzle and Fábio Luiz Biagini, <a href="#"><u>A Restruturação do Sector Eléctrico Brasileiro: Uma análise comparativa com a Califórnia</u></a> , January 2002.
Nº 114	António Brandão and Sofia B. S. D. Castro, <a href="#"><u>Objectives of Public Firms and Entry</u></a> , December 2001.

Nº 113	Ana Cristina Fernandes and Carlos Machado-Santos, <a href="#"><i>Avaliação de Estratégias de Investimento com Opções</i></a> , December 2001.
Nº 112	Carlos Alves and Victor Mendes, <a href="#"><i>Corporate Governance Policy and Company Performance: The Case of Portugal</i></a> , December 2001.
Nº 111	Cristina Barbot, <a href="#"><i>Industrial Determinants of Entry and Survival: The case of Ave</i></a> , October 2001.
Nº 110	José Rodrigues de Jesús, Luís Miranda da Rocha e Rui Couto Viana, <a href="#"><i>Avaliação de Pequenas e Médias Empresas e Gestão de Risco</i></a> , October 2001.
Nº 109	Margarida de Mello and Kevin S. Nell, <a href="#"><i>The Forecasting Ability of a Cointegrated VAR Demand System with Endogeneous vs. Exogenous Expenditure Variable: An application to the UK imports of tourism from neighbouring countries</i></a> , July 2001.
Nº 108	Cristina Barbot, <a href="#"><i>Horizontal Merger and Vertical Differentiation</i></a> , June 2001.
Nº 107	Celsa Machado, <a href="#"><i>Measuring Business Cycles: The Real Business Cycle Approach and Related Controversies</i></a> , May 2001.
Nº 106	Óscar Afonso, <a href="#"><i>The Impact of International Trade on Economic Growth</i></a> , May 2001.
Nº 105	Abraão Luís Silva, <a href="#"><i>Chamberlain on Product Differentiation, Market Structure and Competition: An essay</i></a> , May 2001.
Nº 104	Helena Marques, <a href="#"><i>The "New" Economic Theories</i></a> , May 2001.
Nº 103	Sofia B. S. D. Castro and António Brandão, <a href="#"><i>Public Firms in a Dynamic Third Market Model</i></a> , January 2001.
Nº 102	Bernard Friot, Bernadette Clasquin & Nathalie Moncel, <a href="#"><i>Salaires, Fiscalité et Épargne dans le Financement de l'Emploi et de la Protection Sociale: l'Exemple Européen</i></a> , January 2001.
Nº 101	Paulo Beleza Vasconcelos, <a href="#"><i>Resolução Numérica de Modelos Macroeconómicos com Expectativas Racionais</i></a> , 2000.
Nº 100	Luis David Marques, <a href="#"><i>Modelos Dinâmicos com Dados em Painel: Revisão da Literatura</i></a> , 2000.
Nº 99	Rui Henrique Alves, <a href="#"><i>Da Moeda Única à União Política?</i></a> , 2000.
Nº 98	Paulo Guimarães, Octávio Figueiredo & Doug Woodward, <a href="#"><i>A Tractable Approach to the Firm Location Decision Problem</i></a> , 2000.
Nº 97	António Brandão & José Escalreira, <a href="#"><i>Trade Policy and Tacit Collusion with Price and Quantity Competition</i></a> , 2000.
Nº 96	Sandra Silva & Mário Rui Silva, <a href="#"><i>Crescimento Económico nas Regiões Europeias: Uma Avaliação sobre a Persistência das Disparidades Regionais no Período 1980-95</i></a> , 2000.
Nº 95	José Manuel Moreira, <a href="#"><i>Ética, Estado e Desenvolvimento Económico. Heterodoxia e Ortodoxia</i></a> , 2000.
Nº 94	Rui Pedro Esteves & Fabiano Ferramosca, <a href="#"><i>O Mecanismo dos Câmbios em Padrão-Ouro. Estabilidade Cambial e Violações dos Pontos de Ouro, 1854-1891</i></a> , 2000.
Nº 93	Cristina Barbot, <a href="#"><i>Diferenciação Vertical, Concorrência e Bem Estar</i></a> , 2000.
Nº 92	José Manuel Moreira, <a href="#"><i>A Propósito do Código de Conduta do Analista Financeiro</i></a> , 1999.
Nº 91	Octávio Figueiredo & Paulo Guimarães, <a href="#"><i>Start-Ups Domestic Location Decisions and the Entrepreneur's Geographical Origin</i></a> , 1999.

Editor: Prof. Aurora Teixeira ([ateixeira@fep.up.pt](mailto:ateixeira@fep.up.pt))

Download dos artigos em:

<http://www.fep.up.pt/investigacao/workingpapers/workingpapers.htm>

