POLITICAL DETERMINANTS OF BUDGET DEFICITS: A SURVEY OF LITERATURE

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ABSTRACT

This paper provides a review of recent developments in the theory and evidence of political determinants of budget deficits. Specifically, we discuss five areas, namely; political system, government fragmentation, ideology, budget procedure and political budget cycles. We also provide evidence of recent studies.

***Keywords**: Budget deficits; Political system; Government fragmentation; Ideological complexion of government; Political budget cycle.*

INTRODUCTION

We will start the discussion with the famous Ricardian equivalence theorem. According to this theorem, the existence of budget deficits is a reflection of inter-temporal choice made between taxing and deficit spending. Budget deficits are irrelevant since deficits today will be compensated by surpluses tomorrow, leaving real output unaffected. However, the Ricardian view about the inter-temporal choice between taxes and deficit spending leave an absence of a theory of public debt creation (Barro, 1979). While accepting the theorem, Barro (1979) further develops the model by taking into account the excess burden of taxation to obtain an optimal amount of debt creation. The model is later known as the equilibrium approach to fiscal policy or the tax smoothing model.

Barro (1979) in his paper "*On the Determination of the Public Debt*" offers an explanation of creation of public debts. According to him, in order to minimize the distortionary effect of taxes, the budgetary authorities should hold the tax rates constant over time. By keeping the tax rates smooth, a deficit will emerge during a recession and a surplus will emerge during an expansion. The deficits are then compensated by surpluses leaving the budget balanced through business cycles.

While Barro's view of the tax smoothing model succeeds to explain deficits in developed countries during wartime, it fails to explain the persistence of the deficits during peace time (Persson and Tabellini, 2000). Several studies on the budget deficits of developed countries have shown that while those countries have similar economic characteristics, their fiscal performances differ a lot. Hence, it is likely that budget deficits might not be explained by economic variables only. In this way, the political economy of fiscal policy gives its basic contribution. Political economy considers institutions as an important determinant of policy. It emphasizes how private agents' preferences influence public policies (Persson and Tabellini, 1997). In other words, public policies, in particular budget deficits, are partly a reflection of political behavior of policymakers.

Recent studies in political economy of public deficits have shown that deficits appear to be correlated with political variables. For examples; Roubini and Sachs (1989a) have found that coalition governments experience higher budget deficits than one-party, majoritarian governments; de Haan and Strum (1994) have found that the frequency of government changes are positively related to budget deficits; and Perotti and Kontopoulos (2002) have found that the more fragmented governments have higher budget deficits. Those findings suggest that political factors might play an important role in shaping budget deficits.

This paper provides a review of literature in the theory and evidence of how political variables might affect budget deficits. The paper is organized as follows. Following the introduction, the second and third section discusses the existing theoretical and empirical literature on the determinants of budget deficits. The final part is concluding remark

LITERATURE REVIEW

The tax smoothing model is a normative benchmark from which political economy models of budget deficit diverge (Alesina and Perotti, 1994). It relies on the assumption that government is a benevolent social planner that only wants to maximize the utility of the society. In fact, policies are made by opportunistic agents who have their own preferences.

The general approach of the political model in budget deficit is to explain the deviation of observed economic policies from the normative benchmark by including specific incentive constraints in the decision making process (Persson and Tabellini, 1997). De Haan and Sturm (1994) classify the constraints in four political and institutional models of fiscal outcomes, namely; (1) models which focus on political system, (2) models which focus on the disagreement between various decision makers, (3) models which focus on ideological differences and (4) models which focus on budgeting procedures. We will examine these models below.

1) Political System

The first class of models investigates how political system affects the behavior of policy makers. It is argued that the political system of a country plays a role in shaping its budget deficits. In general, economic policy (in particular budget policy) is easier to formulate and implement under a presidential system than under a parliamentary system. The reason is that under a presidential system, the government has greater independence and less interference from legislature than under a parliamentary system (Woo, 2003).

