

Schuknecht, Ludger

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World Trade Organization
Economic Research and Analysis Division

<p>Fiscal Policy Cycles and the Exchange Regime in Developing Countries</p>
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Ludger Schuknecht

WTO

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Fiscal Policy Cycles and the Exchange Regime in Developing Countries

Ludger Schuknecht *

Abstract

The paper studies empirically fiscal policies around elections in 25 developing countries as affected by the exchange regime. It is argued that countries with flexible exchange regimes are less likely to engage in expansionary fiscal policies before elections because such policies can result in devaluations and inflation which affects government popularity adversely. The empirical results show that governments indeed try to improve their re-election prospects with the help of expansionary fiscal policies only in countries with fixed exchange rates and adequate reserve levels. For some countries, this raises doubts about the usefulness of fixed exchange rates for stabilizing the macro economy, unless reforms of the institutional framework reduce the scope for election-oriented fiscal expansion.

JEL Classifications Numbers: F41, E62, H62

Keywords: Elections, political business cycles, fiscal policies, deficits, developing countries

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I. Introduction

Many studies have examined whether democratic governments in industrial countries adjust macroeconomic policy-making around the election date to enhance their re-election prospects, and thereby generate political business cycles (for surveys see Alesina (1988), Nordhaus (1989), Willet (1989), and Gaertner (1993; 1994)). Very few studies, however, have discussed the influence of exchange regimes on political business cycles (e.g., Willet and Mullen (1982) or Assael and Larrain (1994)).¹ Furthermore, empirical studies of political business cycles in developing countries are still scarce. Bates (1988) discussed public investment cycles in Zambia in the 1960s and Krueger and Turan (1993) discussed such cycles in Turkey between 1950-1980. Schuknecht (1996) finds fiscal policy cycles of the “Nordhaus”-type for a panel of 35 developing countries where governments pursue expansionary fiscal policies before elections and fiscal austerity afterwards.

The purpose of this paper is to examine the impact of the exchange regime on election-oriented fiscal policy making in developing countries. From a policy perspective, this issue appears also quite important. Calvo (1995), for instance, argues that the Mexican crisis (with a collapse of the fixed parity of the peso to the U.S. dollar) partly resulted from the significant increase in the

¹There is a considerable body of literature discussing the impact of the exchange regime on macroeconomic policy making. Westbrook and Willet (1996) provide an overview over exchange rates as a nominal anchor. Aghevli, Khan and Montiel (1991) or De Kock and Grilli (1993) discuss the implications of different exchange regimes on fiscal policies. Baxter and Stockman (1989) find little systematic difference in macroeconomic aggregates under different exchange regimes, although the standard deviation in government consumption was found to fall during floating-rate periods in fifteen of twenty-two countries. Bayoumi and Eichengreen (1994) compare output and price responses under fixed and flexible exchange regimes.

There are also a number of recent studies dealing with growing public spending, deficits and public debt (rather than cycles in fiscal deficits). These are explained by political instability (Alesina and Tabellini, 1990), political orientation, wage indexation and stability of the political system (Roubini and Sachs, 1989), a war of attrition between interest groups over who bears the costs of fiscal adjustment (Alesina and Drazen, 1991), and the short-livedness of governments (Grilli, Masciandaro and Tabellini, 1991).

quasi-fiscal deficit associated with the extension of credit, e.g., through development banks, before the elections in late 1994.

The study looks at 25 developing countries that held elections during at least part of the 1978 to 1992 period.² It argues that flexible exchange regimes reduce the incentive for election-oriented expansionary fiscal policies because they can induce devaluation and inflation which in turn adversely affects government popularity. In fixed exchange rate regimes, governments face less of this trade off and, therefore, have a stronger interest in "opportunistic" fiscal expansion before elections. In other words, such short-term incentives may undermine the long-term disciplining effect of fixed exchange rates on macroeconomic policies via the balance of payment constraint which is stressed in much of the previous literature (see Aghevli et.al., 1991). The study supports these hypotheses. It finds significant empirical evidence for fiscal policy cycles only in countries with fixed exchange rates and sufficient reserves. These findings have important implications for the choice of the exchange regime.

