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Government Effectiveness and Economic Growth

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Abstract

This paper employs a System Generalized Method of Moments (System GMM) technique to examine the impact of government effectiveness on the economic growth of a panel of 81 countries. The paper finds a significant positive effect of government effectiveness on economic growth.

Government Effectiveness and Economic Growth

1. Introduction

The way in which an economy attains long-term growth is still a largely unexplained phenomenon. In a typical growth model, the proximate factors of growth are capital, labor, and productivity. However, numerous fundamental characteristics of an economy such as geography, trade, population, culture, governance, and institutions have been depicted as causing differences in economic growth across countries.

Governments and institutions are humanly-devised constraints that shape human interactions (North 1990), and that affect the incentives of economic agents. Good governance, by promoting more efficient divisions of labor, more productive investment and faster implementation of social and economic policies, leads to higher economic growth (United Nations 2005). According to Hall and Jones (1999), institutions and government policies determine the economic environment within which individuals accumulate skills, and firms accumulate capital and produce output. While good governments, by efficiently providing social infrastructure that protects against diversion, can enhance economic growth, bad governments by expropriation, confiscatory taxation, and bad regulations and laws can create public diversion in an economy (Hall and Jones 1999). Therefore, an efficient government on the one hand can enhance market efficiency, for example by enforcing property rights, to help private sector drive economic growth, on the other hand, can complement private sector in economic growth by accelerating capital accumulation, directing resources to appropriate sectors, and assisting absorption and learning of new technologies (to ensure productivity growth) especially in the economies where markets are structurally very weak.

However, despite the role of an efficient government in economic growth through 'market-enhancing' and 'market-complementing' channels is well understandable, evidences from empirical works are not always supportive to this hypothesis. Whereas one group of studies presents empirical evidence that good institutions and governance stimulate economic growth (Acemoglu et al. 2001, Acemoglu and Robinson, 2010; Barro, 1998; Knack and Keefer, 1995, Kaufmann and Kraay 2002, Kaufmann et al. 2008), another group of studies casts doubt over the positive effect of governance on economic growth (Quibria 2006, Kurtz et al. 2007). In particular, Kurtz et al. (2007), using the government effectiveness indicator from WGI[1], show that government effectiveness does not matter for economic growth. According to Kurtz et al. (2007),

> "None of the panels provides support for the hypothesis that governance is a useful predictor of future economic growth, at least with the limited two-year time horizon that we employ. Indeed, no relationship at all appears in the data. We also estimate a series of alternative basic models, which in no case produce a positive or significant association between government effectiveness and subsequent growth"(p. 548).

[1] World Bank's 'The Worldwide Governance Indicators (WGI)' project, headed by Daniel Kaufmann, reports aggregate and individual governance indicators for over 200 countries and territories (Kaufmann et al. 2008).

Suspecting that a paucity of data as well as the pooled regression methods used by Kurtz et al. (2007) might have had a significant effect on their findings, we carry out our investigations on an extended data set, which allows us to form a dynamic panel to apply System Generalized Method of Moments (System GMM) technique. The System GMM estimation technique is more efficient than the traditional two-way fixed effect models. The System GMM estimation addresses the endogeneity problem more accurately by using internal instruments for endogenous variables. It jointly estimates the equation in first difference and in the levels-first difference instrumented by lagged levels of the dependent and explanatory variables and levels instrumented by first-differences of the regressors. Moreover, this method is particularly suitable for few time periods with large number of cross sectional units (Rodman, D. 2009). Unlike that of Kurtz et al. (2007), our estimated results from System GMM technique show a significant positive impact of government effectiveness on economic growth.

The rest of the paper is organized as follows: In Section 2 we present the empirical model and data. Section 3 reports the empirical results with the intention of explicating the impact of government effectiveness on economic growth, and Section 4 presents some concluding remarks.

2. Empirical model and data

To test the effect of government effectiveness on economic growth, we estimate the following

model:

$$y_{it} = \beta_1 \cdot GE_{it} + \beta_2 \cdot x_{it} + \alpha_t + \delta_i + \mu_{it} \qquad (1)$$

where y_{it} is the real GDP growth rate, GE_{it} is the governance variable, x_{it} is the vector of control variables, α_t is a period-specific effect, δ_i is a country-fixed effect and μ_{it} is a random noise error term. We estimate the model for the full sample and for samples disaggregated by the level of income of the countries. Like Kurtz et al. (2007), we use the government effectiveness indicator developed by Kaufmann et al. (2008) at the World Bank. The index is a unique measure of government effectiveness that reflects perceptions concerning the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to its policies (Kaufmann et al. 2008). The indicator ranges from -2.5 to +2.5, with -2.5 representing the lowest level of government effectiveness and +2.5 the highest level of government effectiveness. Other variables used in the model are the typical controls in a growth model such as growth of labor force (GLAB), gross capital formation as a percentage of GDP (CAP), gross primary school enrollment rate (HC), foreign direct investment (FDI), trade as a percentage of GDP, and inflation rate[2]. The government effectiveness (GE) and the institutional quality indicators are obtained from the Worldwide Governance Indicator (WGI) (www.govindicators.org.). All of the other variables are retrieved from the World Bank's World

