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Fiscal Impact of Privatization in Developing Countries

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Abstract

This paper examines the fiscal impact of privatization revenues in 47 developing countries. There are many reasons that privatization is attractive for the central government of developing countries. If substantial, these revenues from the sale of state owned enterprises can present a potential solution to persistent deficits. On the other hand, the privatization revenues could be used to finance an even larger deficit. In this paper, I will discuss previous research on the fiscal impact of privatization revenues, the factors that contribute to persistent fiscal budget deficits and explain how empirical research on the fiscal impact of privatization in the developing world is a logical extension of this research. Using data from the World Bank's Privatization Database on privatization revenues from the years 1988 to 2008 and panel data techniques, I find that an increase in privatization revenues is correlated with a worsening of the fiscal budget balance, lending support to the hypothesis that revenues from the sales of state owned enterprises are used to finance a larger deficit.

Introduction

Privatization of state owned enterprises has long been promoted in the developing world due to the belief that it brings about improved efficiency in these firms and stimulates macroeconomic growth (Young, 1998; Davis et al, 2000; Katsoulakos, Likoyanni, 2002). The privatization of state owned enterprises has been most noticeable in post-communist countries and in Latin America as many of these countries implemented large privatization programs starting in the early 1990s. Table 3 of Appendix 1 provides a graphical representation of privatization revenues accruing to the fiscal budget worldwide. Many academics believe privatization should be undertaken for the sole intent of improving firm efficiency (Mackenzie, 1998, Kikeri, Nellis, Shirley; 1992). However, as countries began to privatize, some governments made it explicitly clear that the goal of their privatization program was to improve their fiscal deficit. (Pinheiro, Schneider, 1994; Przeworski, 1991).

Due in part to the worldwide oil crisis of the 1970s, many countries accumulated large central government debt in the subsequent years. Most at the time assumed the debt would go away with more prosperous times, but the deficits persisted. Also contributing to these deficits were the inefficient state owned enterprises. During the late 1970s, state operated enterprises generated deficits of four percent on average (Pinheiro, Schneider, 1994). In many ways, the decision to privatize was determined by fiscal necessity, rather than the desire for improved efficiency (Przeworski, 1991). The lump sum revenues from the sale of state owned enterprises can be seen as a potential solution to these persistent deficits. Simply removing the inefficient firm from its books should also improve a

government's fiscal situation as subsidies and other transfers sent to keep the firm alive should decline (Young 1998, Davis et al, 2000).

The purpose of this paper is to determine the contemporaneous impact of privatization revenues on the fiscal budget balance in developing countries. Of the revenues that accrue to the budget, governments have the option of either saving or spending the receipts. For a government facing liquidity constraints, the privatization revenues could be used to finance an even larger deficit (Barnett, 2000; Davis et al., 2000). However, the decision to increase spending using privatization revenues as financing should be made cautiously as privatization revenues are temporary, and spending might become entrenched at levels higher than the revenue raising capability of the government (Davis et al., 2000).

Given their uncertain nature, privatization revenues can also be saved until a subsequent budget can allocate the funds (Barnett, 2000; Young 1998, Davis et al., 2000). The "earmarking" of privatization revenues for specific uses in the future can help avoid permanent increases in spending, but can also make fiscal management more difficult if a government's long term priorities change (Davis et al., 2000). A central government can use the revenues to reduce their public debt, thereby permanently lowering the deficit. The decision to reduce public debt could signal a government's commitment to a macroeconomic stabilization policy, thereby contributing to increased market confidence and eventually leading to a reduction of interest payments (Davis et al., 2000). The reduction of interest payments further improves the fiscal budget balance.

In this paper I will empirically examine how the fiscal budget balance in a sample of 47 developing countries is impacted by privatization revenues. This paper will

examine whether privatization revenues are associated with an improvement in the fiscal budget balance thanks to the retirement of the external public debt and lower interest payments, or if the funds are used to finance an even larger deficit.

Survey of Literature

The majority of economic literature concerning privatization emphasizes microeconomic aspects of the privatization process, particularly the subsequent efficiency gains (Megginson, Netter 2001; Pinto, Belka, Krajewski 1993, LaPorta, Lopez de Silanes, Shleifer 2000). There is significantly less literature devoted to the macroeconomic impact of privatization, and even less of it is empirical. The studies that do focus on the macroeconomic impact of privatization tend to ignore developing countries, and instead hone in on high-income countries. I plan on filling this gap in the literature and empirically testing the impact of privatization on a government's finances in the developing world.

