

# BUDGET DEFICIT VOLATILITY, INSTITUTIONAL QUALITY AND MACROECONOMIC PERFORMANCE

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This paper aims to investigate the relationship between budget deficit volatility and economic growth in a cross section of countries during the period between 2003 and 2012. In addition, it tests whether institutional quality has any role in the deficit volatility-economic growth relationship. This is done using a fixed-effects model, where budget deficit volatility and a measure for institutional quality, as well as their interaction term are incorporated as explanatory variables in a growth equation. Our preliminary results show that although budget deficit volatility hinders economic growth and better institutional quality enhances it, there is no evidence of the contingency effect of institutional quality on the relationship between government budget deficit volatility and economic growth.

*Key words:* Budget deficit, volatility, growth, institutional quality, fixed effects

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## INTRODUCTION

22 | Fiscal prudence is one of the essential pillars for the economic progress of an economy. The majority of countries have witnessed high and persistent levels of budget deficits over the past three decades. Despite the importance of such issue, the existing literature lacks sufficient work about the volatility of the government budget deficit. Most of the research work focuses on the level of budget deficit and its relation to government revenues, government expenditures and economic performance (Agnello and Sousa 2013). Rodrik (2005) emphasizes that both fiscal solvency and well-established property rights are considered to be important prerequisites for achieving rapid economic growth along with price stability and market oriented incentives. The verification of such prerequisites entails two views; the first assumes that rapid economic growth will be materialized once these prerequisites are achieved and the second requires proactive government policies to be implemented.

The influence of fiscal policy on macroeconomic performance can be channeled through the effect of budget deficits on both economic growth and the efficiency of resource utilization. Prudent management of the fiscal policy that guarantees low levels of budget deficits and public debt is a key pillar for achieving economic growth and prosperity. Moreover, low levels of budget deficits can help reduce the occurrence of economic crises and future risk of high and inconsistent levels of public debt (Clements, Gupta and Inchauste 2004).

The volatility of the government budget deficit and its economic impact can be thought of from two different sides; one is positive and the other is negative. On the positive side, budget deficit volatility is considered to be an optimal policy response to economic downturns, recessions and sudden economic shocks. It can be a consequence of using fiscal policy as a tool to counteract and smooth the economic fluctuations associated with external shocks. On the negative side, budget deficit volatility may cause an increase in the cost of financing debt, which then leads to financial burdens and loss of competitiveness of domestic firms. Moreover, such deficit volatility can make it hard for economic agents to expect the timing and magnitude of fiscal



policy and hence, causes misallocation of economic resources. In addition, budget deficit volatility can threaten the external sustainability of fiscal policy when it leads to an increase in the debt to GDP ratio or lead to a rise of domestic inflation (Agnello and Sousa 2013).

In tackling the link between the volatility of the government budget deficit and the intermediate effect of institutional quality on economic growth, the theoretical literature affirms that the link encompasses three different components. The first component emphasizes the importance of the institutional framework of the economy, which helps to guarantee the sustainability of good macroeconomic policies and hence, indicates that these policies will be permanent. The second component stresses on the costs of macroeconomic fragility. The latter may lead macroeconomic adjustments fail to counteract any possible adverse shocks. The third component shows that rapid growth targets do not only depend on the success of macroeconomic policies but the microeconomic setting of the economy such as the enforcement of property rights (Montiel and Servén 2006).

Moreover, integrating the effects of institutional quality and good governance in the economic growth process can be explained within the context of their influence on the efficiency of domestic investment. It is argued that with the presence of weak institutional framework of an economy, investors would tend to choose short-term businesses and avoid business innovation. This in turn, imposes high transaction costs that constrain market competition and optimal investment opportunities (Fabro and Aixala 2009).

Based on the relatively high budget deficits facing both developed and developing economies, and its potential adverse effects on both the capital accumulation process and long-term growth paths, the key questions for policymakers are: to what extent do changes in the government budget deficits and their volatilities impact economic growth. Instead of focusing only on the economic aspects related to the level of government budget deficit, the main purpose of our paper is to empirically quantify the impact of government budget deficit volatility on economic performance for a large group of countries. Furthermore, it tries



to investigate if there is any role for institutional factors in determining the direction and/or significance of the relationship. To the best of our knowledge, this paper is the first to investigate the econometric relationship between budget deficit volatility and economic performance for a large group of countries and to incorporate the possible intermediate effects of institutional quality on this relationship.