Section II discusses the main hypothesis of the paper. This is tested empirically in Section III, which is followed by a summary and policy implications in Section IV.

²The sample includes developing countries which held elections during at least part of the observation period, and for which data for much of the observation period was available. Although most sample countries are democracies, some elections may not be considered democratic in a strict interpretation of the term. However, military or authoritarian regimes which face public discontent or which strive for confirmation of their position in elections will also try to maximize support with populist policies (Tullock, 1987). The hypothesis and results discussed in this paper, therefore, can apply independently of the regime under which elections are held. See Appendix A for a list of the sample countries and their exchange regime between 1978 and 1992.

II. Fiscal Policies and the Exchange Regime in Developing Countries

A. The Underlying Model and the Literature

The study applies the so-called Nordhaus-approach to analyze fiscal policies around elections. Governments are assumed to stimulate their economies with expansionary fiscal or monetary policies before elections to gain votes. After the elections, governments are assumed to reduce fiscal deficits or inflation with austerity measures (Nordhaus, 1975). The earlier literature which assumed adaptive expectations has recently been developed further, and Persson and Tabellini (1990) or Rogoff (1990) have shown that Nordhaus-cycles can also emerge with rational expectations. The other main type of models--the so-called partisan-models--generate policy cycles as a result of ideological differences between political parties which have different preferences for inflation and unemployment (Hibbs, 1977, or Alesina, 1987, for rational partisan models and Kapopoulos, 1995, for an extension to open economies).

In many developing countries, the Nordhaus-approach seems more appropriate because the distinctions between political parties frequently do not exhibit the typical Western right-left pattern. The Nordhaus-approach is also supported by the above-mentioned studies by Bates, Krueger and Turan, Calvo and Schuknecht.

B. Hypotheses on Fiscal Policies and the Exchange Regime

Governments transfer significant amounts of wealth via fiscal policies in order to gain votes. We hypothesize, that governments allow larger fiscal deficits through expansionary expenditure policies or tax reductions before elections to increase their re-election chances. Fiscal consolidation is pursued when the elections are over.³ However, the exchange regime is of crucial importance for

³Ideally, a more refined analysis taking into account pre-election popularity, the uncertainty

the effectiveness of election-oriented policy making. Flexible exchange rates result in a steeper short-run Phillips curve because increased import demand rapidly feeds into domestic inflation through devaluations (Willet and Mullen, 1982 or Tornell and Velasco, 1995). Rising import prices are also unpopular with the country's elite as well as with urban voters who may depend on imported food. These trade-offs to expansionary fiscal policies under flexible exchange rates reduce the incentive for pursuing such policies.

Expansionary fiscal policies under flexible exchange rates will not stimulate inflation through depreciation if (i) the deficit is not monetized, (ii) if capital mobility is sufficiently high, and (iii) if rising interest rates lead to capital inflows which finance the expansion. Even if the first two assumptions are met, in developing countries it is unlikely that the government lets the interest rates rise during an election period enough so that international capital finances the additional deficit. In fact, in many countries interest rates are controlled (see, e.g., Krueger, 1993 or Killick, 1993), and if inflation rises real interest rates decline, hence deterring rather than attracting foreign inflows. Political uncertainty around elections also often reduces the likelihood of significant capital inflows in this period.

Fixed exchange rates, however, allow an increase in current consumption through a higher trade deficit without additional inflation. The trade-off in terms of future consumption through depleted reserves or higher debt may not worry the government--it is currently only interested in re-election. ⁴

about the election outcome or the narrowness of election-results would be preferable (Schneider and Frey, 1988), but lack of such data for most developing-countries constrains the study to analyzing this more crude hypothesis.

⁴Theoretically, a decline in international reserves could reduce the domestic money supply and counteract fiscal expansion. However, governments are likely to offset such monetary contraction before elections.