There are also arguments in favor of large budget deficits in democratic governments. Crain and Ekelund (1978) offer two arguments to prove that a democracy is prone to larger deficits. First, in non-democratic regimes, voters do not choose their representatives. This implies that their preferences may not be reflected in the decision making process, i.e. their preferences may not affect the provision of public goods and services and hence government expenditures. Furthermore, the policy-making body in non-democratic regimes is much smaller than in democratic regimes. Because the policy making body is smaller, the costs and benefits of government policies will be more internalized. Second, the absence of political competition among potential political suppliers to obtain a temporary contract from voters may reduce the budget deficits. In democratic regimes, we may consider voters as public goods' demanders and politicians as potential public goods' suppliers. Through election, politicians compete to win voters' temporary contract of producing public goods. The uncertainty of re-election and the possibility for inter-temporal transfer of deficits trigger the incumbent government to raise deficits, leaving debt to his successor. Furthermore, non-democratic governments do not face an election constraint. Therefore, there is no incentive to attract voters in the next election with deficit spending.

2) Government Fragmentation

The second model of political economy of the budget deficit focuses on disagreement among various decisions makers. Roubini and Sachs (1989a) argue that governments are not monolithic entities who have full control over policy instruments in order to achieve a specific well-defined goal. In fact, the decision making process is often fragmented among several political agents. Examples of fragmented governments are coalition governments, several numbers of veto players in the decision-making process, and ideological preferences of government parties.

One way to understand the relationship between the fragmented government and the size of the deficit is using the common pool problem (Perotti and Kontopoulos, 2002). Specific interest groups (and their representatives in the decision making process) benefit from certain types of budget spending. However, the costs of spending (taxes) cannot easily be targeted to specific groups. In other words, the benefits are enjoyed by specific groups while the costs (taxes) fall on a larger segment of the population. The consequence is that each group will maximize their utility since they only pay part of the costs while they enjoy the full benefits. As the number of groups increases, the lower the fraction of costs borne by each group and the higher the total spending. Concerning coalition governments, we may say that the more parties in coalition, the higher the budget expenditures, hence the higher budget deficits. In addition, higher expenditures in a coalition government also reflect the government's effort to maintain coalition and avoid internal conflict by supplying budgetary needs of each coalition member party (Roubini and Sachs, 1989a).

3) Ideology

The existing literature suggests that ideological representation of government might affect the size of budget deficits. It is often argued that left wing government aims for a higher government spending, hence a larger budget deficit.

According to Hibbs (1977) the right wing and right wing governments' economic platform are class-related. Left wing governments typically weight the unemployment problem more heavily. In contrast, right wing governments favor a relatively low inflation. This is because left wing supporters are mainly middle-lower income class (labor owner groups) suffering the most from the costs of unemployment whereas right wing supporters are mainly upper income class (business oriented/ capital owner groups) suffering more seriously the costs of inflation.

These interests over the inflation-unemployment issue are reflected in budget policy. When left wing governments are in office, they tend to perform loose fiscal policy. The opposite is also true, right wing governments tend to conduct tight fiscal policy. The differences over inflation and unemployment suggest a trade-off between inflation and unemployment, well known as the Phillips curve. To overcome the unemployment problem, left wing governments will conduct an expansionary policy such as increasing government spending. An increase in government spending will lead to a higher output, and a higher employment rate. As employment increases, labor supply declines, the wage rate increases. A higher wage rate leads to a higher inflation. This reverse relationship is more favorable in the short run, which is in line with political decision that is also typically short run. However, according to political business cycle theory proposed by Nordhaus (1975), governments generally will inflate during election years in order to exploit a Phillips curve tradeoff.

4) Budget procedures

Some authors argue that budget institutions affect the budget outcomes. Generally, there are two types of budget institutions, namely; (1) laws that prescribe numerical targets on the budget and (2) procedural rules. Laws that set certain numerical targets or legislated limit rules are formal laws or rules that restrict the budget outcomes on certain numerical targets. These include balanced budget laws, expenditure ceilings, numerical targets for fiscal variables and restrictions on issuance of debt (Drazen, 2000). Alesina and Perotti (1996) argue that such numerical targets are not necessarily needed to generate fiscal discipline.