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In addition to the introduction and conclusion, this paper is organized into four main sections. The first section presents a review for theoretical and empirical literature tackling the relation between budget deficit or budget deficit volatility and economic performance on one hand, and the relation between institutional quality and economic growth on the other. The second section presents the data and empirical methodology employed. In the third section, we include some descriptive statistics for the variables of interest in our sample. Finally, the empirical results are discussed in the fourth section.

## LITERATURE REVIEW

Both the theoretical and empirical literature relevant to our paper can be divided into two main strands; first, studies focusing on the effects of budget deficit on economic growth, and second, studies focusing on the effects of institutional quality on economic growth. The literature on the effects of budget deficit volatility on economic performance is rare and lacks the intermediate channel that links and the two economic variables through institutional quality factors.

### *Budget Deficit and Economic Growth Nexus*

A considerable body of literature on the link between fiscal policy and macroeconomic performance confirms that budget deficits can have harmful effects on the growth pattern of an economy through different channels. High levels of budget deficit are expected to lead to high debt to GDP ratio, which threaten the fiscal sustainability of the government and impact future generations negatively. They can also lead to inefficient resource allocation, current deficits and crowding-out effects to the domestic



private sector. Moreover, in the absence of central bank independence, this can produce economic mismanagement to the price stability of the economy (Bangura et al. 2016).

In an attempt to address the political economy of fiscal deficits and volatility of fiscal outcomes, Woo (2006) attributes these fiscal policy outcomes to the presence of social polarization. Social polarization as measured by income inequality leads to growth hindering fiscal policies that manifest themselves in lower levels of capital accumulation, capital stocks and hence, growth collapses. In socially polarized economies, policymakers have their own short-run objectives that contradict the fulfillment of macroeconomic stability outcomes. This occurs because in such economies, policymakers may disagree on the composition of government spending that at the end would lead to a coordination failure and government spending levels that exceed what is socially optimal. In addition, shocks pertaining to government revenue levels would lead to more than proportional changes in government spending and in turn, further fiscal volatilities.

Starting with the empirical studies focusing on the link between budget deficit and economic growth, Brauninger (2005) presents an overlapping generations model in which the government fixes the budget deficit to examine the impact of public debt on economic growth. The model shows that both the public debt growth and capital debt growth depend on the deficit ratio. If the deficit ratio is below a critical value, the economy can reach two steady states depending on the debt to capital ratio. However, if the budget deficit exceeds the critical value, the economy cannot reach a steady state and the capital growth declines continuously and capital is driven to the value of zero in finite time. Osinubi, Dauda and Olalera (2010) carry out an empirical estimation for the Nigerian economy using time series econometric techniques for the period (1970–2003) to examine the effect of government budget deficit and other variables on the debt ratio. Specifically, it is found that both the type of the government budget (i.e. surplus or deficit) and the difference between real interest rate on debt and growth rate of GDP are the primary reasons behind the variations of debt ratio in Nigeria.



The study estimates a threshold ratio for the external debt ratio to be 60 percent of GDP, which discriminates between two different effects of debt ratio on economic growth. In particular, while low levels of debt ratio contribute positively to economic growth, high levels of debt ratio above the threshold value have negative effects on growth in Nigeria.

Azhar Khan, Zahir Khan and Zaman (2012) investigates the relationship between fiscal variables and economic growth in Pakistan during the period (1980–2010) using co-integration and Granger causality tests. Specifically, the impacts of government expenditures, government revenues and budget deficit on economic growth are examined. The results indicate that while both government expenditures and government budget deficit have adverse effects on economic growth, tax receipts affect real economic growth positively. Causality tests reveal that there is a unidirectional relationship from government revenues and budget deficit to economic growth and from economic growth to government expenditures for the case of Pakistan. Bui Van and Sudhipongpracha (2015) explore the effects of government budget deficit on economic growth for the Vietnamese economy during the period (1989–2011). The results fail to indicate an existence of a statistical significant relationship between government budget deficit and GDP. Other incorporated variables such as interest rate and FDI appear to affect economic growth significantly in Vietnam.

#### *Institutional Quality and Economic Growth Nexus*

Furthermore, the number of studies uncovering the nexus between institutional quality and economic growth is extensive. Economies that lack democratic institutions and suffer from bureaucracy and judicial corruption are less likely to achieve high levels of economic growth. It is demonstrated that countries with more than one aspect of institutional weaknesses are expected to suffer from economic growth traps (Teles 2007). It is well documented that bad macroeconomic outcomes can be attributed to weak institutions rather than only bad macroeconomic policies. Economies that are characterized as institutionally weak are more prone to economic crises, poor growth



performance and macroeconomic volatility as well. It is thus might be misleading to blame distortionary macroeconomic policies such as overvalued exchange rates and high inflation to be causing macroeconomic instability. These policies can only be the symptoms of existing microeconomic problems (Acemoglu et al. 2003).