These arguments suggest that flexible exchange rates could provide a better incentive structure for stable macroeconomic policies. Fixed exchange rates reduce the short-run political costs of destabilizing expansionary policies. Despite their interest in popularity-enhancing policies, however, governments will not want to run into balance of payments problems just before an election. They will, therefore, be prone to apply expansionary fiscal policies with fixed exchange rates only when reserves are sufficient to finance the pre-election surge in import demand.

An analysis of fiscal policy in developing countries also needs to take into consideration programs with international financial institutions like the International Monetary Fund (IMF). They usually provide access to more international financing and contain conditionality which stresses economic stabilization, including fiscal consolidation. Programs supported by the IMF should, therefore, "harden" the governments' budget constraint and result in smaller fiscal deficits.⁵

Fiscal policy variables, however, are not affected by all types of programs alike. Programs with the poorest countries (SAF/ESAF) are medium-term oriented and always emphasize fiscal reform (IMF, 1997). However, initially they might result in higher budget deficits which are financed by additional donor support. For some structural measures, for example, initial costs outweigh budgetary savings so that the fiscal deficit declines only over time. In civil service reform, severance pay can initially exceed budgetary savings on the wage bill. When destabilization has progressed to the point where vital functions of the government are affected, higher deficits to

⁵It has been argued that programs with the international financial institutions relieve industrial country governments of the unpleasant task to impose policy conditionality on developing countries which might be unpopular with their domestic electorate (Vaubel, 1986). Developing country governments, by the same token, can attribute the negative effect of austerity measures to the international financial institutions and protect their political support (Frey and Eichenberger, 1994).

revitalize the government may be financed by more donor support. In these programs, therefore, fiscal consolidation should occur only with a lag.

A second type of programs financed through the so-called Enhanced Fund Facility also aims at medium-term macroeconomic and structural reforms in middle-income countries. Additional donor support, however, is more limited so that fiscal consolidation is expected immediately. IMF-supported Stand-By Arrangements, the third type of program, often focus on the short-term stabilization of the balance-of-payments. This can include fiscal reform and consolidation as well.

III. Empirical Study

A. Methodology

1. Technique

Regressions with annual panel data for the period 1978-1992 are run on a 25-country sample with a fixed-effects model which assumes that countries have common slopes but different intercepts. Unit root tests were conducted on all independent variables and the occurrence of cointegration can be rejected at the 95 percent level for almost all variables.

The following panel regression is tested:

$$\text{Def}_{it} = \alpha \text{Const}_{it} + \beta \text{Elect}_{it} + \gamma_{jit} \text{Var}_{jit} + \varepsilon_i$$

where “Def_{it}” stands for fiscal deficit as dependent variable for I countries and t periods, “Elect” represents the variable capturing the influence of elections, and “Var_j” stands for the impact of other factors such as terms of trade changes, the trade-orientedness of a country, catastrophes and IMF-supported programs. The study thereby follows established techniques as applied, for example, by Hibbs (1987) Alesina and Roubini (1992), or Schuknecht (1996).

2. **Dependent variable**

The overall fiscal balance before grants of central government, expressed as a share of GDP, serves as dependent variable for the analysis of fiscal policies around elections as it reflects the combined effect of expenditure and revenue measures.⁶

3. **Election variable**

Most important for our analysis, a dummy variable is introduced to reflect the effect of elections. We only consider country-wide general, legislative or presidential elections, depending on the political system of the sample countries. The election variable takes the value of one in the period when expansionary policies are expected and minus one when we anticipate the post election contraction. In all other periods it is set as zero (see Appendix B for the exact specification of the election variable). In a first estimation, the coefficient of this variable is expected to have a negative sign in estimations of the fiscal balance, independent of the exchange regime, because elections shall lead to a worsening of the fiscal balance.⁷

In a second step the variable is split according to the exchange regime.⁸ The two variables measure the coefficient of the election variable for countries with fixed and flexible exchange regimes separately. We expect a significant coefficient, in particular, for fixed exchange regime countries.

⁶The variable excludes “noise” from largely exogenously determined foreign grants.

⁷In fact, this estimation replicates the findings of Schuknecht (1996) for the somewhat smaller sample in this study.

