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The Role of Political and Economic Institutions in Public Finance and Growth

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Introduction:

There is a significant amount of research suggesting a relationship between foreign investment and economic growth in Lesser Developed Countries (LDCs). Most of this literature examines the effect of Foreign Direct Investment (FDI) on GDP per Capita growth. Rather than looking at private sector investment, this paper will focus on investment into the public sector. We will look at public investment through the financing of the government by the foreign purchase of state bonds. Specifically, we are interested in examining the economic effects of financing the governments of LDCs through the external state debt. Looking at external state debt will allow us to analyze sovereign debt as a channel for capital to move into the country's public sector. As such, we theorize that the financing of poor governments through the public and private foreign purchase of state debt can affect economic growth in LDCs differently depending on their political and economic institutions.

There is a strong body of research that indicates that the ability for foreign investments to foster growth in a developing country depends on its governance institutions. This appears to be particularly relevant given that the focus of this study will be on public finance. As indicated by *Global Foreign Direct Investment Flows*:*The Role of Governance Infrastructure*, governing institutions appear to have a strong influence on the ability for FDI to inspire economic growth in LDCs [Globerman and Shapiro 2002]. By extension, we believe

that this may mean that foreign investments, including foreign investment into the state via sovereign debt, are hampered by poor institutions, leading to the inability to translate capital inflow into economic development.

This study will examine the economic growth effects of sovereign debt given the context of long-term institutional development in LDCs. This research deviates from the existing body of literature in several ways. First, this work will focus on sovereign debt as an instrument for capital inflows into LDCs, similar to FDI. Second, this study will attempt to identify political and economic institutions as an explanatory variable for why the financing of the state is unable to achieve growth in many cases. Finally, we will attempt to draw a connection between the current status of a public finance system and the historical conditions through which governance institutions were created in LDCs.

Literature Review:

Since this research will look at external debt as a method of financing public goods comparable to other forms of foreign investment, we will look at studies that frame the relationship between FDI and economic growth. Existing literature on FDI and GDP growth shows that the basic production function $Y=f(K,L)$ is a good basis for modeling growth and estimating the positive effects of investment. However, it is also evident that the magnitude of the positive effect on GDP growth is highly dependent on the country being analyzed, indicating that there are additional variables that must be controlled for.

There is some consensus in the literature that external debt has the capacity to hamper economic development in LDCs. The two channels are debt overhang and crowding out. The debt overhang hypothesis describes a situation when the presence of debt has a dampening effect on a country's long term investments and factor productivity due to the state's expected repayment on external debt falling below the contractual

value of the debt. For example, potential investors may lower their expectations for returns on their investments within a country because governments with large amounts of debt tend to engage in distortionary measures such as currency devaluation and fiscal policy to service the debt. Since this discourages long-term investments and slows capital stock accumulation, the debt overhang hypothesis would be reflected in the value of the debt sock expressed as a percentage of GDP.Crowding out effects occur when the servicing of state debt increases the government's budget deficit and interest payments, resulting in a rise in the long-term interest rate and a crowding out of the credit available for private investment.

Other studies into the field may show that governance institutions such as rule of law and protection from corruption are the reason why some countries can better utilize investments than others. Globerman and Shapiro show that countries with better developed governance infrastructure can navigate investments better than countries with less governance infrastructure. Governance infrastructure was estimated in the study through six institutional indices as measured by Kaufmann et al. The indices describe various political and economic institutions such as political stability, rule of law, regulatory burdens, political freedom, and government effectiveness.

Finally, a pivotal study by Acemoglu et al. revealed that political and economic institutions can be observed through an instrumental variable rather than estimated and calculated with an index [Acemoglu et al. 2001]. This study finds a strong and significant relationship between historical colonization and the strength of current governance institutions in LDCs. The findings of the study indicate that counties that were colonized for the expropriation of resources had, and consequently have, lesser developed institutions than countries that were colonized for settlement. Acemoglu's model also finds that the mortality rate for colonists serves as a

powerful instrument for measuring the degree of colonization, and by extension the strength of institutions. These results show that colonial mortality rates are a strong predictor of contemporary economic performance as a result of the institutions embedded in the country. This means that colonial mortality rates could be an effective instrumental variable in measuring whether governance institutions affect a country's ability to turn foreign investment into economic growth.