The second budget institutions; procedural rule includes three stages in the budgeting process, namely; (1) formulation, (2) approval and (3) implementation. Two essential issues are the voting procedure leading to the formulation and approval of the budget and the degree of the transparency of the budget. Concerning voting procedures in the budget formulation state, there are two types of voting that might impact the budget outcomes. First the hierarchical procedure (a budget procedure that attributes a strong prerogative power to the prime minister or finance minister) and second the collegial procedure (a budget procedure that gives each spending minister a significant power). The collegial procedures emphasize more on the democratic process in decision making. Alesina and Perotti (1996) argue that the hierarchical procedure tends to generate a relatively more stringent fiscal policy hence a lower fiscal deficit. In contrast, due to its egalitarian features which give each spending minister in the cabinet more power to set their desirable budgetary needs, budget deficits are higher under collegial procedure.

Besides budget procedure, another important issue is transparency. According to Alesina and Perotti (1996) politicians tend to produce complex, unclear and less transparent budget. The more complex, unclear and less transparent budget may lead to voters' confusion and reduce politicians' incentives to be more fiscally disciplined.

5) Political Budget Cycle

Besides the four models described earlier, the political budget cycle is also used to explain budget deficits. Mink and de Haan (2006) distinguish three generations of theoretical political budget cycle models. The first generation model which was first proposed by Nordhaus (1975) is a part of a broader literature on political business cycles. According to political business cycle theory, in order to maximize the re-election probability, the incumbent governments perform fiscal manipulations. They often use expansionary economic policy to stimulate aggregate demand in order to signal a sound economic performance (i.e GDP growth and unemployment rate) to the voters. Because of the lack of empirical evidence, the political business cycle theory studies have shifted their focus from the real effects of elections to the policy makers' instruments, in particular fiscal expansion in election years or generally known as the political budget cycle.

The second generation of political budget cycle (the adverse selection type) is first developed by Rogoff and Sibert (1988). Political agents are assumed to have a certain level of competence (high or low) that is known only by the politicians and not by the voters. Voters are assumed to prefer more competent politicians and evaluate the competence from current observable fiscal outcomes. The high competence politicians will signal their type (high performance) by doing a loose fiscal policy resulting in a higher budget deficit prior to the election. The incumbent government also can signal their type by shifting expenditure to easily observed consumption spending and away from investment. According to Shi and Svensson (2003) this separating equilibrium implies that only competence politician will inflate prior to the election and as voters are rational to choose the most competence politicians, only high competence will be elected.

The third generation of political budget cycle models is based on moral hazard. Each politician is assumed to have competence level that is unknown by either the voters or politicians themselves (ex ante). The same as in adverse selection models, voters prefer the most competence politicians and their inference are drawn based on the observable macroeconomic performance of the incumbent government. The key assumption is the incumbent government can exert a hidden effort, that is, use a policy instrument unobservable to the public, which is a substitute for competence. Election take place after the incumbent government hidden effort and competence have jointly determined the observable macroeconomic outcomes. In the equilibrium of this moral hazard game, there will be an excessive effort of the incumbent politicians and as a result there is an increase in the budget deficits prior to election. Shi and Svensson (2003) provide an example. If competence measures how well the politician can convert revenues into public goods, the hidden effort can be interpreted as the government's short-term excess borrowing. The incumbent government exerts more effort by borrowing more in order to increase its performance index, hoping that the voters will attribute the increase on the provision of public goods is due to his competence. As a result, prior to election, the budget deficit will rise. In contrast to adverse selection, in this model all type of incumbent governments will incur excessive pre election budget deficits.

EMPIRICAL EVIDENCE

There are various empirical studies on the impact of the political variables on budget deficits which are conducted for a variety of countries and time periods. However, most of the empirical studies in this field deal with the experience of developed countries, particularly OECD countries. To our knowledge, there are only two studies focusing on developing countries; namely Roubini (1991) and Edwards and Tabellini (1990). Woo (2003) focuses on both developed and developing countries.