⁸The exchange regime is derived from the IMF International Financial Statistics which provides a summary table on countries with more flexible arrangements, on the one hand, and those with no or very limited flexibility, on the other hand.

In a third step, we analyze the impact of elections on fiscal policies in fixed exchange regime countries as influenced by the level of reserves. The election variable for fixed exchange regime countries is split into three variables capturing countries with reserves of less than two months of imports, between two and four months of imports, and more than four months of imports, respectively. We expected the largest coefficient and the highest probability of significance for the variable reflecting reserves of more than four months of imports.

4. Other independent variables

Other independent variables were chosen to reflect the domestic economic situation of the countries and important external influences.

Lagged dependent variable: All estimations include a lagged dependent variable with an expected positive coefficient. Government administrations are constrained by budgets and the current budget largely determines the next period's appropriations (Niskanen, 1971). This "inertia" provides stability and predetermines fiscal deficit patterns.

Output growth: Fiscal deficits are affected by real economic activity. On the revenue side, for example, company tax receipts depend to some extent on the position on the business cycle. On the expenditure side, spending on the unemployed is highly cyclical as well although this is probably less relevant in developing countries. Cyclical factors in the deficit are therefore captured by a real economic growth variable. We expect a negative sign for the coefficient as higher growth is likely to lead to lower deficits.

Terms of trade: Effects of changes in the terms of trade are also examined. If the external shock is positive (i.e., countries experience an improvement in their terms of trade), output is likely to increase which should raise fiscal revenue and improve the fiscal balance. Declines in the terms

of trade, on the other hand, should lower revenue and worsen the fiscal balance. Furthermore, they could require high government expenditure if, for example, public enterprises are not allowed to adjust their pricing policies to changes in export and import prices and require more support. This translates into an expected positive sign of the coefficient for the fiscal balance.

Trade-orientation: A variable which reflects a country's trade-orientation is defined as the ratio of the sum of imports and exports over GDP. It is expected to be correlated with an improved fiscal balance as the leakage of demand abroad and resulting costs from external payment difficulties make high fiscal deficits less attractive than in less-trade oriented countries (Lindbeck, 1976).

Catastrophes: Shocks are incorporated as dummy variables taking the value of one during periods of catastrophes, such as floods, earthquakes, or the eruption of volcanos. It is anticipated that government's fiscal position is weakened through budget-financed relief measures and revenue loss after such catastrophes. The variable is therefore expected to have a negative coefficient in estimations of the fiscal balance.

IMF-supported programs: The estimations include three types of programs supported by the IMF. Dummy variables stand for SAF/ESAF arrangements, stand-by arrangements, and extended fund facility arrangements. The variables take the value of one when the respective program is in force for at least six months of the respective fiscal year. It becomes one half when the particular program covers at least a full quarter of the fiscal year. All IMF-supported programs are hypothesized to have a positive effect on fiscal balances; SAF/ESAF arrangements are assumed to have a lagged effect on the fiscal balance for the reasons discussed above.

B. Results

The results confirm the hypothesis that fiscal policy cycles are less prevalent under flexible exchange regimes. The first estimation shows the effect of elections on the overall fiscal balance before grants for the total sample, irrespective of the exchange regime (Summary Table, column 1). The estimation indicates an election-related expansion in the fiscal deficit by three quarters of a percent of GDP, or nearly 20 percent of the mean deficit of the sample. Budgetary inertia as represented by the lagged dependent variable and natural catastrophes also have a strong significant effect on fiscal deficits. The coefficients of the variables reflecting the “openness” of an economy, SAF/ESAF arrangements and EFF arrangements come close to the 95 percent level of significance; output growth and terms of trade do not exhibit a significant effect on fiscal deficits.