Several papers discuss the impact of privatization on a government's budget balance. The consensus of this literature is that state owned enterprises tend to be inefficient due to the "soft" nature of their budget constraint (Young, 1998; Pinheiro, Schneider, 2004). State owned enterprises tend to be overstaffed and pay excessive wages (Davis et al, 2000). They require subsidies to stay operational, and act as a drain on the government treasury and the entire economy. Simply removing the inefficient firm from its books ought to improve the fiscal situation of the government (Young, 1998; Pinheiro, Schneider, 2004). The decision to privatize can be due in part to a fiscal crisis and the lump sum revenues from the sale of the state operated enterprise can be seen as a

potential solution to the problem (Pinheiro, Schneider, 2004; Mansoor 1987, Przeworski 1991). For countries with liquidity constraints, the lump sum proceeds from the sale of inefficient state owned enterprises could allow the government to finance a larger deficit.

Given the option to save or spend the privatization receipts, some of the literature finds that the governments tend to save and not spend the revenues (Davis et al, 2000; Barnett, 2000). Additionally, privatization significantly improves the fiscal situation as subsidies and other grants significantly decrease when compared to the pre-privatization period (Davis et al, 2000; Katsoulakos, Likoyanni 2002). However, some of the literature concludes that privatization has had little fiscal impact. The revenues from privatization were too little and too late to provide a solution to many fiscal crises (Pinheiro, Schneider, 1994; Hachette, Luders 1993, Mackenzie, 1998).

The fiscal budget balance can improve from the privatization process in ways other than from direct proceeds. There is evidence that the privatization of inefficient state owned enterprises can lead to an improved macroeconomic atmosphere. High growth rates of GDP are linked to a higher share of GDP produced by the private sector (Barnett 2000, Davis et al., 2000). Privatization is also associated with a decrease in unemployment, despite the fact that many claim that state owned enterprises with a "soft" budget are likely to be overstaffed and privatization will lead to many losing their jobs (Davis et al, 2000). There is also evidence that firms pay higher taxes after the privatization period (Katsoulakos, Likoyanni 2002, Davis et al 2000). All this evidence has led to the conclusion that the real fiscal gain of privatization is not seen right away in the form of direct revenues, but rather in the improved long run macroeconomic performance (Pinheiro, Schneider, 1994).

In order to isolate the impact of privatization revenues on the fiscal budget balance, it is important to understand the other factors that lead to persistent deficits. A large set of literature is dedicated to explaining the presence of persistent deficits in many countries worldwide. Before the 1970s oil crisis, most academics thought budget deficits were due to tough economic times. Since governments want to maintain a constant tax rate, prosperous times would result in a budget surplus while war and economically difficult times would result in a deficit (Barro, 1979). Additionally, richer countries tend to be have an older population and thus tend to spend more on social security (Shelton, 2007). However, macroeconomic performance and demographics alone do not explain the persistence of government deficits well after the oil crisis of the 1970s (Alesina, Perotti, 1995).

More recent literature is dedicated to explaining why persistent deficits are observed in peace time and why certain countries have large deficits while others do not. The literature that attempts to answer these questions can be broken down into three separate categories: one that emphasizes politically oriented variables to explain persistent budget deficits, another that examines the role of political business cycles, and a final set which looks at the effect of institutional changes such as the creation of the European Union.

A large number of papers attempt to find an explanation for budget deficits in the political structure of a country. Larger deficits tend to be seen in "weaker" government, where weakness is defined by a short average tenure of government and the presence of many political parties. Budgetary management problems can occur when many parties are battling for political control. When there is conflict between parties, it is more

difficult for the government to enact budget reduction policies (Roubini, Sachs, 1989; Alesina, Tabellini, 1990). Large levels of public debt are positively correlated with unstable and polarized political systems (Alesina, Tabellini,1990).

Not all scholars are in agreement that polarized political systems with many parties lead to large deficits. Instead, a budgeting procedure that commits the government to exercising fiscal discipline is a more significant factor (Volkerink, de Haan, 2001; Von Hagen 1992). A process that gives the prime minister a position superior to spending ministers, limits amendment power of parliament, and does not allow for many changes to the budget is favorable for fiscal discipline (Von Hagen, 1992; Volkerink, de Haan, 2001).