Because typical studies analyze a group of countries during a certain period of time, most of them exploit a pooled time series cross section dataset. To our knowledge, only the work of Roubini (1991) uses a cross section dataset.

Various ways to measure political variables are used in the literature. Roubini and Sachs (1989a) introduce an index[1] -which is later known as Roubini-

[1] In another paper, Roubini and Sachs (1989b) redefine the index by assigning 1 for a coalition parliamentary government with 2 to 3 coalition partners or a presidential government with different parties in control of the executive and legislative

Sachs political cohesion index- to measure the degree of political cohesion of the national government. This index assigns 0 for a one-party majority parliamentary government or a presidential government with the same party in the majority in the executive and legislative branch; 1 for a coalition parliamentary government with 2 coalition partners or a presidential government with different parties in control of the executive and legislative branch; 2 for a coalition parliamentary government with 3 or more coalition partners; and 3 for a minority parliamentary government. Using the index, Roubini and Sachs (1989a) find a clear tendency for larger deficits in countries with a relatively large number of political parties in government. Yet, their results have been questioned by Edin and Ohlsson (1991). Edin and Ohlsson (1991) argue why one should believe that the budget-effect of a minority government is three times as large as a two-party majority coalition. After testing the robustness of the results of Roubini and Sachs (1989a), they replace the Roubini-Sachs political cohesion index with a dummy variable for each political class. They find that the index captures the effects of minority governments rather than majority coalition governments. Re-examining the effect of the Roubini and Sachs political cohesion index[2], De Haan and Sturm (1997) do not find any significant relationship between the index and government debt.

Volkerink and De Haan (2001) use a measure government fragmentation, as their political explanatory variables. They use effective number of government parties in the coalition and the total number of spending ministers in the cabinet. Moreover, they include the position of government vis á vis parliament which is measured by the number of seats above those needed for a simple majority and the effective number of parties in the parliament. They also include the ideological complexion of government and parliament in their explanatory variables. They find that more fragmented governments are likely to have higher budget deficits.

Woo (2003) employs a large set of political variables in his study. To measure government fragmentation, he uses the number of seats held by the largest party in the lower house, the party fractionalization index[3] and the number of ministers in the cabinet. He also includes a variant of Roubini and Sachs political cohesion index[4] and tests the index by including a dummy for minority governments as suggested by Edin and Ohlsson (1991). To measure political regime, a dummy taking value 1 for a presidential system government and 0 otherwise is included in the model. The study shows that a large size of the cabinet and lack of central authority are strongly negatively related to public surplus. The study also shows that proportional parliamentary regimes tend to run higher deficits and that a government weakness or regime type does not seem to be consistently related to budget deficits.

Shi and Svensson (2002) show that during election periods, government expenditures rise and revenues fall, thus creating higher budget deficits. The result is observed in both less developed and developed countries, though the effect is stronger in less developed countries. Meanwhile, Brender and Drazen (2005) argue that the existence of a political budget cycle is driven by the experience of the democracy. In new democracies, fiscal manipulations may work because voters are inexperienced with electoral politics or may simply not have sufficient information to evaluate fiscal performance. In contrast, voters in developed countries are relatively politically literate.

For convenience, we summarize studies in this area in Table 1.

branch; 2 for a coalition parliamentary government with 4 or more coalition partners; and 3 for a minority government. They also find that countries with large number of parties in government tend to have large budget deficits.

2 De Haan and Sturm (1997) assign 0 for a one-party majority parliamentary government; 1 for a coalition parliamentary government with two-to-three coalition partners 4; 2 for a coalition parliamentary government with four or more coalition partners; and 3 for a minority government.

3 The party fractionalization index is defined as the probability that two randomly chosen legislators belong to different parties.

4 Woo (2003) modify the index by not distinguishing the presidential and parliamentary system. He scores 0 for a one-party government with no major opposition party in the legislature; 1 for a coalition government with more than one party but with no major opposition party; 2 for a coalition government with more than one party but with a major opposition party in the legislature; and 3 for a minority government.