The next estimation shows that only countries with fixed exchange regimes exhibit fiscal cycles (column 2). In countries with fixed arrangements, the fiscal deficit worsens by almost 1 percent of GDP around elections, which corresponds to about 25 percent of the mean fiscal deficit. The coefficient for the election variable is not significant for countries with flexible exchange regimes. The results do not change when we introduce an exchange regime variable in this estimation to see whether there is a systematic rather than only an election-induced difference in the fiscal position between countries with fixed and flexible exchange regimes. ⁹

There is also support for the claim that countries pursue election-oriented policies under fixed exchange rates only with “adequate” reserves (column 3). Countries with reserves of more than four months of imports (about 40 percent of all observations for fixed exchange regime countries) show a significant increase in the election-related deficit by one and one quarter percent of GDP. The

⁹If an exchange regime variable exhibited significantly higher deficits for fixed exchange regime countries than for those with flexible ones, and if this variable reduced or eliminated the significance of the election variable, this would speak against the business cycle hypothesis. This is not the case, which shows the robustness of the estimations towards other specifications.

coefficients for the two election variables for countries with reserves of less than four months of imports, on the other hand, is not significant. If these latter two variables are dropped the significance of the other variables becomes even slightly more accentuated.

These findings can be usefully linked with the recent new institutional economics literature dealing with budgetary institutions (Campos and Pradhan, 1996; Von Hagen and Harden, 1994; Alesina, Hausmann, Hommes and Stein, 1995) and the political economy literature which advocates (constitutional) rules (for a survey, see Mueller, 1989). These authors argue that the institutional framework of a country is key to maintaining fiscal discipline, which, in turn, has proven to be an important element of countries' growth performance.¹⁰ Fixed exchange regimes are then more likely to work when strong fiscal rules, budgetary institutions and checks and balances in the political process reduce the government's scope for short-term fiscal expansion and thereby increase the credibility of the exchange regime. The above-mentioned studies find that most developing and some industrialized countries have relatively weak budgetary institutions and many countries in this study's sample belong to this group.

IV. Conclusion and Policy Implications

The study suggests that governments in developing countries frequently engage in election-oriented expansionary fiscal policies. This is particularly the case when fixed exchange rates reduce the danger of higher inflation and higher import prices through expansion-induced devaluation, and when adequate reserve levels soften the short-term balance-of-payment constraint. In fact, one could

¹⁰For a survey of cross-country growth analyses, see Brunetti (1997). Brunetti finds that policy volatility, mainly defined as monetary and fiscal stability is one of the most successful explanatory variables for differing growth performance across countries.

hypothesize that governments could strategically build up a “war chest” of higher reserves between elections and draw them down as elections approach. ¹¹

Can governments draw any policy lessons from the findings of this study? If election-oriented fiscal policies are perceived as potentially destabilizing, as shown by Calvo in the case of Mexico in 1994, and as fiscal volatility hurts growth (Brunetti, 1997), governments may want to reduce incentives in engaging in such policies. Fixed exchange regimes (with their long-term stabilizing effect) might then be complemented by reforms in the institutional framework which reduces the scope for election-oriented fiscal expansion. Countries, where the institutional mechanisms to prevent strong election-oriented fiscal expansions are not in place or where institutional reform is not feasible, however, might fare better with flexible exchange regimes.

¹¹ The possible endogeneity of reserves and the option to use foreign exchange rationing (which featured prominently in many developing countries with fixed exchange rates in the past) to increase support at the polls were pointed out by an anonymous referee.

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Appendix A: Sample Countries and their Exchange Regime (1978-1992)**Countries with flexible exchange regimes:**

Argentina (1978-1990)
Brazil
Costa Rica (1980-1992)
Ecuador (1983-87, 1989-92)
The Gambia (1986-1992)
Guatemala (1989-1992)
India (1979-1992)
Korea (1980-1992)
Mexico
Pakistan (1982-92)
Peru (1978-83, 1990-92)
Philippines
Thailand (1981)
Turkey
Uruguay
Venezuela (1989-92)

Countries with fixed exchange regimes:

Argentina (1991-92)
Bangladesh
Barbados
Botswana
Costa Rica (1978-79)
Ecuador (1978-82, 1988)
Fiji
Gambia (1978-85)
Guatemala (1978-88)
India (1978)
Korea (1978-79)
Malaysia
Malta
Mauritius
Pakistan (1978-81)
Peru (1984-89)
St. Vincent
Thailand (1978-80, 1982-92)
Trinidad & Tobago
Venezuela (1978-88)

Appendix B: Specification of the Election Variable

A dummy variable is introduced to reflect the effect of elections. This election variable takes the value of one in the period when expansionary policies are expected and minus one when we anticipate the post election contraction. In all other periods it is set as zero. However, in many countries the fiscal year and the calendar year do not coincide. Therefore, the variable value is set relative to its position during the fiscal year to be consistent with the other fiscal variables it supposedly influences.