The Dependant Variable:

We measure the dependent variable for growth in real GDP annual percentage growth. GDP annual percentage growth comes from the World Development Indicator Database at the World Bank with a timeframe from 1996 to the present. The Wamboye study that this model is based upon uses the natural log of GDP; however, since the annual change in GDP may be negative in many cases, some of the data is dropped to zero by using the log form. As such, this study runs each model once using GDP and once using the natural log of GDP. The advantage of using the log of GDP is more linear data, while the advantage to using standard GDP is more data with no dropped points, and it avoids the upward skew caused by turning negative growth rates to zero.

Variables of Interest:

The primary variable of interest will be net flows on external debt, public and publicly guaranteed (PPG), measured as a percentage of GDP. This variable measures the amount of money flowing into the government via sovereign bonds from foreign debtors, and does not distinguish between whether the foreign investors are public or private entities. This variable will be included both in a standard and quadratic form,

because the literature firmly suggests that under the quadratic specification, the data adheres more closely to the theoretical suggestions that debt is beneficial at low levels and disadvantageous at high levels, following an inverted U-relationship. Furthermore, we will include external debt PPG stock expressed as a percentage of GDP in order to capture the effects of the debt overhang hypothesis as explained above. This will also allow us to examine the trend suggested by the literature whereby the marginal effect of external debt stocks on the economy becomes irrelevant between some interval percentages of GDP— around 70-80% according to Cordella, Ricci and Ruiz-Arranz (2005).

Control Variables:

Most of the control variables in this approach are adapted from the framework used by Wamboye (2012) and identified by Sala-i-Martin et al (2004) to have strong explanatory power in the economic growth regression. These core variables are human capital, trade openness (FDI), general government consumption share, net official development assistance, gross fixed capital formation, population growth, and regional dummies. The remaining variables are controls for our institutional hypothesis, which are colonial mortality rate, and six indices for each of the following: Voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. These variables are further explained below.

Trade openness is controlled by the net FDI flow as a percentage of GDP variable, measured as the balance of payments in current US dollars. We use FDI flow as a proportion of GDP because this is a better estimator of trade openness than aggregate FDI or FDI flows. This flow is expected to have a positive coefficient, as economies that are more liberalized do tend to have stronger economic growth trends by

increasing the competitiveness and efficiency of many sectors of the economy as well as improving productive efficiency in the domestic market.

Net official development assistance (ODA) as a share of GDP is the variable that controls for foreign aid. The coefficient on this variable is probably dependant on the country, and the body of research on development assistance yields no certainty on whether it is beneficial or detrimental for achieving economic growth. However, it appears that the debt overhang effect may be exacerbated in the presence of low ODA flow (Patillo, Poirson and Ricci, 2004).

The Human Development Index (HDI) is the measurement for the human capital for a country. This variable is expected to have a high explanatory power for the economic growth regression, and it is expected to have a strong positive coefficient. Physical capital will be proxied by the Gross Fixed Capital Formation as a percentage of GDP variable. This flow will control for physical capital growth, and is measured as a proportion of GDP because it scales the development of physical capital more meaningfully than the aggregate figure. This variable is also expected to have a strong positive effect on economic growth.

A population growth variable is used as a proxy for the rate of growth of labor. This variable is expected to have a negative effect on economic growth.

Government consumption expenditure as a percentage of GDP is the control variable that will account for government action. Government consumption can stimulate aggregate demand in the Keynesian model, and would therefore be expected to have a positive effect on growth. However, the effect of this variable is expected to be correlated with the governance indices since states with stronger governing institutions are

better able to contribute to economic growth through public policy, and is less hindered by corruption. As such, this variable may present a multicollinearity limitation.

