

**AN ANALYSIS OF GOVERNANCE, OFFICIAL DEVELOPMENT  
ASSISTANCE AND ECONOMIC GROWTH IN DEVELOPING AND  
TRANSITION COUNTRIES**

By

**Niaz Ali, KHAN**

**THESIS**

Submitted to

KDI School of Public Policy and Management

In Partial Fulfillment of the Requirements

For the Degree of

**MASTER OF PUBLIC POLICY**

**2017**

**AN ANALYSIS OF GOVERNANCE, OFFICIAL DEVELOPMENT  
ASSISTANCE AND ECONOMIC GROWTH IN DEVELOPING AND  
TRANSITION COUNTRIES**

By

**Niaz Ali, KHAN**

**THESIS**

Submitted to

KDI School of Public Policy and Management

In Partial Fulfillment of the Requirements

For the Degree of

**MASTER OF PUBLIC POLICY**

**2017**

Professor Jin PARK

**AN ANALYSIS OF GOVERNANCE, OFFICIAL DEVELOPMENT  
ASSISTANCE AND ECONOMIC GROWTH IN DEVELOPING AND  
TRANSITION COUNTRIES**

By

**Niaz Ali, KHAN**

**THESIS**

Submitted to

KDI School of Public Policy and Management

In Partial Fulfillment of the Requirements

For the Degree of

**MASTER OF PUBLIC POLICY**

Committee in charge:

Professor Jin PARK, Supervisor



Professor Kye-Woo LEE



Professor Changyong CHOI

  
Changyong Choi

Approval as of December, 2017

# AN ANALYSIS OF GOVERNANCE, OFFICIAL DEVELOPMENT ASSISTANCE AND ECONOMIC GROWTH IN DEVELOPING AND TRANSITION COUNTRIES

By

Niaz Ali Khan

## ABSTRACT

*This paper investigates the Impact of Good governance on effective utilization of Official Development Assistance (ODA) in transition countries as compared to developing countries. We use a data covering a panel of 32 transition countries in the, from 1996 to 2013. The empirically study finds strong evidence supporting a positive impact of good governance on ODA. We find strong and robust evidence that governance has a positive impact on effectively of ODA. Therefore, the study reached on conclusion that effective aid utilization required institutions efficiency. This suggests that the other in order to reap the best benefits of ODA improvement in Governance is the first and foremost milestone to be achieved in transition countries as in the case of other developing countries. Both developing and transition economy need institutions reform unless any reform effective aid utilization is dream for both developing and transition countries.*

**Copyright by**  
**Niaz Ali Khan**  
**2017**

**Dedicated to**

## **ACKNOWLEDGEMENTS**

# Table of Contents

ABSTRACT .....	i
ACKNOWLEDGEMENTS .....	iv
CHAPTER 1 .....	1
INTRODUCTION.....	1
1.1. Introduction: .....	1
1.2. Statement of Problem.....	6
1.3. Research Questions.....	6
1.4. Hypothesis (or Claim).....	7
1.5. Structure of the Paper .....	7
Chapter 2.....	1
LITERATURE REVIEW .....	1
2.1. Literature Review .....	1
Chapter 3.....	1
Empirical Analysis .....	1
3.1. Theoretical Model.....	1
3.2. Methodology .....	2
3.2.1. Data and measurement of variables.....	2



3.2.2. Measurement of variables .....	3
3.2.3. Econometrics Model.....	4
3.3. Empirical Evidences:.....	5
Chapter 4.....	13
Conclusion and Policy Recommendations .....	13
Bibliography .....	15
List of Developing Countries .....	24
List of Transition Countries.....	25

## **List of Tables**

TABLE 1: IMPACT OF ODA AND POLITICAL STABILITY ON ECONOMIC GROWTH FOR DEVELOPING AND TRANSITION COUNTRIES .....	6
TABLE 2: IMPACT OF ODA AND GOVERNANCE EFFECTIVENESS ON ECONOMIC GROWTH FOR DEVELOPING AND TRANSITION COUNTRIES .....	9
TABLE 3: IMPACT OF ODA AND CONTROL OF CORRUPTION ON ECONOMIC GROWTH FOR DEVELOPING AND TRANSITION COUNTRIES .....	10

# CHAPTER 1

## INTRODUCTION

### 1.1. Introduction:

The last 20 years have seen a real explosion of interest in the quality of "governance" in the developing world. Driving this growth are people who variously seek to monitor conditions in and/or assess prospects for diverse developing countries in terms of local political stability, investor-friendliness, economic growth or effective market size, poverty reduction, respect for human rights, Voice and Accountability, Violence, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption. These people notably include international investors, national and multilateral providers of official development assistance, and development analysts and academics.

The World Bank, defined "good governance" as "epitomized by predictable, open and enlightened policy making; a bureaucracy imbued with a professional ethos; an executive arm of government accountable for its actions; and a strong civil society participating in public affairs; and all behaving under the rule of law" (The World Bank, 1994). While Asian Development Bank defined

"Governance as the manner in which power is exercised in the management of a country's social and economic resources, which presumes the ability to turn public resources into positive human development tout comes." (Asian Development Bank, 2002).