Table-1. The Studies in the Effects of Political Variables on Budget Deficits

No	Author	Sample	Political Variables	Main Findings
1	Roubini and Sachs (1989a)	A panel of 13 industrial countries over 1972 -1985	Roubini-Sachs political cohesion index (1989a)	Larger coalition governments have higher budget deficits than one party, majoritarian governments.
2	Roubini and Sachs (1989b)	A panel of OECD countries (1960 – 1985)	Roubini-Sachs political cohesion index (1989b)	Budget deficits are larger in countries with weak government (a short average tenure of government) and with many political parties in the coalition.
3	Edwards and Tabellini (1990)	A panel of developing countries over 1963 -1988	Political instability which is measured by the frequency of government change	Politically unstable countries tend to have larger budget deficits
4	Edin and Ohlsson (1991)	A panel of 13 OECD countries covering a maximum period of 1964 - 1985 (minimum 1972 - 1985)	Roubini-Sachs political cohesion index (1989a)	- The finding of Roubini and Sachs (1989b) that coalition government less capable of budgetary deficits is robust. - Disaggregating the power dispersion index (using a dummy for each political class) shows that the index captures the effects of minority governments rather than majority coalition governments.
5	Roubini (1991)	A cross section of 77 countries during the 1971 - 1982	The frequency of government change	- The greater the frequency of government change, the greater the deficits. - Military regimes are not more likely to run budget deficits than democratic regimes.
6	De Haan and Sturm (1994)	A panel of European Community member countries during 1980s.	1. The number of government changes, 2. The share of cabinet portfolios or seats in parliament held by social democratic and other leftist parties, 3. The (corrected) Roubini Sachs political cohesion index [5] 4. A variant of the Von Hagen budgetary process variable	- The frequency of government changes are positively related to government debts. - Good performances of budgetary procedure are negatively related to government debts.
7	De Haan and Sturm (1997)	A panel of 21 OECD countries over 1982 – 1992	The (corrected) Roubini-Sachs political cohesion index	- The political variables are not significant. - The growth of government debt is not related to Roubini-Sachs political cohesion index nor to the variant suggested by Edin and Ohlsson (1991)
8	De Haan, et al. (1999)	A panel of 21 OECD countries over 1979 – 1995	1. The (corrected) Roubini-Sachs political cohesion index 2. Roubini-Sachs political cohesion index as suggested by Edin and Ohlsson (1991) 3. The number of coalition parties	- Type of government does not seem to affect fiscal policy - Number of political parties is not significant to explain general government debt. However, it is significant to explain central government debt