Colonial mortality rate, measured in deaths per thousand colonists during the period of occupation, is the control variable that is to be adapted from the theory presented by Acemoglu (2001). As indicated by Acemoglu, colonial mortality rates are a strong instrumental variable for governance institutions. This variable is expected to have a negative effect on growth, since high mortality rates were shown to have lead to the introduction of oppressive institutions that hinder development rather than protective institutions that support growth. This variable is advantageous over other variables that reflect institutions since it is observed data rather than estimated or calculated as in the other governance indices. This reduces measurement bias. Furthermore, it allows us to look at development in a long-run, historical context.

The other institutional indices are from adopted from the Kaufmann, Kraay Zoido-Lobton (1999) work. These will be six variable, each reflecting data from each of six indices developed by the study. The variables are as follows: Voice and Accountability, Political Stability and Absence of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption. Each variable is an index with a value between -2.5 and 2.5 that measures the strength of each respective institution. It is expected that all indicators will have a positive effect on economic growth. However, the indicators for Government Effectiveness and Control of Corruption are theorized to be particularly significant since they are directly related to a government's ability to stimulate growth through the funds invested in it through external debt. It should be noted that there are several gaps in the Kaufmann data, because in the early years of data collection, indices were only calculated biennially. To remedy this, missing data was replaced with the value of the next

year's index. This may present a limitation in our results because it skews the data and will tend to overestimate the value of the index.

Dummy variables will include a regional indicator to account for implicit differences. Furthermore, the literature suggests that there must be a dummy variable accounting for landlocked countries, as they follow a different growth path arising from their condition.

Mortality data comes from Daron Acemoglu's disbursement of information through MIT. Institutional index vector data comes from data made available through the Kaufmann study. All other data comes from the World Bank Database. Data from 163 countries is used, including LDCs and OECD countries. The timeframe of the data is limited by the availability of governance indices, which are bounded by the beginning of the Kaufmann data. As such, the timeframe will be from 1996-2013.

It should be noted that most of the observed variables represent annual change, such as net ODA and net FDI. However, data that comes from indices, including HDI, mortality rate, and the Kauffman indices, are not flow figures. Index data is reported in stock figures because they are reported in absolutes, unlike all of the other variables, including the dependent variable, which are represented as percentages. Additionally, measuring these variables as annual changes would introduce even more error because of the gaps in the Kaufmann data.

The Model:

The model will follow the System GMM (SGMM) approach of Arellano and Bover (1995). This model is used to control for the endogeneity bias, measurement bias, unobserved country fixed effects and omitted variables.

Endogeneity may be a problem because of the inherent relationship between growth determinants such as debt, investment and human capital variables.

The baseline regression specification will be as follows:

$$Y = \beta_0 + \beta_1 EDEBT + \beta_2 EDEBT2 + \beta_3 EDEBTSTOCK + \beta 4 FDI + \beta_5 ODA + \beta_6 HDI + \beta_7 GCE + \beta_8 PopG + \beta_9 GFCF + \beta_{10} Mortality4 + \beta_{11} Acc + \beta_{12} PolStab + \beta_{13} GovEffect + \beta_{14} RegQual + \beta_{15} RuleLaw + \beta_{16} Corruption + \beta_i Dummies$$

Variable summaries are indicated in Table A as follows:

Table A:

Variable	**Mean (Std. Dev.)**	**Min**	**Max**
External Debt PPG as a percentage of GDP	1.595791 (3.053905)	-35.27828	36.18544
Square of External Debt PPG as a percentage of GDP	11.8689 (49.34921)	0	1309.386
External Debt Stock PPG as a percentage of GDP	41.42705 (42.9326)	.6707434	690.8356
Square of External Debt Stock PPG as a percentage of GDP	3558.622 (14118.6)	.4498967	477253.9
HDI	.5762077 (.1402274)	.262	.818
Net FDI flow	4.541425 (6.839941)	-82.8921	91.00733
Net ODA Flow	6.835 (10.06)	-2.611	181.18
GCE	6.495248 (30.82462)	-77.18117	830.9091
GFCF	23.33847 (8.89156)	-2.424358	79.34938