Development researchers and practitioners focused on "Good Governance" as paving-stone to achieve countries' development goals, milestones and objectives. Since good

governance plays a vital role in the management of aid and public sector reform. Development aid is being granted to countries for more than three decades. However, the development that donor countries expected to see in the developing countries has not seen in those countries. Therefore, numerous research studies on aid effectiveness have been conducted and various reasons for minimum progress have been put forwarded. One which should be highlighted is, with the passage of time, institutions could not develop their capacities due to which the aid received was misused and mismanaged. That is why; today developing countries receiving millions of dollars of ODA are achieving mere a proportionate development. Moreover, there are widespread disbelieves among the donor countries on the effectiveness of ODA because of mismanagement and poor governance. The former Prime Minister of United Kingdom, Tony Blair said “Within the donor community, the focus has shifted decisively towards increasing the effectiveness of aid, ensuring that it offers countries a hand up not a handout”. Further “...major donor countries of the OECD invest more than USD 3.5 billion in governance every year...and more than 60% is focused on tackling errors of commission through public financial management systems, strengthening of civil society and oversight bodies, support to parliaments, media, NGOs, human rights watchdogs and anti-corruption commissions”. This shows the importance of governance in the management of aid and public sector reform.

There is an extensive perception among academic researchers and aid practitioners alike that there is substantial association between aid effectiveness and good governance, and that aid is successful only when linked with comprehensive policies in the recipient countries. These situations do not stand up to careful scrutiny of existing studies. Nevertheless, the existing studies find that “...approaches used to strengthen good governance in developing

countries remain strikingly similar to those used to promote economic reform” (World Bank 2011). Since positive impact of aid has been proven and it plays a significant role on economic development of developing countries and especially countries in transition, it is crucial to manage the aid effectively.

Development partners have been increasingly observant on the utilization of their development assistance given to the countries in need. At the same time donors and partner countries have been increasing their attention to accountability and transparency issues, partly as a way of ensuring aid effectiveness, improving good governance and aiding economic growth and partly as a foundation for the Paris Declaration Principle of mutual accountability (OECD). In response to the greater demand for accountability of the utilization of development assistance and quality of governance, the World Bank has come with Worldwide Governance Indicators (WGI). The WGI ranks countries based on Voice and Accountability, Political Stability, Violence, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption.

Over the years countries have received billions of aid. Unfortunately, aid granted to reduce poverty and achieve sustainable economic growth has not been utilized the way it should have been. The development targets of the countries remained unachieved over the years; large part of the population is still living below the poverty line set by United Nations. Development aid has not been effectively utilized to erode poverty, unemployment and corruption that have been ravaging the countries for many years.

There are many reasons for the mal-utilization of ODA. Different researchers have different views about ODA effectiveness. Nevertheless, un-directed fiscal policy, bad

governance, delayed releases and mismanagement are some of the hurdles that come in way of development, that would have brought by huge assistance obtained from the world community in shape of loans, grants, ODA, technical assistance etc. In order to achieve real sustainable economic growth and reduced poverty, developing countries are in immediate and dire need of reforms in order to utilize aid effectively, that would rebuild the lost trust of donor countries/organizations/agencies. Since some research has proven positive impact of governance on effective utilization of aid, donor countries/agencies have been extremely cautious on countries' governance records.

“A striking fact that distinguishes economies (or better: societies) in transition from (other) less developed countries or emerging markets is that their economic reforms do not take place within an existing, relatively stable institutional order which is changing only incrementally in the course of time” (Ahrens, 2006). So far there are no studies conducted on the impact of governance on ODA effectiveness in countries in transition. The countries in transition face unique hurdles compared to developing countries. Countries in transition require extensive reform policies that would strengthen the institutional capacity required to implement transitional policies. Hence scholars and policy makers argue good governance is the key to successfully implement transitional strategy. (Ahrens, 2006).

The countries in transition face complex organizational systems, which acts as a bottleneck to successful disbursement of aid, monitoring and evaluation. This would eventually open windows for poor governance and corruption. As such Corruption Perception Index (CPI) 2013 shows transition countries as well as developing countries records are poor according to Transparency International. This indicates the grave situation faced by those countries and also immense effort required to overcome the problem. Moreover, former

British Prime Minister highlighted that democracy is one of the crucial elements of good governance as democratic values always remain under threat.

The proposed study has advantage over previous studies that this study will examine the impact of governance and utilization of ODA on economic growth in two different structure of the economy i.e developing<sup>1</sup> assuming closed to market economy and transition countries<sup>2</sup>. The countries in transition are selected based on the criteria set by Asian Development Bank (ADB).According to the current context countries in transition refers “change from one type of market economy where patrimonial or patron client relationships are widespread to a rules-based system of market relationships...transition towards political pluralism and a rules-based market system...” (ADB, 2014).

There are six Governance Indicators measured by World Bank. The proposed study focuses on three Governance indicator i.e Control of Corruption, Governance Effectiveness and Political Stability. Corruption, political stability and governance are the key issues enabling effective aid utilization in developing countries; therefore, these three indicators are selected to seek the impact of governance on the utilization of aid effectively. The main research question of our study will be to examine the impact of governance on the utilization of ODA effectively in the transition countries.

---

<sup>1</sup> Developing countries are those countries which has less industrial base and low Human Development Index (HDI) relative to other countries.