As for the other strand focusing on the economic link between institutional quality and economic growth, Butkiewicz and Yanikkaya (2006) test if the maintenance of the rule of law and democratic institutions have a promoting effect on economic growth in a broad sample of 85 developing and 29 developed countries over the period (1970–1990). Using seemingly unrelated regression and/or three stage least squares technique, the results show that the maintenance of the overall rule of law has a significant positive impact on economic growth but fail to find a significant positive effect of the level of democracy on growth. Dividing the sample by income group shows that the rule of law measures have different effects based on the stage of development. Moreover, democracy appears to have statistically significant positive effect, which is specifically notable for developing countries.

In an attempt to investigate whether different economic institutions have different effects on economic growth, Nawaz (2015) employed both static fixed effects and dynamic system GMM on 56 countries between 1981 and 2010. Six different institutional quality indicators from the ICRG database along with the traditional control variables are used for that purpose. In line with other contributions in the literature, the estimation results show that both democratic accountability and investment profile have a larger growth promoting impact on developing countries compared to developed ones. On the other side, government stability, control over corruption, law and order and bureaucratic quality have greater impact on economic growth in developed countries. This implies that different countries at different stages of development should adopt different economic institutions for achieving long-term economic growth. Huang (2016) examines the causal relationship between corruption and economic growth using panel data techniques on an annual



basis for thirteen Asia-Pacific countries during the period (1997–2013). Employing the bootstrap panel Granger causality testing approach, it is evident that out of the thirteen countries, there is no significant unidirectional relationship from corruption to economic growth with the exception of South Korea. Moreover, the empirical evidence does not support the existence of a significant unidirectional relationship from economic growth to corruption except for China. On the other side, Farooq et al. (2013) finds evidence that corruption hinders economic growth for the economy of Pakistan for the period (1987–2009). They apply the autoregressive distributed lag model (ARDL) to investigate existence of a co-integration relationship between corruption, economic growth, trade openness, and financial development. The VECM Granger causality test indicates the feedback impact between corruption and economic growth such that the former is detrimental for the latter.

Kandil (2009) employ cross-country regressions to examine the nexus between institutional quality and economic performance in 16 MENA countries using the corruption perception index and five separate governance indicators presented by Kaufmann et al. (2005). Aspects of macroeconomic performance analyzed include inflation, exports, private credit, private investment, FDI and real GDP. Evidence suggests that five measures of institutional quality affect economic growth positively in the MENA region. However, it is found that both the growth of private credit and private investment are affected negatively by institutional quality. Furthermore, findings do not support that enhancing institutional quality is an essential prerequisite for FDI inflows in the MENA region. Nawaz, Iqbal and Khan (2014) develop a theoretical model in which rent seeking activities decrease when institutional quality improves in an economy, which also leads to a rise in income. The study then performs an empirical model on 35 Asian countries between 1996 and 2012 to check for the validity of the theoretical model by constructing a composite institutional quality index. The index uses the same six indicators used in Nawaz (2015) and is constructed by employing principal component analysis. Using fixed effects and system GMM estimation techniques, it is





evident that institutions have an important role in determining long-term economic growth and that the estimated impact is larger in developed Asia compared to developing Asia.

Combining the dual economic effects of both budget deficit and institutional quality, Cebual (2013) empirically examines the impact of central budget deficit and economic freedom in OECD countries over the period (2003–2008). The study employs panel 2SLS fixed effects techniques and suggests a crowding out effect of the central budget deficit on real per capita growth rate. Accordingly, higher levels of budget deficit to GDP ratio weaken economic growth in the in the OECD countries. On the contrary, economic freedom which is measured by eight indices developed by the Heritage Foundation is found to have a positive significant effect on economic growth in these countries.