Population Growth	1.686484 (1.162636)	-2.628656	10.25848
Accountability Index	-.4415167 (.769158)	-2.233453	1.246137
Corruption Index	-.5271092 (.5600497)	-1.924046	1.249671
Government Effectiveness index	-.5034802 (.6015181)	-2.450037	1.24741
Political Stability index	-.4573234 (.874328)	-3.323905	1.41685
Regulatory Quality index	-.4726111 (.6692692)	-2.675439	1.310162
Rule of Law index	-.5658095 (.64763)	-2.668873	1.083335
Log of colonial mortality rates per thousand.	4.919669 (1.085874)	2.433613	7.986165
Log of GDP Growth	1.072128 (1.020736)	-8.028756	4.518227
1 year lagged Log of GDP Growth	1.078717 (1.0324)	-8.028756	4.518227

Where: *Y* is annual *GDP* per capita growth from the World Bank Database, *EDEBT* is Net External debt flow PPG, *EDEBT2* is the quadratic form of Net External Debt flow PPG, EDEBTSTOCK is External Debt Stock PPG as a percentage of GDP *FDI* is net FDI flow as a percentage of GDP, *ODA* is Net Official Development Assistance flow as a proportion of GDP, *HDI* is Human Development Index, *GCE* is Government Consumption Expenditure flow as a percentage of GDP, *PopG* is population growth rate, *GFCF* is gross fixed capital formation as a percentage of GDP, *Mortality4* is the natural log of colonial mortality rate (per thousand), *Account* is the Government Accountability Index, *PolStab* is he Political Stability index, *GovEffect* is the Government Effectiveness index, *RegQual* is the Regulatory Quality index, *RuleLaw* is the Rule of Law index, *Corruption* is the Corruption Control indicator, *Dummies* is the set of regional dummy variables for Sub Saharan Africa, South Asia, Latin America, the Middle East, and North America.

Analysis:

Results of the baseline regression are displayed in specification 1 Table of B. For this, a random effects model was used so that we could include all variables that remained constant over time such as *Mortality Rate* and the dummy variables. This random effects model is unable to control for omitted country variables, but may be significant because the data is aggregated across all countries, allowing for a wider data pool.

The baseline regression yields a relatively low R-Squared at only .19. Furthermore, only a handful of the variables were marked for statistical significance at the 10% level. All of the variables of interest were found to have very small and statistically insignificant effects. However, *Squared External Debt Stock* was found to have a positive and statistically significant effect on the log of GDP growth. However, this effect is noted to be exceptionally small. Interestingly, *External Debt Stock* in its standard form is found to have a negative,

insignificant effect on GDP growth. This is consistent with the hypothesis that the relationship between debt stocks and growth follows a non-linear, quadratic form. The U-shaped relationship between debt stocks found in this model is consistent with the results of the Wamboye paper, yet is opposite from the Patillo et al. paper which found an inverted U-shaped relationship. This suggests that GDP growth flourishes in high and low quantities of debt flow and debt stock. These relationships can be seen in Graph A and Graph B.

The variable with the strongest and most significant effects is the GDP lag, predictably showing that the most obvious estimator of growth is a country's previous growth record. Other significant variables include *GFCF*, *GCE* and regional dummies for Sub-Saharan Africa and the Middle East.

Specification 2 in Table B shows the fixed effects model which excludes *Mortality Rate* and all regional dummy variables. This model reported a lower R-squared at only .079, with even fewer statistically significant results. Interestingly, this model showed statistical significance to the 1% level for the Political Stability index; however, the negative coefficient goes against any theoretical explanation for the result.

The fixed effect and random effect regressions were performed again using GDP growth rather than the natural log of GDP growth as in the standard baseline model. This model was run because there are many negative values for GDP growth that would be dropped to zero using the natural log model; the cost of using standard GDP is less linear data. Interestingly, these results appeared to be more significant and predictable than the previous model. The fixed effects regression shown in specification 2 of Table C is shown to have statistically significant figures for both the standard and squared forms of external debt stocks.