<sup>2</sup> Transition countries are those countries which attempt to change their basic constitutional elements towards market-style fundamentals. (Feige, Edgar L. 199)

## **1.2. Statement of Problem**

Absence of clear evidence of the effectiveness aid in an economy tends to undermine development efforts of development partners. Typically, aid policy has a specific purpose. For instance, some development partners focus on interventions that directly target welfare improvement of the poor. On the other hand some aim to increase economic growth and do so by channeling their aid towards investment activities. Whether any of these forms of aid delivery work is an empirical matter that needs to be investigated on a case by case basis. Thus for the case of the southern Africa, there is need to establish evidence of the impact of aid on investment and growth in order to fill this knowledge gap.

Filling the aforementioned knowledge gap will be beneficial to both donor and recipient countries within the region. Since there is still disagreement on the general impact of aid, establishing evidence on whether aid facilitates investment and growth will help improve development efforts in the region as development partners will be able to make well informed decisions on how best to allocate aid resources. If it is established that aid has a positive impact on investment and economic growth, development partners will have to focus their efforts on enhancing investment. If the evidence proves otherwise they will have to rethink their aid policies.

## **1.3. Research Questions**

Keeping in view the importance of importance of ODA for developing countries to bridge the gap between saving and investment and its impact on economic growth, and limited research to take both developing and transition countries simultaneously to seek nexus of governance and ODA, the study is designed to investigate governance and aid effect

on economic growth in two different structure of the economy i.e. developing and transition countries. The advantage of taking two different structure of the economy is that it will explain whether aid is more effective in developing countries which are closed to market economy or in transition countries.

- To estimate aid and governance impact on economic growth in two different structure of economy i.e. developing and transition countries
- To seek conditional impact of aid on economic growth incorporating interaction term for developing and transition countries

#### **1.4. Hypothesis (or Claim)**

Ho: Aid and Governance are being ineffective ( $\gamma$  and  $\beta = 0$ )

Ha: Aid and Governance are being effective ( $\gamma$  and  $\beta > 0$ ).

#### **1.5. Structure of the Paper**

This paper is organized as follows. Following the introduction provided above, a review of existing literature relevant to the study will be presented in chapter 2. Chapter 3 shall discuss the methodology used in the study including data, specification of the econometric model and definitions of the variables used. An econometric analysis will be conducted in chapter 4 in which the findings will be discussed and interpreted. Finally, chapter 5 will contain summaries, conclusions and policy recommendations.



## Chapter 2

### LITERATURE REVIEW

#### 2.1. Literature Review

No studies have been conducted on the impact of governance on effective utilization of ODA in transition countries. Therefore, this study will be based on the experience of developing countries, as scholars have indicated countries in transition and developing countries have similar characteristics in terms of institutional capacity, public policy and other governance related issues.

International Financial Institutions especially the World Bank remains at the forefront of advocating global governance on strengthening the effectiveness of aid and good governance. The Bank carried out extensive analysis on the relationship between the aid effectiveness and good governance. The study finds that there is positive relationship between aid effectiveness and good governance (SantisoCarlos, 2011). Furthermore, the evidence from cross-country analysis shows governance is positively associated with improved investment, growth rates and government effectiveness, efficient bureaucracy and rule of law are associated with better economic performance (ODI, 2006). Pertaining to these, further study conducted by Brautigam and Knack (2004) found an improvement in governance benefits everyone especially in utilization of aid effectively. However, some studies also find that the developing countries face problems on utilization of aid effectively due to bad governance and lack of capacity of the government institutions. A cross-sectional study conducted using 32 African countries for the period of 1982 to 1997, found, aid has been reduced in many parts of Africa due to poor governance records, and “improving

governance means better bureaucracy, increasing adherence to the rule of law, reducing corruption, and managing expenditure and revenue generation in a sustainable manner”, (A BrautigamDeborah & KnackStephen, 2004). This argument was further supported by Burnside and Dollar (2000) “...the interaction of aid and institutional quality has a robust positive relationship with growth that is strongest in instrumental variable regressions (BurnsideCraig & DollarDavid, 2004).

The World Bank has significantly stretched its policy boundaries by authorizing ‘good governance’ as a fundamental component of its development strategy. Since 1996 the World Bank has begun over 600 governance related programs and initiatives in 95 countries and is involved in supporting significant programs of governance and public sector reform in 50 countries. Meanwhile, governance reforms, including the building of stronger public institutions, move center stage in aid effectiveness debates (OECD).In 2003, United States launched its very own aid development assistance program, whose aid mechanism is largely based on a competitive assessment of developing countries governance performance. Under this program good governance is a precondition for granting aid to developing countries and they rely on publicly available governance indicators (KnollMartin & ZloczystiPetra, 2011). Yet there are wide spread debate among the academics “...whether perception-based governance indicators are a satisfactorily measure and distinguish between various dimensions of governance, and an appropriate measure for allocating aid (ArndtChristiane & OmanCharles, 2006). A very few studies have been conducted on validity and reliability of these indicators, and “...to date, the indicators stand as an elaborate untested hypothesis about the nature of governance...reliance upon them for any purpose is premature” (M.A. Thomas, 2006). However, some researchers and practitioners found little robust evidence of

positive and negative association between good governance and aid effectiveness.