In light of the above presented literature, it appears that there exists a gap in the literature tackling the economic performance effects of budget deficit volatility. Most of the research work focuses on the economic effects of budget deficit level. In addition, contingency effects of institutional quality in the deficit volatility-growth link is missed in the literature

## DATA AND METHODOLOGY

The main objective of this paper is to examine the impact of budget deficit volatility on economic growth, and whether institutional quality affects the budget deficit volatility-growth nexus. Towards achieving this objective, a panel regression is estimated for a sample of about 152 countries during the period (2003–2012)<sup>3</sup>, since the modern growth literature has focused mainly on a common specification, which is cross-countries regression. Moreover, studies of the institutional determinants of growth have widely used the same technique. The econometric specification includes the following main determinants of the annual growth rate of real GDP per capita, which are among the

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3 The main reason behind choosing this sample is data availability.



most robust determinants of growth that are used in literature: population growth, school enrollment, investment ratio to GDP, inflation and a measure of openness to trade. Depending on the purpose of the empirical analysis, budget deficit volatility and a measure for institutional quality are incorporated as additional explanatory variables. To examine how institutional quality affects the volatility-growth nexus, the growth regression is complemented with an interaction term defined as the product of budget deficit volatility and the measure of institutional quality. Thus, our model has the following specification:

$$Growth_{it} = \beta_0 + \beta_1 volatility_{it} + \beta_2 inst.quality_{it} + \beta_3 volatility_{it} * inst.quality_{it} + \beta_4 X_{it} + \varepsilon_{it}$$

Where:

$Growth_{it}$ : annual growth rate of real per capita GDP for country  $i$  at time  $t$ .

$Volatility_{it}$ : budget deficit volatility measured by the absolute difference between the budget deficit for country  $i$  at time  $t$  and the mean of the budget deficit for country  $i$  during the period (2003- 2012).

$Inst.quality_{it}$ : a measure for institutional quality for country  $i$  at time  $t$ .

$Volatility*inst.quality_{it}$ : an interaction term between budget deficit volatility and institutional quality for country  $i$  at time  $t$ .

$X_{it}$ : a vector of explanatory variables for country  $i$  at time  $t$ , which includes the well-known and most robust - according to previous literature - determinants of economic growth mentioned above.

$\varepsilon_{it}$ : the error term for country  $i$  at time  $t$ .

$\beta_j$ : the parameters to be estimated.

The above equation is estimated using fixed effects, which according to the results of Hausman test, appears to give more consistent estimators than the random effects.

As for the data sources, the data for budget deficit are collected from the IFS database provided by the IMF. Both the primary budget balance variable and net lending/borrowing variable provided by the IMF-IFS are used. In addition, we rely on



the World Bank governance indicators to measure institutional quality. These indicators range from  $-2.5$  to  $+2.5$ , with higher values reflecting better governance. For economic data, they are collected from the World Development indicators database of the World Bank and UN statistics. Data sources and definitions are listed in Table 1 in the appendix, and summary statistics of variables used in the model are presented in Table 2 in the appendix.

## RESULTS AND ANALYSIS

Table 3 displays three empirical models designed to test our hypothesis using different variables of institutional quality. The primary budget balance is mainly used to calculate budget deficit volatility. In column (1), the model specification relies on political stability and absence of violence to account for institutional quality, and in columns (2) and (3), voice and accountability and control of corruption variables are used, respectively<sup>4</sup>. The results of the three models show that budget deficit volatility is significantly related to growth. The negative coefficient for budget deficit volatility indicates that, as the level of volatility increases by one unit, countries tend to experience lower levels of growth by about 0.1 percentage points. This result indicates that more budget deficit volatility hampers economic growth in our sample. Furthermore, all the results show that better institutional quality is associated with more economic growth, since the coefficients of the three variables of institutional quality are positive and statistically significant at the 5 percent significance level. This result goes in line with literature that supports the argument that institutions are important determinants of economic growth. Moreover, the interaction term between budget deficit volatility and institutional quality shows no significant effect on economic growth, in all of the three models. This im-

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4 We also included the other variables of World Bank Governance Indicators (rule of law, government effectiveness, and regulatory quality), yet they turned to be insignificant. These results were not included for brevity.



plies that the impact of budget deficit volatility on growth does not depend on the level of institutional quality and hence, in our sample, contingency effects are absent. As for the coefficients of other control variables, most of them are significant and have the expected signs. While investment and trade openness variables are positive and significant determinants to economic growth, population growth is negatively affecting it. Both schooling and inflation show statistically insignificant impact on economic growth in our sample.