Also within the politico-institutional explanations of budget deficits are the set of papers that try to find an answer for the persistence of budget deficits within the government's ideology. There is some support for the theory that right-wing governments tend to be more fiscally responsible than left-wing governments, at least during the 1970s (Volkerink, de Haan, 2001; Mulas-Granados, 2003). However, this conclusion does not appear to be the consensus of the literature. Others have found that left-wing governments do not have higher deficits (Alesina, Roubini, 2001; Bayar, Smeets, 2009). Some point to the late 1990s as evidence that left leaning governments can be fiscally responsible as many leftist governments reoriented their policies and successfully reduced their budgets (Mulas-Granados, 2003).

Distinct from the political determinants of budget deficits, some literature attempts to find an explanation for budget deficits in the behavior of policy-makers. These models introduce a sort of political business cycle which hypothesizes that

spending will increase before and during election years. This is due to the hypothesis that the services provided by increased spending will gain the politician popularity and maximize his or her probability of winning the election. The hypothesis that policy makers behave opportunistically is confirmed by the literature (Bayar, Smeets, 2009; Mink, de Haan 2005).

Separate from the political and behavioral approaches to explain deficits are the models that attempt to capture the effect of institutional changes. The introduction of strict rules and guidelines put in place by the Maastricht Treaty, which requires members of the European Union to have certain debt to GDP ratios, has allowed many European countries to escape from the large amounts of debt they had accumulated years before. The budgetary situations of most European countries improved after the introduction of the Maastricht Treaty, but a lot is still unknown about the European integration process (Bayar, Smeets, 2009).

Now that more is known about what contributes to budget deficits, I will attempt to isolate the impact that privatization revenues have on the fiscal budget balance. Expanding upon this literature, I will test whether or not privatization revenues in the developing world significantly improve the finances of a government.

Data

Data on privatization proceeds from the sales of state owned enterprises comes from the World Bank Privatization Database. It contains data on the sale price of privatization transactions in developing countries of at least one million dollars between the years 1988 to 2008. The database only includes transactions that generate revenue or

monetary receipts for the government and excludes transactions in high income countries. The sales are recorded in U.S. dollar amounts at the time of the sale, or were converted from local currencies into U.S. dollars at the average annual exchange rate. To adjust for inflation, I have since converted the revenue into U.S. dollars using the year 2000 as the base year. This was done using the Consumer Price Index as calculated by the U.S. Bureau of Labor Statistics. I then converted these values into a percentage of GDP using data on GDP (in year 2000 U.S. dollars) from the World Development Indicators.

The privatization revenue data used by the World Bank Privatization Database comes from various sources: The World Bank Privatization Database uses OECD data on privatization in Africa, the European Bank for Reconstruction and Development data on privatization in Europe and Central Asia, the Privatization Barometer for other select European countries, Latin Finance and Privatization International, the Private Participation in Infrastructure database, various government web sites and the World Bank's own internal database. The use of so many sources increases the probability of data discrepancies arising. Also, there are various definitions of proceeds, but the database notes that in most cases gross revenues and not net revenues are used. Gross revenues are likely to be higher as they do not account for all the costs of privatization, such as the compensation of dismissed workers. Additionally, different databases may have calculated the proceeds in different ways. Some may have used market value while others may have used face value.

The data available on the sale price of the transactions is based upon the announcement date of the sale as opposed to the actual receipt of funds. In many cases, the receipt of funds takes place over several years. This caveat complicates analysis of

the data quite a bit, and will therefore be ignored. For simplicity, I will assume that all funds accrue to the budget upon the announcement of the sale.

There are other shortcomings of the World Bank Privatization Database. The database does not include the type of privatization method or the nationality of the buyer. If the buyer is foreign, and the purchase large, the capital inflow can lead to the appreciation of the real exchange rate under a floating exchange rate regime. Under a fixed exchange rate regime, this capital inflow may lead to an expansion of the money base through increase in foreign exchange reserves, causing inflationary pressure. This could lead to the macroeconomic policy response of fiscal tightening to contain inflation and prevent the appreciation of the real exchange rate (Davis et al, 2000). The database does not allow us to control for the impact that a foreign purchase might have on the budget.

The World Bank admits that the database is not exhaustive. Some transactions may have been missed and there are slight inconsistencies in the data. However, it is the best estimation of privatization activity available.