Scholars maintained that the traditional cross-country empirical work has failed to provide statistically significant insights on relationship between governance and aid. Michalopoulos and Sukhatme (1989) conclude that the cross-country evidence is ambiguous, and White (1992a) indicated that negligible aid's on macroeconomic impact. He goes on to argue that the absence of a relationship between aid and growth is a fairly well established result. The seeming lack of a positive macroeconomic impact of aid in combination with the many favorable micro-based project evaluations is a puzzle

Based on few empirical literature conducted on the impact of governance on the effectiveness of aid (BrautigamDeborah, 2000); (HeckelmanJac & KnackStephen, 2005) reveals aid and aid reliance to be negatively associated with various dimensions of governance when cross-country analysis is undertaken on bureaucratic quality, corruption, and the rule of law. Likewise a study by Ragan and Subramanian (2007), exhibit in countries that receive more ODA, there is a negative impact on governance reliant industries, (RaganRaghuan G & SubramanianArvind, 2007)while at the same time the primary instrument of donors aid is empirically linked with worsening quality of governance. However, in a cross-section of more than 150 countries, observed that there is empirical evidence of a strong causal relationship from better governance to better development outcomes (KaufmannDaniel, KraayAart, Zoido-LobatonPablo, 1999).

One of the most important attribute of development outcomes is adherence to the rule of law and regulation. Rule of law and regulation are also indicators that show the countries reliability. Weak rule of law and lack of good governance is a major threat to development

(UNDP). Moreover, governance reliance industries mainly dominated in manufacturing and services sectors, as these sectors require extensive complex transaction among the parties that rely on rule of law and regulation. The studies of Kaufmann et al.'s showing six dimensions of governance Rule of Law is worsened by aid while the effects on the other five variables namely Voice and Accountability, Political Stability, Government Effectiveness, Regulatory Quality, and Control of Corruption are very weak.

The countries in transition have taken a giant stride towards development and had achieved remarkable progress in implementing reform policies over years. We expect better governance would contribute improvements in recipient countries and therefore, it would lead to effective utilization of ODA and bad governance would potentially exacerbate countries situation and therefore would lead to ineffective utilization of ODA. Using the data of 32 transition countries over the period of 1996-2014, we will test empirically in this study whether there has been any significant impact of Governance on the effective utilization ODA in the countries in transition

## Chapter 3

# Empirical Analysis

### 3.1. Theoretical Model

Shortage of resources is a severe issue for developing countries. The persistent gap between savings and investments compel the countries to fulfill the bridge through foreign aid. Harrod-Domar model stated that saving has direct impact on economic growth. Higher-savings create opportunities of investments; ultimately accumulate the capital resulting in high economic growth. Keeping in view the impact of savings on economic growth, developing countries seek foreign aid to overcome the resource problem and fulfill the gap between savings and investments. Therefore, it is expected that foreign aid has significant positive impact on economic growth and written as follows;

$$Y_t = F ( A_{it} ) \text{-----}(1)$$

Where  $Y_t$  is GDP and  $A_{it}$  is aid received by  $i$ th country in time  $t$  as a fraction of GDP;

Moyo (2009) states that aid does not provide significant results because of political instability and bad governance. In the developing countries, generally there is virtual absence of any mechanism to monitor the aid utilization. Most of the time governments utilize such funds for their political mileage. Therefore, there are several political and institutional factors which slow down the process of development. Thus, the growth equation can be simplified as under;

$$Y_t = f ( A_{it}, G_{it} ) \text{-----}(2)$$

Where  $G_{it}$  is the number of Political and governance indicators in period  $t$ .

$$A_{it} > 0 \text{ and } G_{it} > 0$$

Besides that, there are some controlling variables which are imperative to be included in the growth equation to avoid specification biasness problem. Finally, the equation 2 can be written as;

$$Y_t = F ( A_{it}, G_{it}, X_{it} ) \text{ -----(3)}$$

Where  $X_{it}$  is number of controlling variables in period  $t$

## **3.2. Methodology**

### **3.2.1. Data and measurement of variables**

The proposed study is going to examine the relation among growth, governance and Official Development Assistance (ODA) in transition and developing countries to see to what extent past policies had been effective in generating economic activities and to what extent governance affects ODA.

We will investigate empirically the effects of good governance and aid effectiveness on economic growth, first by employing the Burnside and Dollar (2000), BD specification using data for all 32 transitions and developing economies. Our analysis spans the transition years from 1996 to 2013. As already stated, reason for focusing on transition and developing economies is to separate out the impact of explanatory variables in transition and developing countries and reduce some of the heterogeneity that is inherent in cross-country analysis. Nevertheless, while transitional economies are a fairly homogenous group, there is still some heterogeneity between transitional economies, e.g., some are now European Union members

while others are still ruled by authoritarian communist parties. Transition economies also differ with respect to their natural endowments and years of central planning.

The data for the study will be drawn from World Bank. Out of six governance indicators mentioned above, the proposed study focuses on three indicators i.e. control of corruption, government effectiveness and political stability will be used. The study will use panel data for both transition and developing countries. The developing countries will be selected according to the UN criteria. In addition, data will be collected from IMF, Penn World, Macro Data, OECD and cross-country surveys carried out by international and non-governmental organizations and various other authentic journals written on the subject.