The random effects model yielded an R-squared of .36. In addition to many control variables such as FDI and ODA having strong statistical significance, *Mortality* was found to be statistically significant at the 5%

level. This could confirm that the instrumental variable is a stronger estimator than the measured indices which did not yield significance. However, the positive coefficient is antithetical to the Acemoglu thesis that warranted its inclusion in the variables.

Finally, to determine whether the fixed effects or random effects regression is more efficient, I employ a Hausman test. Hausman test results for both the standard GDP and log GDP specifications indicate a large and significant Hausman statistic and a p-value approaching zero. This indicates that the fixed effects model is more efficient. Thus, while the random effects model is useful for examining the effects of the dummy variables, the results are significantly less efficient than the fixed-effects model and the SGMM.

System GMM:

Results of the SGMM model were generally consistent with the fixed effects model. Sargan test outcomes indicated that the results were not robust. However, since this study uses panel data with a large number of cases, we can move forward. The large number of countries in the panel embeds over-identifying restrictions into the longitudinal data. As such, the poor result of Sargan test does not necessarily indicate that the instrumental variables are weak, and the SGMM model is still appropriate.

This model again suggests that *Squared External Debt Stock* is statistically significant, yet the magnitude is miniscule. Governance indicators were found to have statistically insignificant effects upon growth. In general, all significant results of this model were consistent with expectations. Full results are shown on Table D.

The SGMM model was run again using GDP growth without using the natural log, and as predicted by earlier regressions, the results were more significant than when using the log of GDP which was used in most of the literature. This model is particularly interesting because of the significance of *Squared External Debt Flow*,

External Debt Stock, and *Squared External Debt Flow*. *Squared External Debt Flow* and *Squared External Debt Stock* each have significant but small positive effects on *GDP Growth*. Conversely, *External Debt Stock* is shown to have a larger and significant negative effect.

These results are consistent with the hypothesis of the Wamboye paper that this model is framed upon. The effects of debt are found to be stronger than those shown by Wamboye; however, significance is not at the 1% level for all of the variables, and as such it can be implied that better data is needed to reduce bias. The debt flow and stock results together seem to confirm the debt overhang hypothesis that debt has different effects at different levels. It also seems consistent with the non-linear, quadratic relationships suggested. However, it is unclear exactly at what level the effect of debt changes from negative to positive.

Conclusion:

In conclusion, this study builds upon the model developed by Evelyn Wamboye to estimate the effect of external debt on economic growth using the debt overhang hypothesis, adding in external debt flow and political institutions as additional control variables. Data used in this study spans from 1996 to 2013, and used a fixed effects estimation as well as the Arellano-Bond SGMM estimation technique to control for endogeneity bias, country fixed effects, and omitted variables bias; the SGMM model proved to be more effective at estimating the relationships between debt and economic growth. The data and models present a few notable limitations. First, the time period is bounded at 1996 due to data limitations— this prevents the data from encompassing the full impact of the IMF/World Bank debt relief initiated by heavily indebted poor countries (HIPCs) and multilateral debt relief (MDR) initiatives in 1996. As such, the debt data have less variation since average debt levels were suddenly lower for the entire period of this analysis. Other limitations include biennial

data gaps in several of the indices, the exclusion of most highly developed countries such as the US and Germany from World Bank's debt datasets, and the relatively large number of instrumental variables used in the model, such as FDI as a proxy for trade openness.

Findings of this study suggest that a high sovereign external debt measured as external debt PPG has detrimental effects on economic growth. These effects follow a u-shape, with the impact of debt being positive and diminishing when squared. This is consistent with the debt overhang hypothesis presented by Wamboye. However, this result from the more efficient SGMM model is not robust across the fixed effects model. An important observation is that annual external debt PPG flow has negligible effects on economic growth; the results for debt flow were insignificant and had very small magnitudes, despite the estimated coefficient of external debt flow squared having a small, significant, and positive coefficient. These figures indicate that a better measure of the effect of debt on economic growth would be debt stocks; debt stocks and debt stocks squared each had significant effects under the SGMM model. This may imply that the effect of debt on economic growth may be significant only past a certain threshold. Finally, the results on the effect of political and economic institutions were found to be negligible, inconsistent, and not predictable by any theoretical channels.