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As a robustness check, the previous three models of table 3 were re-estimated, relying on the net lending/borrowing variable to calculate the budget deficit volatility. The results of these models are presented in table 4 in the appendix. The table shows that results remain the same as in table 3. Budget deficit volatility is significantly and negatively linked to growth rate of real GDP per capita, but the magnitude of the effect is weaker. In addition, institutional quality has a positive significant impact on growth. The interaction term in all models is statistically insignificant. The results of the other control variables remain the same as in table 3, as the coefficients of the control variables have the same sign, significance and even magnitude.

## CONCLUSION

This empirical paper tries to investigate the impact of budget deficit volatility on economic growth and whether institutional quality has a role in this relationship. To this end, a fixed effects panel data model is estimated for 152 countries during the period (2003-2012). Budget deficit volatility and institutional quality are included as explanatory variables in a growth equation, as well as an interaction term between volatility and institutional quality variables to examine whether the impact of budget deficit volatility on growth depends on the level of institutional quality.

Our empirical results indicate that budget deficit volatility and institutional quality have significant, but opposite, effects on economic growth. While more budget deficit volatility is harmful for economic growth, better institutional quality



enhances it. However, there is no evidence of the contingency effect of institutional quality on the relationship between government budget deficit volatility and economic growth. Nevertheless, these results should be interpreted with caution, due to some limitations that the model suffers from. First, the time period chosen for analysis is relatively short that does not allow showing much volatility in the government budget deficit. In addition, endogeneity of budget deficit volatility and/or institutional quality could be one possible problem. Finally, dynamic panel data models could result in more concrete results. Avoiding such limitations could be an area for future research work.

Finally, since the empirical results indicate that budget deficit volatility is detrimental to economic growth, governments should work on avoiding the adoption of unsustainable fiscal policies that worsen the fiscal position of the country and increases the volatility and fluctuations of government budget deficit. Furthermore, it is important to implement economic policies that encourage private investment and help in pursuing higher levels of institutional quality to spur economic growth.



## APPENDIX

Table 1: *Variables Definitions*

<b>Variable</b>	<b>Definition</b>	<b>Source</b>
GDP Per Capita Growth	Annual percentage growth rate of GDP per capita based on constant local currency. Aggregates are based on constant 2010 U.S. dollars. GDP per capita is gross domestic product divided by mid-year population.	World Bank Development Indicators (WDI)
Investment	Gross capital formation as a percentage of gross domestic product (GDP)	UN Statistics
Trade Openness	Trade is the sum of exports and imports of goods and services measured as a share of gross domestic product.	World Bank Development Indicators (WDI)
Population Growth	Annual population growth rate for year t is the exponential rate of growth of midyear population from year t-1 to t, expressed as a percentage. Population is based on the de facto definition of population, which counts all residents regardless of legal status or citizenship.	World Bank Development Indicators (WDI)
School Enrolment	Gross enrollment ratio is the ratio of total enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. Primary education provides children with basic reading, writing, and mathematics skills along with an elementary understanding of such subjects as history, geography, natural science, social science, art, and music.	World Bank Development Indicators (WDI)
Inflation Rate	Inflation as measured by the consumer price index reflects the annual percentage change in the cost to the average consumer of acquiring a basket of goods and services that may be fixed or changed at specified intervals, such as yearly. The Laspeyres formula is generally used.	World Bank Development Indicators (WDI)



Net Lending/ Borrowing	Net lending/borrowing equals the net operating balance minus the net acquisition of nonfinancial assets. It is also equal to the net acquisition of financial assets minus the net incurrence of liabilities.	IFS - IMF
Primary Budget Balance	Overall fiscal balance plus net interest expense.	IFS - IMF
Control of Corruption	Control of corruption captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as “capture” of the state by elites and private interests.	World Bank Governance Indicators (WBGi)
Political Stability	Political Stability and Absence of Violence/Terrorism measures perceptions of the likelihood of political instability and/or politically motivated violence, including terrorism.	World Bank Governance Indicators (WBGi)
Voice and Accountability	Voice and accountability captures perceptions of the extent to which a country’s citizens are able to participate in selecting their government, as well as freedom of expression, freedom of association, and a free media.	World Bank Governance Indicators (WBGi)