### **3.2.2. Measurement of variables**

- The World Bank's World Wide Governance Indicators provide data on six governance indicators including: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law and control of corruption.
- GDP per capita as a dependent variable
- There is a debate which aid indicator may be used for study such as quadratic form, log form etc. In the proposed study, we used aid as a fraction of GNI.
- Openness variable will be obtained from Pen world table.
- Inflation and Monetary aggregate variables would be used as proxy of monetary side.
- Net oil rent % of GDP
- Gross fixed capital formation and FDI are selected to seek real sector impact.
- Population is used as a proxy of demand side/market.

### 3.2.3. Econometrics Model

Economic prosperity is generally measured by growth in GDP. In our proposed study we used real GDP per capita dependent variables while governance and aid are proposed explanatory variables. Besides, there are number of variables which have significant effect on economic growth, therefore, these variables were also included in the model. Further, Burnside and Dollar (2000) included interaction variable of aid and governance to investigate the conditional effect on economic growth. The proposed dissertation estimated the dependent variable being real GDP per capita (GDP) with aid and three governance indicators, namely political stability, government effectiveness and control of corruption with controlling variables for transition and developing countries.

The simplified equation can be written as;

$$Y_t = \beta_0 + \beta_1 A_{it} + \beta_2 G_{it} + \beta_3 X_{it} + \beta_4 A_{it} * G_{it} + \mu_t(4)$$

Where  $Y_t$  is the growth rate of per capita GDP;  $A_{it}$  is a Aid of  $i^{\text{th}}$  country in period  $t$ ,  $G_{it}$  is governance variables;  $X_{it}$  are controlling variables representing M2, net oil rent, gross fixed capital formation, openness etc.  $A_{it} * G_{it}$  is interaction variable of aid and governance while  $\mu_t$  is usual Error term.

Since there is a structural difference between transition and developing countries, therefore, a dummy was included in the model for comparison and separate out the effect of transition and developing countries. Thus, the equation 4 can be simplified as under;

$$Y_t = \beta_0 + \beta_1 A_{it} + \beta_2 G_{it} + \beta_3 X_{it} + \beta_4 A_{it} * G_{it} + \beta_5 D + \mu_t \text{-----} (5)$$



The existing literature revealed that there is a simultaneity problem among dependent and explanatory variables. Therefore, some econometric tests were used to check the simultaneity problem prior to estimating the ordinary least square method for panel data of transition and developing countries.

Where  $Y$  is GDP per capita at time 't',  $\beta_0$  is intercept,  $\beta_1, \beta_2, \beta_3, \beta_4$ , and  $\beta_5$  are coefficients to be estimated,  $Ins$  is instrumental variable,  $Y_{t-1}$  is lag of GDP per capita and  $\mu_t$  is error term assumed to be white noise.

The equation 6 was estimated using multivariate regression techniques for 32 transition countries and 45 developing nations using panel data for the period of 1996-2013. For the three different governance indicators, political stability, government effectiveness and control of corruption, we estimated three separate equations with three different interaction variables to capture the impact of aid on economic growth conditionally governance and some controlling variables in the model. Finally, robustness test was applied to examine the significance and robustness of the variables.

### **3.3. Empirical Evidences:**

The study consists of 32 transition and 45 developing countries covering the period of 1996-2013 using panel data. Purpose of this study is to seek the causal relationship of aid, governance and growth. Three different governance indicators we reselected to perform the econometrics analysis. Each governance indicator estimated three different equations, first equation consists of only explanatory variables while second equation was to analyze interaction effect on GDP per capita and third equation is to separate out effect of transition and developing countries by using dummy variable. The present study is unique in a sense

that it used governance and political indicators to measure the government efficiency rather than policy variables.

**Table 1: Impact of ODA and Political Stability on Economic Growth for Developing and Transition Countries**

Variables	GDPPC	GDPPC	GDPPC
Political Stability	1.777 (3.27)**	1.677 (2.49)**	1.70 (2.52)**
Openness	0.766 (9.45)**	0.767 (9.77)**	0.758 (9.89)**
POPt	-0.078 (3.44)**	-0.078 (3.48)**	-0.078 (3.52)**
M2	-0.894 (2.47)**	-0.896 (2.47)**	-0.933 (2.68)**
FDI	1.032 (1.42)	1.034 (1.43)	1.014 (1.35)
ORGDP	0.931 (2.22)*	0.917 (2.24)*	0.931 (2.19)*
ARMIMPOTS	0.237 (2.16)*	0.239 (2.19)*	0.225 (2.07)*
GEFGDP	-0.892 (1.13)	-0.907 (1.13)	-0.955 (1.21)
Inflation	-0.824 (2.05)*	-0.824 (2.04)*	-0.820 (2.01)*
Net ODAGNI	0.970 (4.66)**	0.607 (0.53)	0.626 (0.55)
Y		0.011 (0.28)	0.009 (0.24)
D1			-13.434 (1.07)
Constant	555.647 (13.45)**	589.395 (11.26)	603.619 (10.74)**