Elections sometimes take place at the beginning, during or at the end of the fiscal or calendar year. Therefore, the period during which we expect expansionary policies and during which a contraction is expected must be defined, taking into account the fact that most stimuli affect the economy and thereby popularity only with a short lag. In the following table, FY'0 is the fiscal year during which the election is held, FY-1 is immediately preceding, and FY+1 is immediately following:

Election Month of Fiscal Year	Value of the Election Variable		
	1 (Expansion)	-1 (Contraction)	0 (No change)
1st or 2nd	FY-1	FY'0	Other
3rd or 4th	FY-1	FY+1	FY'0 and other
5th to 12th	FY'0	FY+1	Other

The specification is based on the following argumentation: in years when the election is during the first two months of the fiscal year, expansionary policies are expected for the fiscal year

preceding the election (FY-1). Because the elections are very early in the fiscal year, the contraction starts already later during the election year (FY'0); hence, the variable takes the value of one for FY-1, and minus one for FY'0.

If the election is in the third or fourth month of the fiscal year, expansionary policies are expected to start during the fiscal year preceding the election (FY-1). They will continue in the election year (FY-0), but more or less at the same level. Consequently, the election variable takes the value of one for FY-1 and zero for FY'0. Contractionary measures are only introduced in the fiscal year after the election, and the variable takes the value of minus one in FY+1. This specification takes into account the fact that governments after elections have to reward their "supporters". This is another reason why fiscal consolidation is assumed to start only with FY+1.

If the election takes place during or after the fifth month of the fiscal year, all expansionary policies are expected to take place during the election year (FY'0). There is also some time left after the election to reward "friends". Fiscal consolidation then starts with the post-election fiscal year (FY+1).

Summary Table – Estimation Results, 1978 - 1992 period			
Dependent Variable:	Overall Fiscal Balance		
Elections:	Coefficients (T-statistics)		
Elections – independent of exchange regime	-0.74 (-2.98)**		
Elections – flexible exchange regime	-0.43 (-1.08)	-0.43 (-1.07)	
Elections – fixed exchange regime	-0.93 (-2.67)**		
Elections – fixed exchange regime and reserves of:			
less than 2 months of imports			-0.38 (-0.48)
between 2 and 4 months of imports			-0.79 (-1.23)
more than 4 months of imports			-1.24 (-2.50)*
Other independent variables:¹			
Lagged dependent variable	0.64 (14.6)**	0.64 (14.3)**	0.64 (14.2)**
Output growth	0.03 (0.64)	0.03 (0.70)	0.03 (0.65)
Terms of trade	0.02 (0.24)	0.01 (0.11)	0.01 (0.07)
Trade orientedness ²	2.96 (1.57)	3.02 (1.53)	3.00 (1.51)
Natural catastrophes	-6.68 (-4.14)**	-6.70 (-4.10)**	-6.89 (-4.16)**
IMF - supported programs:			
SAF/ESAF arrangement ² (one period lag)	4.57 (1.75)	4.82 (1.82)	4.93 (1.85)
EFF arrangement	1.19 (1.89)	1.24 (1.89)	1.25 (1.91)
Stand-by arrangement	0.18 (0.38)	0.15 (0.30)	0.16 (0.32)
Number of observations	301	291	291
R ² adjusted	0.65	0.64	0.64

Source of data: IMF, Government Finance Statistics, Transactions of the Fund, International Financial Statistics, Directions of Trade Statistics, World Economic Outlook; Worldbank, World Tables; Europa World Yearbook.

* = significant at 5% level; *** = significant at 1% level.

¹ Individual country intercepts not presented.

² Dickey-Fuller-test statistics just below critical value of 95% significance.