Table 2: Summary Statistics

<b>Variable</b>	<b>Observations</b>	<b>Mean</b>	<b>Standard Deviation</b>	<b>Minimum</b>	<b>Maximum</b>
Real GDP per capita growth	1650	2.617909	4.044492	-15.15	18.49
Investment	1643	24.96822	8.553715	4.013206	67.91053
Trade Openness	1574	90.22276	48.03298	0.3088029	439.6567
Population Growth	1659	1.486902	1.703974	-2.63	17.62
School Enrolment	1375	103.5021	13.41318	38.37222	164.8584
Inflation	1567	6.071672	6.61897	-35.84	98.22
Net Lending/ Borrowing	1660	-1.306196	5.949194	-32.129	43
Primary Budget Balance	1658	0.3007907	5.420049	-29.81	40
Budget Deficit Volatility   net lending/ borrowing deficit – mean deficit	1660	2.383126	2.83999	0.0091	38.117
Budget Deficit Volatility   primary deficit – mean deficit	1658	2.349362	2.778705	0.0057	37.9595
Control of Corruption	1655	0.0023807	0.9858796	-1.82	2.56
Political Stability	1657	-0.0264031	0.9362411	-2.81	1.66
Voice and Accountability	1660	0.0166687	0.9536684	-2.29	1.83



Table 3: Fixed Effects Estimation Results for Growth Equation using Primary Budget Balance variable

VARIABLES	DEPENDANT VARIABLE Real GDP per Capita Growth		
	(1)	(2)	(3)
<b>Budget Deficit Volatility</b>	-0.101** (0.0413)	-0.0968** (0.0429)	-0.0918** (0.0417)
<b>Institutional Quality:</b>			
<i>Political Stability</i>	1.373*** (0.457)		
<i>Voice and accountability</i>		1.559** (0.730)	
<i>Control of corruption</i>			1.543** (0.642)
<b>Budget Deficit Volatility*Institutional Quality</b>	0.0644 (0.0559)	-0.0391 (0.0474)	-0.0107 (0.0445)
<b>Investment</b>	0.0928*** (0.0224)	0.0966*** (0.0225)	0.0924*** (0.0226)
<b>Trade Openness</b>	0.0226*** (0.00873)	0.0224** (0.00877)	0.0225** (0.00877)
<b>Population Growth</b>	-0.962*** (0.234)	-0.969*** (0.234)	-0.963*** (0.235)
<b>School Enrolment</b>	-0.0189 (0.0187)	-0.0209 (0.0187)	-0.0168 (0.0188)
<b>Inflation</b>	-0.0214 (0.0228)	-0.0277 (0.0228)	-0.0260 (0.0227)
<b>Constant</b>	2.084 (2.053)	2.146 (2.052)	1.812 (2.056)
<i>Observations</i>	<b>1,287</b>	<b>1,287</b>	<b>1,287</b>
<i>R<sup>2</sup></i>	<b>0.056</b>	<b>0.049</b>	<b>0.049</b>
<i>Number of countries</i>	<b>152</b>	<b>152</b>	<b>152</b>
Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1			

Table 4: Fixed Effects Estimation Results for Growth Equation using Net Lending/Borrowing Variable

VARIABLES	DEPENDANT VARIABLE Real GDP per Capita Growth		
	(1)	(2)	(3)
<b>Budget Deficit Volatility</b>	-0.0840** (0.0409)	-0.0751* (0.0420)	-0.0726* (0.0409)
<b>Institutional Quality:</b>			
<i>Political Stability</i>	1.371*** (0.455)		
<i>Voice and accountability</i>		1.545** (0.727)	
<i>Control of corruption</i>			1.521** (0.640)
<b>Budget Deficit Volatility*Institutional Quality</b>	0.0668 (0.0545)	-0.0292 (0.0467)	-0.0116 (0.0436)
<b>Investment</b>	0.0935*** (0.0224)	0.0974*** (0.0225)	0.0932*** (0.0226)
<b>Trade Openness</b>	0.0226*** (0.00873)	0.0224** (0.00877)	0.0226*** (0.00877)
<b>Population Growth</b>	-0.965*** (0.234)	-0.975*** (0.235)	-0.971*** (0.235)
<b>School Enrolment</b>	-0.0193 (0.0187)	-0.0213 (0.0187)	-0.0171 (0.0187)
<b>Inflation</b>	-0.0221 (0.0227)	-0.0280 (0.0227)	-0.0268 (0.0227)
<b>Constant</b>	2.075 (2.051)	2.128 (2.051)	1.791 (2.055)
<i>Observations</i>	<b>1,289</b>	<b>1,289</b>	<b>1,289</b>
<i>R<sup>2</sup></i>	<b>0.055</b>	<b>0.047</b>	<b>0.048</b>
<i>Number of countries</i>	<b>152</b>	<b>152</b>	<b>152</b>
Standard errors in parentheses, *** p<0.01, ** p<0.05, * p<0.1			

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