\*P < 0.05, \*\*P < 0.01

The multivariate least square method using panel data was used to investigate relationship of ODA and governance on economic growth. Three different governance

indicators were used to examine the impact. Table 1 presented results of multivariate regression of three different models which were run. First equation consists of empirical evidence of ODA and governance on GDP per capita including some control variables. The results suggested that political stability has significant effect on economic activities. It is estimated that 1% improvement in political condition will increase per capita income on an average of 1.77% at 1% level. The results confirm that political instability deteriorated the growth process. Previous studies apparent that political instability shrinks economic activities resulting capital flight. Political Stability means predictable environment which may attract both domestic and international investors creating jobs and accelerate the economic growth. However, ODA has no relation with GDP per capita and confirmed the earlier findings of Easterly. Surprisingly, neither FDI nor Gross fixed capital formation has any significant impact on GDP per capita. It could be possible due to two reasons; first, most of the FDI came to services sector which is not as productive as manufacturing sector in under-developed countries. Second, there is no technological transfer observed if developed nations invest in the less developed regions. These multinational companies invest in these nations because of cheap labour. . Recent studies stated that total factor productivity is the only determinant of long run economic growth and R&D expenditure and Human Capital are key factors of TFP. It is clear that FDI received from foreign countries failed to increase contribution of TFP in developing countries.

Another interesting finding is negative significant effect of M2 on GDP per capita. This finding confirmed that the capital market both in transition and developing countries are not liberalized and the State influences on monetary policy witnessed inflationary effect in the economy. Population relationship with growth is debatable in the literature, some

economists' state that population is an opportunity for developing nations due to huge market and had significant effect on growth. On the other hand, some economists believe that population a severe problem for these nations because rising population exerts pressure on job creation while these counters are unable to absorb these laborers in the job market causing high unemployment and socioeconomic issues. The results confirmed the later argument.

Burnside and Dollar (2000) found conditional effect of aid on economic growth. They used interaction variable of aid and government policies and concluded that aid had significant positive relation if government used good policies. Therefore, equation 2 was estimated by incorporating interaction variable (y) in the model. Our empirical evidences suggested that there is no interaction effect observed despite significant positive relationship found among GDP, political stability and openness while aid, FDI and Gross fixed capital formation have no effect on GDP per capita.

Finally, we estimate equation 3 to compare the separate effect of transition countries and developing countries. The results indicated that the dummy variable is statistically insignificant. This result revealed that both transition countries and developing countries are not market economy. The economic system in both regions seemed to be same; controlled by central government.

There are some other governance indicators such as control of corruption and government effectiveness. The table 2 provides the empirical evidences of multivariate regression using panel data for transition and developing countries.

**Table 2:** Impact of ODA and Governance Effectiveness on Economic Growth for Developing and Transition Countries

Variables		GDPPC	GDPPC	GDPPC
Governance	Effectiveness	1.357	3.323	2.349
	Percentile	(1.40)	(2.79)**	(2.78)**
Openness		0.670	0.712	0.703
		(6.51)**	(6.14)**	(6.21)**
POPt		-0.085	-0.079	-0.079
		(3.00)**	(2.94)**	(2.79)**
M2		-1.046	-1.014	-1.057
		(3.18)**	(3.18)**	(3.43)**
FDI		1.294	1.185	1.158
		(1.74)	(1.51)	(1.43)
ORGDP		0.759	0.625	0.639
		(1.84)	(1.55)*	(1.51)*
ARMIMPOTS		0.193	0.175	0.160
		(1.63)	(1.50)	(1.38)
GEFGDP		-0.751	-0.714	-0.769
		(0.93)	(0.85)	(0.93)
Inflation		-0.862	-0.880	-0.877
		(2.06)*	(2.19)*	(2.15)*
Net ODAGNI		0.981	4.486	4.476
		(4.56)**	(5.34)**	(5.36)**
Y			-0.101	-0.102
			(3.93)**	(4.02)**
D1				-14.814
				(1.03)
Constant		619.076	573.039	588.660
		(10.78)**	(10.84)**	(9.83)**

\*P < 0.05, \*\*P < 0.01

Column 1 presented results of multivariate regression model excluding interaction and dummy variables. It indicates that all variables have significant impact on GDP per capita except aid, FDI and gross fixed capital formation. While equation 2 investigated the interaction effect and confirmed Burnside and Dallar (2002) findings that aid has conditional significant effect on GDP. It is witnessed in equation 2 that political stability is a sufficient condition for stimulate economic growth. The likely policy implication is that aid would have

significant effect on economic growth subject to good governance. Therefore, the study concludes that without good governance, aid has no effect in eliminating poverty and accelerating economic activities despite, political stability was observed. Finally, the study seeks to compare the impact of aid on economic growth with good governance by incorporating a dummy variable in both transition and developing countries and that there is no significant difference in transition and developing nations. The possible reason for homogenous effect of both transition and developing countries would be that developing countries are not market economy and structure of developing countries' economy is close to the transition economy and highly influenced by the government.

Control of corruption is another important governance indicator. Corruption hinders growth process and generates socioeconomic imbalances in the economy. Thus, it is imperative to investigate interaction and individual effect of corruption and aid on economic growth. The table 3 summarized the results incorporating corruption in the mode.