Data on central government budget balance comes from the World Development Indicators and Global Development Finance databases of the World Bank. If a government is running a budget deficit, this variable will take on a negative value. Conversely, if there is a budget surplus, the variable will take on a positive value. It is expressed as a percentage of GDP. This variable is defined as revenue (including grants) minus expense, minus net acquisition of nonfinancial assets. There are large gaps in the data as the entirety of the sample is comprised of developing countries. Not only is there generally less data from developing countries, it also tends to be of poorer quality

(Shelton, 2007). This limits the sample to countries that not only have data on privatization revenues, but also on a central government's deficit.

Macroeconomic variables such as population growth, inflation and unemployment also come from the World Development Indicators database of the World Bank. All are expressed as a percentage. There are no gaps in the population data, and very few in the inflation data. Unfortunately, there are quite a few missing values in the unemployment data. Again, the data for the poorest countries in the sample is likely to be of poorer quality than the data available for wealthier countries.

The World Bank's Database of Political Institutions provides me with control variables on a government's fragmentation, whether or not the executive branch has a majority in the legislative branch, and whether or not a certain year was an election year. The variable to measure the fragmentation of the government measures the probability that two deputies picked at random from the parliament will be of different political parties. This variable takes a value from zero to one, with the value of zero meaning the parliament is completely occupied by one party. The variable for executive control of the legislative branch takes the value of 1 if the executive branch has a majority in the legislative branch and a 0 if it does not. Although there is some evidence that the ideology of the government has an impact on its budget balance, there are so many missing values in the dataset that including it would significantly limit the size of my sample, and has therefore been omitted from my regression analysis.

To control for wartime spending that could affect the budget balance, I have included a binary variable that indicates whether or not a country was directly involved in a war or any other form or organized violence for the years 1988 to 2008. This data

comes from the Center for Systemic Peace and their Major Episodes of Political Violence and Conflict Regions database. This data does not include countries that engage in military intervention that takes place solely in other countries as they database claims they are not directly affected by the violence. Therefore, this data might not accurately represent the scope of military expenditures by a government.

The sample includes 47 countries, all of which are listed in Table 4 of the Appendix. On average, countries in the sample ran a deficit of 2.04 percent of GDP, consistent with the notion that central governments built up significant levels of debt following the oil crisis of the 1970s (Bayar, Smeets, 2009).

Summary Statistics

Table 1

Variable	Obs	Mean	Std. Dev.	Min	Max
Fiscal Budget Balance(% of GDP)	367	-2.04	3.93	-18.40	40.43
Privatization Revenues (% of GDP)	367	0.74	1.62	0.00	11.95
GDP Growth (%)	367	4.40	4.69	-29.00	18.29
Unemployment Rate (%)	367	9.59	6.55	0.87	37.58
Inflation Rate (%)	367	19.64	126.95	-5.78	1945.11
Population Growth (%)	367	1.16	1.24	-3.82	4.58
% of population >65	367	7.58	4.62	1.98	17.19
Election	367	0.20	0.40	0.00	1.00
Executive Control	367	0.45	0.50	0.00	1.00
Government Fragmentation	367	0.24	0.27	0.00	0.89
War	367	0.29	0.46	0.00	1.00

Econometric Method

Using this data, I regress the central government's budget balance on privatization revenues and a numerous other explanatory variables in a cross country panel. The basic specification is:

$$Y_{it} = \alpha + \beta_1 PR_{it} + \beta_2 Macro_{it} + \beta_3 Institutions_{it} + u_{it}$$

where *i* indexes the country and *t* indexes the year. PR is the variable for privatization revenues. I have included certain macroeconomic control variables as the budget is affected by macroeconomic performance (Barro, 1979). The macroeconomic variables are: GDP growth, unemployment rate, inflation rate, population growth, and the fraction of population over 65. Additionally, literature suggests that the structure of institutions can have an impact on the budget balance. It is known that spending tends to increase during an election year (Bayar, Smeets, 2009). Because of this I have included an election year dummy variable that indicates whether or not a certain year was an election year. Fragmented governments with many parties tend to have persistent deficits (Roubini, Sachs, 1989; Alesina, Tabellini, 1990). For this reason, I have included a measure of government fragmentation in my regression. Also included is a variable that indicates whether or not the executive branch has a majority in the law making branch. If the executive branch has a majority in the law making branch there will be fewer checks upon the law making branch's power, thereby not committing it to fiscal discipline (Von Hagen, 1992; Volkerink, de Haan, 2001). I have also included a binary variable that indicates whether or not a country is involved in a war or some other sort of conflict. A war could raise government spending significantly and thus have a negative impact on the budget balance (Barro, 1979).