[5] See footnote 1

Continued Table 1

No	Author	Sample	Political Variables	Main Findings
9	Volkerink and De Haan (2001)	A panel of 22 OECD countries over the period of 1971 -1996.	1. The size fragmentation (the effective number of parties in the coalition and the number of the spending ministers), 2. The position of government vis a vis parliament (the number of seats above needed for a simple majority and the effective number of parties in parliament), 3. The ideological complexion 4. The political fragmentation of government.	- Concerning the size fragmentation, the number of ministers is stronger and more robust to explain budget deficits than the effective number of parties in government. - Concerning the position of government vis a vis parliament, the effective number of parties in the parliament is the most robust to explain budget deficits. - The political fragmentation does not seem to influence budget deficits. - Left wing governments have higher budget deficits.
10	Perotti and Kontopoulos (2002)	A panel of 19 OECD countries over 1970 – 1995	1. Roubini-Sachs political cohesion index (1989a) 2. The number of spending ministers 3. The number of parties in the coalition 4. The ideological complexion 5. The Budget Procedure	- The type of government is fragile in explaining deficits (inference depends on the coding) - Cabinet size is significant to explain fiscal outcomes - Coalition size is also significant to explain fiscal outcomes - Ideology is also significant to explain fiscal outcomes
11	Woo (2003)	A panel comprised of averages of variables for 1970-1979 and 1980 - 1990 for 57 developed and developing countries	1. Political instability (cabinet change, coups, changes in effective executive, and major constitutional change, political assassination, government crisis, and revolution) 2. Government fragmentation (the number of seats held by the largest party in the lower house, the party fractionalization index, the variant of Roubini Sachs Index, Minority dummy variables and Cabinet Size) 3. Political Regime and Electoral Law 4. Social Polarization (Income inequality and Ethnic divisions)	- Sociopolitical instability, income inequality, a large size of the cabinet and lack of central authority are strongly negatively associated with public surplus. - Proportional parliamentary regimes tend to run higher deficits, - Government weakness or regime type does not seem to explain budget surplus. - The budgetary institutions and government institutions in general influence the fiscal outcomes - The countries with highly polarized societies or greater sociopolitical instability may achieve fiscal prudence by improving budgetary procedures and rules.
12	Huber, et al. (2003)	21 OECD countries in time period 1970-1999	1. The government strength (The sum of the Banzhaf indices[6] of parties in government 2. The government dispersion (The standard deviation Banzhaf indices of parties government, 3. Dummy for election years 4. The membership in EMU.	- The stronger government are not prone to have lower budget deficits - Equally strong coalition partners tend to block any cooperative outcome by using their veto power. - Coalition governments composed of parties which differ considerably in their voting power are better in achieving a successful stabilization of their debt levels.

[6] The Banzhaf index of voting power measures the voting power of each party in the coalition

CONCLUDING REMARK

In this paper, we provide a brief review on the status of both theoretical and empirical literature on political determinants of budget deficits. On the theoretical front, we discuss how political system, government fragmentation, ideology, budget procedure and political budget cycles might affect budget deficits. On the empirical front, we review the empirical studies based on various samples, in different time period.

Most of empirical studies on determinants of budget deficits deals with the case of developed coutries. Therefore, an important area for future research concerns with the case of developing countries. One must take a careful attention to the specific characteristics of political situation in developing countries. As suggested by Shi and Svensson (2003), the ideological preference (the partisan model) which has been partly successful in explaining the macroeconomic fluctuation in OECD countries where a party's social and economic orientation can be relatively easily identified is unlikely useful to explain electoral policy cycles in developing countries where the differences in economic and ideological preferences among parties are much harder to pin down and the distinction frequently does not exhibit the typical western left right pattern. In a relatively new democracy, parties use voters' sentiments rather than specific programs to gain votes in the elections.

REFERENCES

Alesina, A., Cohen, G. and Roubini, N. 1991. "Macroeconomic policy and elections in OECD democracies" *National Bureau of Economic Research Working Paper Series* No. 3830.

Alesina, A and Perotti, R. 1994. "The political economy of budget deficits". *International Monetary Fund Working Paper* 42:1-37

Alesina, A. and Perotti, R. 1996. "Budget deficits and budget institutions".*National Bureau of Economic Research Working Paper Series* No. 5556.

Asian Development Bank Key Indicators Statistics. Downloadable at http://www.adb.org/Statistics/ki.asp

Barro, R. J. 1979. "On the determination of the public debt". *The Journal of Political Economy* 87(5): 940-971.

Beck, T., Keefer, P.E., Clarke, G. R., Walsh, P and Groff, A 2007. *DPI 2006 Database of Political Institutios.* Development Research Group. The World Bank

Blanchard, O. 2006. *Macroeconomics*. Prentice Hall

Brender, A. and Drazen, A. 2005. "Political budget cycles in new versus established democracies". *Journal of Monetary Economics* 52(7): 1271-1295.

Crain, W. M. and Ekelund Jr, R. B. 1978. "Deficits and Democracy". *Southern Economic Journal* 44(4): 813-828.

Drazen, A. 2000. *Political economy in macroeconomics*. Princeton University Press. Princeton, New Jersey.

Dornbusch, R., Fischer, S. and Startz, R. 2004. *Macroeconomics* 9th Edition. McGraw Hill

Edin, P-A. and Ohlsson, H. 1991. "Political determinants of budget deficits: Coalition effects versus minority effects". *European Economic Review* 35(8): 1597-1603.