**Table 3:** Impact of ODA and Control of Corruption on Economic Growth for Developing and

## Transition Countries

Variables	GDPPC	GDPPC	GDPPC
<b>Control of Corruption</b>	1.414	0.319	0.351
Percentile	(2.28)*	(0.51)	(0.54)**
<b>Openness</b>	0.661	0.733	0.723
	(6.44)**	(9.35)**	(8.05)**
<b>POPt</b>	-0.081	-0.079	-0.079
	(3.02)**	(3.07)**	(3.10)**
<b>M2</b>	-1.053	-0.936	-0.981
	(3.04)**	(2.65)**	(2.88)**
<b>FDI</b>	1.296	0.803	0.763
	(1.84)	(1.19)	(1.08)
<b>ORGDP</b>	0.816	0.811	0.824
	(2.06)*	(1.91)	(1.85)*
<b>ARMIMPOTS</b>	0.199	0.228	0.212
	(1.76)	(2.03)*	(1.89)
<b>GEFGDP</b>	-0.680	-1.068	-1.134
	(0.85)	(1.34)	(1.43)
<b>Inflation</b>	-0.851	-0.843	-0.842
	(2.07)*	(2.09)*	(2.07)*
<b>Net ODAGNI</b>	0.886	1.030	0.987
	(4.51)**	(5.38)**	(5.21)**
<b>Y</b>		-0.037	-0.036
		(4.19)**	(4.07)**
<b>D1</b>			-17.326
			(1.28)
<b>Constant</b>	628.241	603.596	621.869
	(12.78)**	(13.09)**	(11.92)**

\*P < 0.05, \*\*P < 0.01

The first equation summarized results of the explanatory variable and concluded the same results showing that the proposed data has no severe problem like multicollinearity, simultaneity etc. The minimization in corruption has significant positive relation with GDP per capita implies that corruption is a key determinant of economic growth. Equation 2 estimated using interaction variable of aid and control of corruption and observed significant interaction effect. Further, it is revealed that Aid has significant positive effect on GDP per

capita indicating that control of corruption is imperative for effective utilization of aid. Unless corruption is controlled, aid has no effect on GDP per capita. Thus, our findings confirmed that corruption is the main constraint for aid utilization. Finally, equation 3 indulged that both transition and developing countries have similarities in economic systems. It implies that whether countries are developing or transition economy, the economy system in both economies highly influential by government rather than market economy.

The proposed study investigated aid and governance impact on economic growth as well as seeks interaction effect on economic growth. Three governance indicators are used to examine the relationship. The study concluded that political stability is a sufficient condition to accelerate the growth process but the key variable is good governance. Therefore, key finding of the study is that Institutions efficiency is critical for effective utilization of aid regardless, the structure of the economy. Unless governance is efficient, aid utilization is ineffective. Further, good governance also minimize corruption as our finding suggested that control of corruption has significant effect on economic growth. Thus, it is concluded that good governance is imperative to minimize corruption to foster economic growth.

The robustness test performed revealed that except political stability other two governance indicators and ODA found robustness. Thus, the study concluded that both control of corruption and government effectiveness are key indicators for effective aid utilization and political stability is a sufficient condition for generating economic activities.



## Chapter 4

### Conclusion and Policy Recommendations

The last five decades witnessed huge ODA inflows to developing countries both from multilateral and bilateral sources but there is no significant improvement in the living standards in these countries. Despite efforts made by developed countries, the underdeveloped countries failed to pick up momentum required for a persistent high growth mainly due to lack of effective governance and unstable political scenarios. Therefore, World Bank and other financial institutions emphasized developing countries to improve government efficiency and ensure effective implementation and utilization of ODA.

Keeping in view importance of ODA for developing countries, propose of the study was to investigate impact of ODA and governance on GDP per capita. Previous studies used government policies as a proxy to measure governance efficiency and found conditional significance of ODA on GDP per capita growth. However, some studies did not find any conditional significance relationship. The present study used different governance indicators estimated by World Bank such as political stability, government effectiveness and control of corruption for both transition and developing countries.

The panel data of 32 transition and 45 developing countries was collected for the period of 1996-2013 to estimate multivariate regression models for three different governance indicators with ODA. Our findings drew key policy recommendations for developing countries. We did not find any significant relationship between aid and GDP per capita while using political stability and government effectiveness as governance indicators but aid revealed significant positive relationship with GDP per capita when control of corruption was

used as a proxy of government effectiveness. It indicated that unless corruption is controlled ODA cannot provide fruitful and tangible results. Further, all governance indicators used in this study have significance positive effect on GDP per capita. Then, we included interaction variable of ODA and governance, the results confirmed conditional effect of ODA on GDP per capita with government effectiveness and control of corruption while it is insignificant with political stability.

We also investigated comparison of transition and developing countries by including dummy variable in the model. Our findings concluded that there is no significant difference between transition and developing nations. It has an important implication that institutions played vital role whether it is developing countries which the present study assumed closed to market economy and transition countries despite many transition countries are also developing countries. Therefore, all these nations need huge reforms to improve institutions efficiency which played key role in economic development. Further, fixed capital formation has no significant relation with GDP per capita. It suggested that huge government intervention prevents private sector to invest in real sector due to inconsistency in government policies. Finally, robustness of the model was estimated and found significant except for political stability. It shows that our methodology is quite good and results are not biased and could be used for policy formulation in future.