The first regression I will run is a pooled ordinary least squares (OLS), random effects regression. The second is a pooled OLS regression with random effects and robust standard errors to control for potential heteroskedasticity in the error term. The third is a random effects panel regression, and the fourth is a fixed effects panel regression. The last regression is a fixed effects model that only controls for macroeconomic trends, and disregards any potential institutional impact. I suspect that the fixed effects panel regression is the most appropriate to use in this situation as there are likely to be omitted variables that are country specific and their effects are unobserved in a random effects model. The fixed effects model creates *n* different intercepts, one for each country where the intercept captures these unobserved variables that vary from country to country but do not change over time.

The specification under the fixed effects model becomes:

$$Y_{it} = \alpha_i + \beta_1 PR_{it} + \beta_2 Macro_{it} + \beta_3 Institutions_{it} + u_{it}$$

where α_i is the country specific intercept. This intercept can be thought of as the effect of being in a certain country *i.* The slope coefficients, β, are the same for all countries (Stock, Watson, 2006). I will discuss the appropriateness of the fixed effects in more detail later.

Results

Using a pooled OLS regression, I find that privatization revenues do not significantly impact the budget balance. Under this model, the variables that significantly affect the budget balance are GDP growth, unemployment, and the war time indicator. Complete regression results are reported in Table 2. The results in column one show that

a ten percent increase in GDP growth is associated with a .82 percent improvement in the budget balance. This appears to be consistent with the hypothesis of Barro(1979) that prosperous economic times will help improve the fiscal situation of a government. Similarly, a ten percent increase in the unemployment rate, an indicator of rough economic times, worsens the budget by .961 percent. The involvement of a country in war appears to worsen the budget by roughly 2.2 percent.

Although the values of the other coefficients are not statistically significant from zero, it is still important to note the sign in front of these coefficients. The coefficient in front of the population growth variable and the percentage of population above 65 years old variable are both negative. This lends some support to the hypothesis that larger and older populations lead to increased government spending, particularly due to increased social security expenditures (Shelton, 2007). The positive coefficient in front of the government fragmentation variable seems to suggest that increased fragmentation leads to an improvement in the budget balance which is contrary to what most academic literature concludes. Column 2 reports the results of a pooled OLS regression that uses a robust standard error. Under this model, the inflation rate and percentage of the population above 65 years old are now significant factors in explaining the fiscal budget balance.

Table 2

	(1) Pooled OLS	(2) Pooled OLS, robust	(3) Panel, re	(4) Panel, fe	(5) Panel, fe
VARIABLES	Deficit	Deficit	Deficit	Deficit	Deficit
Privatization Revenues	-0.0428	-0.0428	-0.148	-0.177*	-0.163
	(0.127)	(0.120)	(0.0988)	(0.100)	(0.0998)
GDP Growth	0.0793*	0.0793**	-0.00117	-0.0129	-0.0105
	(0.0434)	(0.0329)	(0.0346)	(0.0352)	(0.0346)
Unemployment Rate	-0.0965***	-0.0965**	-0.0583	-0.0280	-0.0179
	(0.0313)	(0.0441)	(0.0512)	(0.0618)	(0.0614)
Inflation Rate	0.00135	0.00135**	-0.000570	-0.000557	-8.80e-05
	(0.00164)	(0.000577)	(0.00125)	(0.00134)	(0.00132)
Population Growth	-0.152	-0.152	-0.178	-0.384	-0.400
	(0.322)	(0.437)	(0.331)	(0.365)	(0.362)
% of Population >65	-0.151	-0.151**	-0.0878	-0.00464	-0.0187
	(0.0935)	(0.0697)	(0.135)	(0.289)	(0.278)
Election	-0.0470	-0.0470	0.0233	0.0462	
	(0.497)	(0.415)	(0.358)	(0.356)	
Executive Control	0.135	0.135	-0.112	0.0561	
	(0.476)	(0.443)	(0.554)	(0.594)	
Government Fragmentation	0.856	0.856	-1.164	-1.493*	
	(0.858)	(0.945)	(0.779)	(0.802)	
War	-2.217***	-2.217***	-0.00190	0.427	
	(0.487)	(0.598)	(0.516)	(0.545)	
Constant	0.255	0.255	0.246	-0.897	-1.100
	(1.213)	(1.062)	(1.578)	(2.461)	(2.291)
Observations	367	367	367	367	367
R-squared	0.081	0.081		0.026	0.013
Number of Countries			47	47	47