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[2] Suspecting that government effectiveness variable may pick up the institutional quality, we also run a separate model controlling for variables that represent institutional quality of a nation. Our government effectiveness variable is still significant in the augmented model. We do not report the results of that model here but available upon request. We are grateful to one of the referees for pointing out this issue.

Development Indicator (WDI). Based on availability of the government effectiveness series, and in an attempt to construct a balanced panel data, our sample includes 13 years' worth of data (for the years 1996, 1998, and 2000, and from 2002 to 2011) for 81 countries.

As already mentioned, we use the system GMM technique for estimating the empirical model. The only exogenous variable in our GMM estimation is the time dummy. Initial GDP per capita, primary school enrollment rate and government effectiveness are defined as predetermined variables, while foreign direct investment, gross capital formation, trade, growth of labor force and inflation are defined as endogenous variables.

3. Results and discussions

Table 1 reports the estimated results obtained from the System GMM method. The Arellano-Bond test for autocorrelation supports the validity of our system GMM model. Moreover, the Hansen J test confirms that the instruments used in the model are valid. The results show significant evidence of the impact of government effectiveness on economic growth. In particular, a 1-unit increase in government effectiveness causes a 0.68 percentage points increase in growth-rate in the full-sample, and the effect is statistically significant. We also find a statistically significant positive effect of government effectiveness on economic growth in the sub-samples of high- and low-income countries. Due to 1-unit increase in the indicator of government effectiveness, the growth rates increase by 1.17 and 1.63 percentage points for the sub-samples of high- and low- income countries respectively. Though the impact of government effectiveness on economic growth is positive in the sub-sample of middle-income countries, the effect is not statistically significant. Of the control variables, we find evidence of positive effects of growth of labor force, gross capital formation, and trade on economic growth, while inflation exerts a negative effect on economic growth. Moreover, high level of initial GDP is associated with low growth rate. Our findings contradict those of Kurtz et al. (2007), who fail to find a significantly positive effect of government effectiveness on economic growth.

However, our asymmetric findings among different income groups deserve explanation. Though we can't explain the asymmetry concretely, our finding disproof one of the claims in governance literature (see Khan 2007) that if good governance is defined as 'market-enhancing' (as opposed to direct 'growth-enhancing'), then such good governance is not effective for the economies where markets are too weak to improve to a level that can promote economic growth. The good governance defined in our paper is a kind of market-enhancing governance. Therefore, according to this hypothesis, such governance should have least impact on economic growth in the group of least developed countries where markets are weakest, but clearly this is not what we find. Therefore, we can conclude that income level and existing market structure of a country are not the only factors that affect the governance-growth relation. For example, Bassam (2013) finds that correlations between economic growth and the quality of governance highly depend on levels of human development and on indicators used to capture the quality of governance. North (1990) shows that institutional structure is apt to shape associations between economic and political outcomes.

Table 2: System GMM model regressions (dependent variable: growth rate of real GDP)

	All countries		High income		Middle income		Low income	
	coef	se	coef	se	coef	se	coef	se
L.GGDP	0.260***	0.065	0.161**	0.077	0.303***	0.086	0.114	0.087
GLAB	0.232*	0.12	0.149	0.136	0.324**	0.164	0.155	0.176
CAP	0.004	0.071	0.155	0.132	0.12	0.121	0.147**	0.065
HC	0.015	0.011	-0.023	0.05	-0.068	0.075	0.006	0.017
INFLATION	-0.068	0.062	-0.11	0.157	-0.228***	0.051	0.072	0.066
FDI	0.006	0.009	-0.01	0.012	0.007	0.05	0.011	0.057
TRADE	0.014	0.011	0.013***	0.005	-0.058	0.046	0.019	0.027
GE	0.679*	0.367	1.163***	0.361	1.769	2.019	1.633*	0.879
Log(INITGDP)	-1.022***	0.213	-2.420***	0.565	-2.515	1.999	-1.133*	0.635
Year dummies	yes		yes		yes		yes	
Observations	706		226		158		322	
Countries	81		26		19		36	
Number of instruments	30		30		24		36	
Hansen J test (p-value)	0.423		0.581		0.948		0.246	
AR(1) test(p-value)	0		0.001		0.003		0.002	
AR(2) test(p-value)	0.07		0.151		0.224		0.414	