Table B	(1)	(2)
VARIABLES	lgdpg	lgdpg
GDP Lag	0.219***	0.0592
	(0.0463)	(0.0489)
External Debt Flow	0.00489	-0.00169
	(0.0174)	(0.0217)
Squared External Debt Flow	0.000654	0.000257
	(0.000798)	(0.000865)
External Debt Stock	-0.00516	-0.00612
	(0.00367)	(0.00557)
Squared External Debt Stock	4.01e-05*	1.37e-05
	(2.41e-05)	(3.63e-05)
FDI	0.00759	-0.0129
	(0.00829)	(0.0114)
ODA	0.00218	-0.00458
	(0.00461)	(0.00651)
GCE	0.00539***	0.00552***
	(0.00156)	(0.00154)

Population Growth	-0.00918	-0.101
	(0.0718)	(0.112)
GFCF	0.0138*	0.0244**
	(0.00718)	(0.0116)
HDI	-0.383	-5.474**
	(0.739)	(2.358)
Accountability Index	-0.0723	0.255
	(0.119)	(0.298)
Corruption Index	0.237	0.0717
	(0.190)	(0.280)
Government Effectiveness Index	0.112	0.293
	(0.227)	(0.373)
Political Stability Index	-0.0116	-0.438***
	(0.0820)	(0.153)
Regulatory Quality Index	-0.122	0.150
	(0.191)	(0.288)
Rule of Law	0.0461	-0.0507
	(0.233)	(0.364)
Mortality Rate	0.0636	

	(0.0593)	
L. America	-0.258	
	(0.240)	
Sub Saharan Africa	-0.422*	
	(0.217)	
South Asia	0.0374	
	(0.235)	
Middle East/North Africa	-0.487**	
	(0.222)	
Constant	0.818	3.894***
	(0.666)	(1.452)
Observations	498	498
R-squared	.19	0.079
Number of CCode	52	52

Table C:	(1)Random Effects	(2) Fixed-Effects
VARIABLES	GDPGrowth	GDPGrowth
lagGDPGrowth	0.160***	0.0448
	(0.0302)	(0.0291)
EDebtPerc	-0.0433	-0.0768
	(0.0524)	(0.0565)
EdebtPerc2	0.00284	0.000579
	(0.00293)	(0.00279)
EDStockPerc	-0.00738	0.0262**
	(0.00968)	(0.0130)
EDStockPerc2	-4.94e-05	-0.000275***
	(5.16e-05)	(6.32e-05)
FDI	-0.0961***	-0.207***
	(0.0256)	(0.0280)
ODA	0.0384**	-0.0718***
	(0.0158)	(0.0204)
GCE	0.0555***	0.0519***
	(0.00573)	(0.00534)

PopG	-0.403**	-0.607**
	(0.187)	(0.253)
GFCF	0.153***	0.234***
	(0.0216)	(0.0297)
HDI	-2.164	-6.787
	(2.234)	(6.890)
Acc	-0.113	1.692**
	(0.369)	(0.728)
Corruption	0.833	0.121
	(0.573)	(0.750)
GovEff	0.984	0.378
	(0.656)	(0.970)
PolStab	-0.313	-0.583
	(0.252)	(0.412)
RegQual	-0.824	0.504
	(0.570)	(0.774)
RuleLaw	-0.213	-1.558
	(0.709)	(0.986)
logem4	0.403**	
	(0.197)	

LAmerica	0.994	
	(0.711)	
SSA	0.423	
	(0.611)	
SAsia	0.973	
	(0.728)	
MENA	-0.462	
	(0.718)	
Constant	-1.302	2.652
	(1.928)	(4.164)
Observations	805	805
R-squared	.27	0.290
Number of CCode	54	54