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

However, a pooled OLS regression is not the ideal model to use when dealing with panel data. Serial correlation is particularly likely to arise in panel data. Serial correlation means that the error term, u_{it}, is correlated with itself across observations. It is particularly likely to occur if the omitted variables are country specific and persistent

(Stock, Watson, 2006). While I would like to think my model captures a lot of what makes a country unique, there are obviously omitted variables that could have been included that also contribute to the explanation of the budget balance. It is important to note that serial correlation does not create a bias in the OLS estimators, but it does violate a key assumption of the OLS model that all explanatory variables are independently and identically distributed. This results in incorrect standard errors that do not produce confidence intervals with the desired confidence level (Stock, Watson, 2006).

The results in column 3 are those of a random effects panel regression. Keeping in mind that the model likely suffers from omitted variable bias, we should not draw many conclusions from the result of this particular regression. None of the variables in this model provide a significant explanation for changes in the fiscal budget balance. If these omitted variables remain constant over time in a given country, then we can use a fixed effects model to capture their effect.

In the fixed effects model, privatization revenues have a significant and negative relationship with the budget balance. A look at column 4 of Table 2 shows that a ten percent increase in privatization revenues is associated with a 1.79 percent worsening of the central government's budget balance. This value is significant at the ten percent level. The other variable that significantly impacts the budget balance is the fragmentation of the government. Increasing the probability that two deputies picked at random will be of different parties by ten percent will result in a .15 percent worsening of the budget balance. This result seems to confirm the hypothesis that the presence of many political parties battling for political control will lead will lead to budget management problems (Roubini, Sachs, 1989; Alesina, Tabellini, 1990). The model is unable to confirm the

hypothesis that the budget balance is affected significantly by the performance of the macroeconomy. GDP growth, inflation rate and unemployment rate do not have a significant impact on the budget.

The fixed effects model is an attempt to deal with omitted variables that vary across countries but remain constant over time. However, it might be an improper assumption in this case to suppose that these omitted variables remain constant over time. The privatization process itself is associated with vast reforms in economic and institutional structuring. Many countries have to create new institutional framework to allow privatization programs to flourish. These changes include, amongst others: the introduction and enforcement of modern corporate law, shareholder rights, free market policies, liberalization of trade policy, and establishment of a legal code ensuring private property rights (McFaul, 1995; Young, 1998). The establishment of a proper institutional framework before the implementation improves the privatization program's probability of success. However, many countries did not make these reforms until the privatization process was already underway (Young, 1998, McFaul 1995). For many Eastern European countries and former Soviet Republics, these institutions were created from scratch and accompanied a large scale privatization effort. Although it is not included in the sample, the case of Russia is an appropriate example. Property rights and corporate governance in Russia were initially unresolved and led to a less successful result than seen in the privatization process of the Czech Republic where these institutions were constructed at the start of the program (Young, 1998).

The fixed effects assumption that the omitted variables that make a country unique are fixed over time is perhaps an incorrect supposition as many countries

implement institutional changes during the privatization process and the structure of the economy may also drastically changes as well. This is confirmed as all individual error terms, u_i, fail an F test, meaning that the error term is significantly different from 0. That being said, the model does still show that privatization revenues are associated with a worsening of the fiscal budget balance.

Only controlling for the macroeconomic variables of GDP growth, inflation rate, unemployment rate, and percentage of population older than 65, results in privatization revenues no longer being a significant predictor of the budget balance. In fact, none of the variables are significant. Column 5 reports the results of this regression. Although none of the variables significantly explain the fiscal budget balance, it is important to note that privatization revenues are incredibly close to being significant at the ten percent significance level. Once again, the fixed effects assumption might not be correct here as the individual error terms, u_i, are significantly different from zero.

Conclusion

Contrary to what some of the previous research found, an increase in the amount of privatization revenues is actually associated with a worsening of the contemporaneous fiscal budget balance. This conclusion needs to be qualified as there are many gaps in the data for the fiscal budget balance, and data for developing countries tends to be of poorer quality than the data available for high income countries (Shelton, 2007). Also, the assumption of the fixed effects model that the omitted variables captured by the "fixed effects" are time invariant might not be correct as the privatization process is associated with changes in institutional and economic structure, many of which occur during the

middle of the process (Young, 1998; McFaul; 1995). Government fragmentation is the other variable that significantly explains the budget balance. An increase in the level of fragmentation correlates with a worsening of the fiscal budget balance.