Notes: Coefficients and standard errors are given in this table. *** $p<0.01$, ** $p<0.05$, * $p<0.1$. L.ggdp, Glab, Fdi, Cap, Hc, and Ge respectively denote Lag of growth, growth of labor force, foreign direct investment, domestic investment, primary school enrollment, and government effectiveness.

4. Conclusion

This study uses system GMM technique to examine the impact of government effectiveness on the economic growth of a panel of 81 countries. This study finds that government effectiveness has a significantly positive effect on economic growth. Because of the importance of good governance in economic growth, good governance is incorporated as one of the goals of Millennium Development Goals (MDGs). Moreover, governance is a large determining factor in the allocation of foreign aid by many multilateral development banks such as World Bank and Asian Development Bank, and many countries such as USA. Therefore, our finding has policy relevance for many economic and development issues such as aid conditionality. However, we find asymmetry in the government effectiveness-growth relationship among different income groups. Exactly what drives the governance-growth relationship could be an interesting research project and we leave it for future study.

References

Acemoglu, D., Johnson, S., & Robinson, J.A. (2001), "The colonial origins of comparative development: An empirical investigation", *American Economic Review,* 91 (5), 1369–1401.

Acemoglu, D., & Robinson, J. (2010), "The role of institutions in growth and development", *Review of Economic Institutions,* 1 (2).

Alkire, S. (2010), "Human Development: Definitions, Critiques, and Related Concepts", Human Development Reports.

Barro, R.J. (1998), "Determinants of economic growth: A cross-country empirical study", MIT Press.

Bassam A., A. (2013), "The Relationship Between Governance and Economic Growth During Times of Crisis", *European Journal Of Sustainable Development*, 2 (1).

Davidoff, S. M., & Zaring, D. (2009), "Regulation by Deal: The Government's Response to the Financial Crisis", *Administrative Law Review*, 3, 463-.

Dixit, A. (2009), "Governance Institutions and Economic Activities", *American Economic Review*, 99 (1), 5-24.

Hall, Robert E. & Jones, C. I. (1999), "Why Do Some Countries Produce so Much More Output per Worker Than Others?", *Quarterly Journal of Economics* 114(1): 83-116.

Kaufmann, D. (2005), "10 Myths about Governance and Corruption", *Finance and Development,* 42 (3), 41–43.

Kaufmann, D. & Kraay, A. (2002), "Growth Without Governance", *Economia*. 3(1): 169–229.

Kaufmann, D., Kraay, A., & Mastruzzi, M. (2008), "Governance matters VII: Governance indicators for 1996–2007", *World Bank Policy Research Paper.*

Khan, M. (2007), "Governance, Economic Growth and Development since the 1960s", *DESA Working Paper No. 54 ST/ESA/2007/DWP/54*

Knack, S. & Keefer, P. (1995), "Institutions and economic performance: Cross-country tests using alternative institutional measures" *Economics and Politics.* 7 (3), 207–227.

Kurtz, M., & Schrank, A. 2007, "Growth and governance: Models, measures and mechanisms", *Journal of Politics* 69(2): 538–554.

Mauro, P. (1995), "Corruption and growth", *Quarterly Journal of Economics.* 110 (3), 681–712.

North, D. C. (1990), "Institutions, Institutional Change, and Economic Performance", New York: Cambridge University Press.

Quibria, M.G. (2006), "Does Governance Matter? Yes, No or Maybe: Some Evidence from Developing Asia", *Kyklos*. 59(1): 99–114.

Rodman, D. (2009), "How to do xtabond2: An introduction to difference and system GMM in Stata", *The Stata Journal* 9(1), 86-136.

Rodrik, D., Subramanian, A., & Trebbi, F. (2004), "Institutions rule: The primacy of institutions over geography and integration in economic development", *Journal of Economic Growth* 9 (2), 131–165.

United Nations (2005). "Investing in Development. A practical Plan to Achieve the Millennium Development Goals", Millennium Project Report to the UN Secretary General. New York. NY.

Williamson, O. E. (2005), "The Economics of Governance", *American Economic Review,* 95(2), 1-18.