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

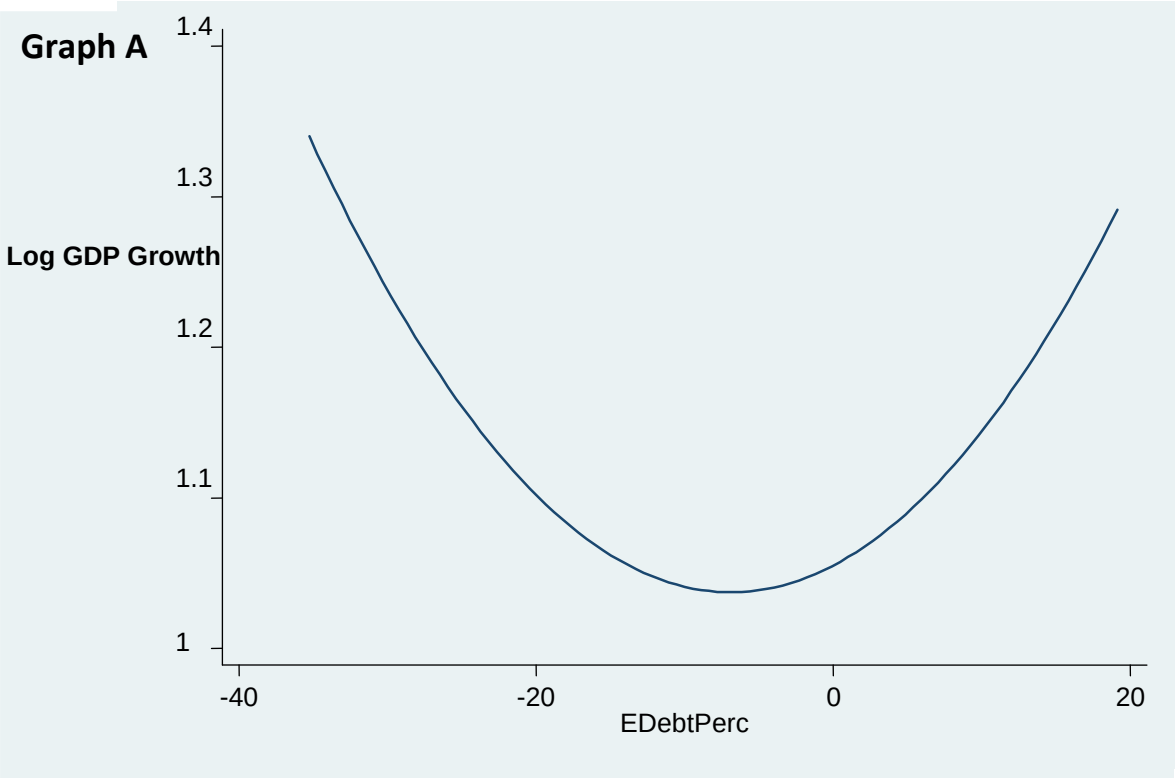
Table D: SGMM Results	(1)	(2)
	Log GDP	GDP Growth
VARIABLES	Growth	
gdplag	0.217***	
	(0.0427)	
EDebtPerc	0.00464	-0.0133
	(0.0160)	(0.0439)
EdebtPerc2	0.000637	0.00529**
	(0.000737)	(0.00213)
EDStockPerc	-0.00518	-0.0233**
	(0.00339)	(0.00927)
EDStockPerc2	4.06e-05*	0.000166***
	(2.22e-05)	(5.97e-05)
HDI	-0.357	-1.412
	(0.686)	(1.887)
FDI	0.00795	0.0263
	(0.00766)	(0.0212)
GCE	0.00543***	0.0427***