Although many governments in developing countries express their desire to improve their fiscal budget balance as justification for privatizing inefficient state owned enterprises, the privatization proceeds from the sale of these companies do not seem to have a positive impact on the fiscal budget in the short run. Revenues from the sale of state operated enterprises are often spent instead of being saved.

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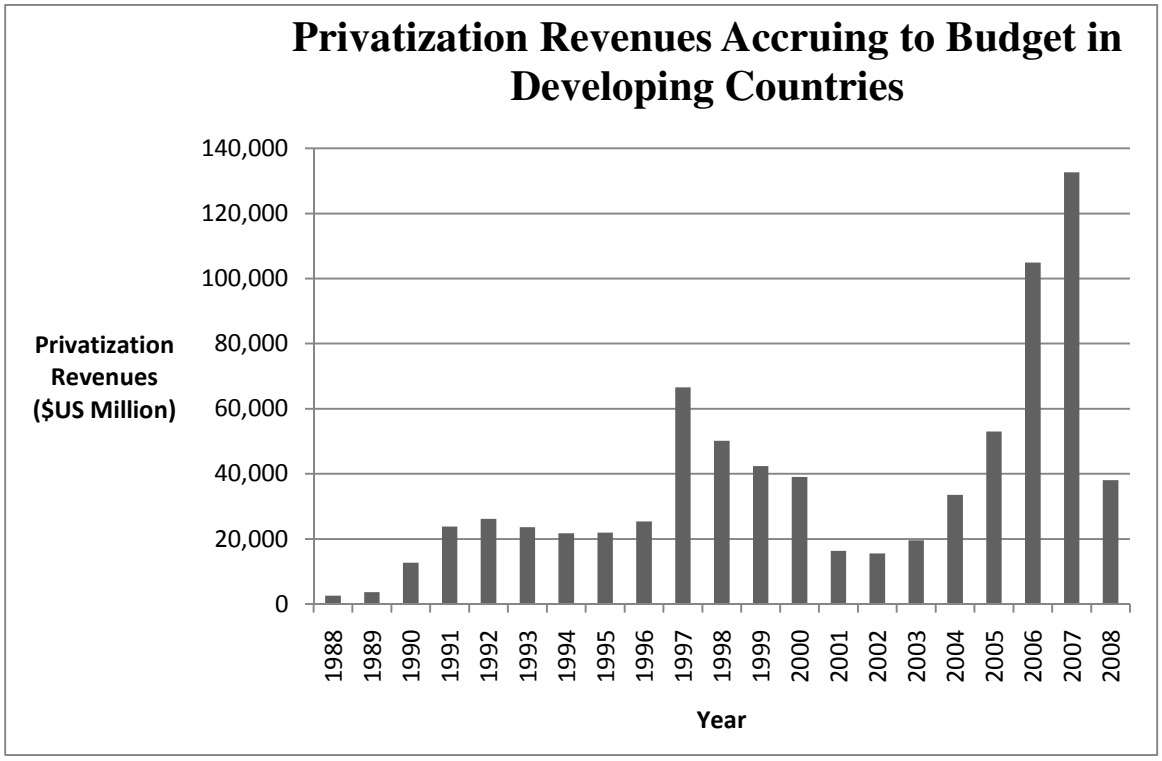
Appendix

Table 3



Source: World Bank Privatization Database

Sample Countries

Table 4

Country	Frequency	Country	Frequency
Argentina	3	Mexico	10
Belarus	7	Moldova	4
Bulgaria	2	Namibia	11
Burundi	1	Niger	2
Cameroon	5	Pakistan	15
Chile	8	Panama	12
Croatia	16	Peru	17
Czech Republic	15	Philippines	7
Egypt	15	Poland	8
El Salvador	7	Romania	1
Estonia	2	Senegal	3
Ghana	5	Slovakia	6
Guatemala	15	South Africa	9
Hungary	6	Sri Lanka	18
India	14	Thailand	5
Indonesia	4	Trinidad and Tobago	7
Jamaica	6	Turkey	3
Kenya	11	Uganda	10
Latvia	15	Ukraine	10
Lebanon	9	Uruguay	7
Lithuania	8	Venezuela	6
Macedonia	4	Yemen	3
Malaysia	5		
		Total	**367**