Edwards, S. and Tabellini, G. 1990. "Explaining fiscal policies and inflation in developing countries". *National Bureau of Economic Research Working Paper Series* No. 3493.

De Haan, J. and Sturm, J.-E. 1994. "Political and institutional determinants of fiscal policy in the European Community". *Public Choice* 80(1): 157-172.

De Haan, J. and Sturm, J.-E. 1997. "Political and economic determinants of OECD budget deficits and government expenditures: A reinvestigation. "*European Journal of Political Economy* 13(4): 739-750.

De Haan, J., Sturm, J.-E., and Beekhuis, G. 1999. "The weak government thesis: some new evidence". *Public Choice* 101(3): 163-176.

Halleberg and Von Hagen, J. 1997. "Electoral institutions, cabinet negotiations and budget deficits in the European Union". *National Bureau of Economic Research Working Paper Series* No. 6341.

Hibbs, Jr., D. A. 1977. "Political parties and macroeconomic policy".*The American Political Science Review* 71(4): 1467-1487.

Hill, R.C, Griffiths, WE and Judge, G.G. 2000. *Undergraduate Econometrics* 2nd Edition. John Wiley & Sons, Inc.

Huber, G., Kocher, M and Sutter, M. 2003. “Government strength, power dispersion in governments and budget deficits in OECD countries. A voting power approach“ *Public Choice* 116(3): 333-350.

IMF Statistical Databases - Online Browsers and Documentation, provided by Library of The University of Groningen

Marshall, M.G and Jaggers, K. 2007. *Polity IV Data Set (version 2006)*. Center for Global Policy, School of Public Policy George Mason University and Center for Systemic Peace. Downloadable at www.systemicpeace.org/polity4

Mink, Mark and de Haan, J. 2006. “Are there political budget cycle in Euro Area“. *European Union Politics* 7(2):191-211

Nordhaus, W. D. 1975. “The political business cycle“. *The Review of Economic Studies* 42(2): 169-190.

Perotti, R. and Kontopoulos, Y. 2002. “Fragmented fiscal policy“. *Journal of Public Economics* 86(2): 191-222.

Persson, T and Tabellini, G. 1997. “Political Economics and Macroeconomics Policy”. *National Bureau of Economic Research Working Paper Series* No.6329.

Persson, T and Tabellini, G. 2000. *Political Economics : Explaining Economic Policy*. The MIT Press

Rogoff, K and Sibert, A. 1988. “Elections and Macroeconomic Policy Cycles”. *Review of Economic Studies*. 55:1-16.

Roubini, N. 1991. “Economic and political determinants of budget deficits in developing countries“. *Journal of International Money and Finance* 10 (Supplement 1): S49-S72.

Roubini, N. and Sachs, J. 1989a. “Political and economic determinants of budget deficits in the industrial democracies“. *European Economic Review* 33: 903-938

Roubini, N. and Sachs, J. 1989b. ”Government spending and budget deficits in the industrial countries”. *Economic Policy* 4(8): 100-132.

Shi, M and Svensson, J. 2002.”Political budget cycles in developed and developing countries”. *Working Paper IIES*. Stockholm University.

Shi, M and Svensson, J. 2003. ”Political budget cycles: a review of recent developments”. *Nordic Journal of Political Economy*.

United Nation Statistics Division, http://unstats.un.org/ unsd/default.htm

Volkerink, B. and de Haan, J. 2001. “Fragmented government effects on fiscal policy: new evidence“. *Public Choice* 109(3): 221-242.

Von Hagen, J. 1991. “A note on the empirical effectives of formal fiscal restraints”. *Journal of Public Economics* 44:99-210

Von Hagen, J. and Harden, I. 1996. “Budget processes and commitment to fiscal discipline“. *European Economic Review* 39(3-4): 771-779.

Woo, J. 2003. “Economic, political, and institutional determinants of public deficits “. *Journal of Public Economics* 87(3-4): 387-426.