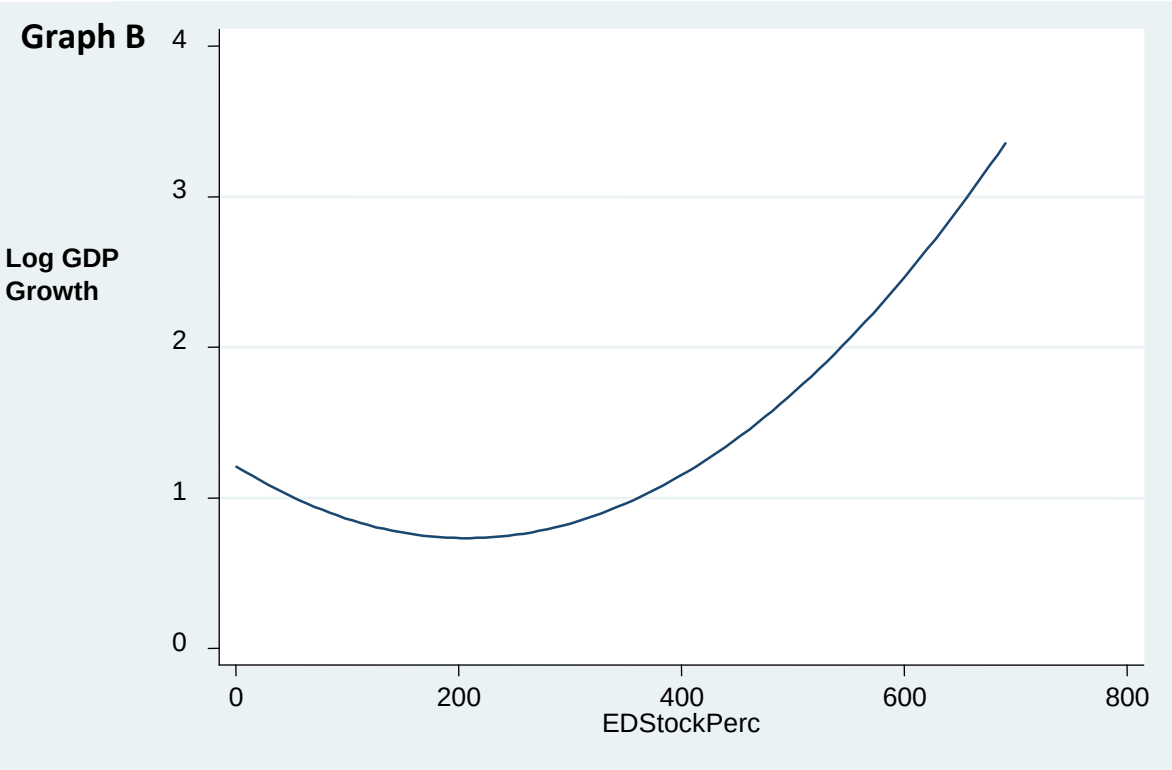
	(0.00144)	(0.00417)
GFCF	0.0135**	0.0458**
	(0.00664)	(0.0179)
ODA	0.00207	-0.0132
	(0.00425)	(0.0120)
PopG	-0.00100	-0.0470
	(0.0665)	(0.176)
Acc	-0.0720	-0.464
	(0.110)	(0.304)
Corruption	0.271	0.911*
	(0.178)	(0.484)
GovEff	0.0848	-0.181
	(0.211)	(0.558)
PolStab	-0.0134	-0.0526
	(0.0759)	(0.207)
RegQual	-0.103	-0.554
	(0.177)	(0.479)
RuleLaw	0.0338	0.360
	(0.216)	(0.592)
Mortality	0.0612	0.151

	(0.0548)	(0.152)
LAmerica	-0.316	-0.0235
	(0.232)	(0.637)
SSA	-0.488**	-0.759
	(0.191)	(0.528)
MENA	-0.538**	-1.349**
	(0.218)	(0.609)
EAsia	-0.0357	0.194
	(0.218)	(0.598)
GDPlag		0.349***
		(0.0353)
Constant	0.867	2.278
	(0.547)	(1.496)
Observations	498	645
Number of CCode	52	54

Standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1


Graph A
Log GDP Growth
1.4
1.3
1.2
1.1
1
-40
-20
0
20
EDebtPerc


Graph B
Log GDP Growth
4
3
2
1
0
0
200
400
600
800
EDStockPerc

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