## Bibliography

- A Brautigam, D., & Knack, S. (2004, January). Foreign Aid, Institutions, and Governance in Sub-Saharan Africa. *Economic Development and Cultural Change*, 2.
- Arndt, C., & Oman, C. (2006). *Uses and Abuses of Governance Indicators*. OECD.
- Brautigam, D. (2000). *Aid Dependence and Governance*. School of International Services, 8.
- Burnside, C., & Dollar, D. (2004). *Aid, Policies, and Growth: Revisiting the Evidence*. World Bank Policy Research Paper, 1-35.
- Heckelman, J., & Knack, S. (2005). *Foreign Aid and Market Liberalising Reform*. World Bank Policy Research Paper, 5.
- Kaufmann, D., Kraay, A., & Zoido-Lobaton, P. (1999). *Governance Matters*. Policy Research Working Paper(2196), 2.
- Knoll, M., & Zloczysti, P. (2011). *The Good Governance Indicators of the Millennium Challenge Account*. Deutsches Institute für Wirtschaftsforschung, 5.
- M.A. Thomas. (2006). *Do the Worldwide Governance Indicators Measure*. The Johns Hopkins University.
- Santiso, C. (2011). *Good Governance and Aid Effectiveness: The World Bank and Conditionality*. Retrieved October 16, 2014, from <http://www.eldis.org/fulltext/conditionality.pdf>

Santiso, Carlos. "World Bank and good governance: good governance and aid effectiveness: the World Bank and conditionality." *Geo. Public Pol'y Rev.* 7 (2001): 1-137

Tony Blair, "Not Just Aid How Making Government Work Can Transform Africa" Center for Global Development, accessed October 3, 2014, <http://www.cgdev.org/publication/not-just-aid-how-making-government-work-can-transform-africa-tony-blair>.

Julia Betts and Helen Wedgwood, "Good Governance for Development", accessed October 10, 2014, <http://www.oecd.org/derec/unitedkingdom/50313780.pdf>.

The World Bank. (1994). Retrieved October 16, 2014, from The World Bank: <http://web.worldbank.org/Wbsite/External/Countries/Menaext/Extmnaregtopgovernance/0,,print:Y~isCURL:Y~contentMDK:20513159~pagePK:34004173~piPK:34003707~theSitePK:497024,00.html>

## Annex 1

```
. xtreg gdppc politicalstabilityandabsenceofvi openess popt m2 fdi orgdp armimpots gcfgdp inflation netodagni, robust

Random-effects GLS regression                Number of obs   =       934
Group variable: year                        Number of groups =        14

R-sq:  within = 0.0566                      Obs per group:  min =         1
        between = 0.4451                      avg =        66.7
        overall = 0.0565                      max =         78

Wald chi2(10) =    1391.36
corr(u_i, X) = 0 (assumed)                  Prob > chi2     =     0.0000
```

(Std. Err. adjusted for 14 clusters in year)

gdppc	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
politicalstabilityandabsenceofvi	1.776833	.5440015	3.27	0.001	.7106097	2.843056
openess	.7655868	.0810452	9.45	0.000	.6067412	.9244324
popt	-.0779179	.022641	-3.44	0.001	-.1222935	-.0335424
m2	-.8939824	.3613687	-2.47	0.013	-1.602252	-.1857127
fdi	1.032394	.7269566	1.42	0.156	-.3924151	2.457202
orgdp	.9134184	.4109104	2.22	0.026	.1080489	1.718788
armimpots	.2367507	.1098262	2.16	0.031	.0214953	.452006
gcfgdp	-.8922268	.7913328	-1.13	0.260	-2.443211	.6587569
inflation	-.8235172	.4020675	-2.05	0.041	-1.611555	-.0354795
netodagni	.9695681	.2081113	4.66	0.000	.5616774	1.377459
_cons	585.6465	43.55544	13.45	0.000	500.2794	671.0136
sigma_u	0					
sigma_e	344.36269					
rho	0	(fraction of variance due to u_i)				

## Annex-2

```
. xtreg gdppc politicalstabilityandabsenceofvi openness popt m2 fdi orgdp armimpots gcfgdp inflation netodagni y , robust
```

```
Random-effects GLS regression           Number of obs   =       934
Group variable: year                   Number of groups =        14

R-sq:  within = 0.0568                 Obs per group:  min =         1
      between = 0.4104                   avg =        66.7
      overall = 0.0566                   max =         78

Wald chi2(11) = 1768.78
corr(u_i, X) = 0 (assumed)             Prob > chi2     =      0.0000
```

(Std. Err. adjusted for 14 clusters in year)

gdppc	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
politicalstabilityandabsenceofvi	1.676919	.6744086	2.49	0.013	.3551022	2.998736
openess	.7674672	.0785502	9.77	0.000	.6135116	.9214227
popt	-.0777449	.0223191	-3.48	0.000	-.1214894	-.0340003
m2	-.8963778	.3628192	-2.47	0.013	-1.60749	-.1852652
fdi	1.034294	.7247807	1.43	0.154	-.3862499	2.454838
orgdp	.9173471	.4104224	2.24	0.025	.1129341	1.72176
armimpots	.2386208	.1088265	2.19	0.028	.0253249	.4519168
gcfgdp	-.9065888	.8012364	-1.13	0.258	-2.476983	.6638058
inflation	-.8239874	.4037867	-2.04	0.041	-1.615395	-.03258
netodagni	.6074667	1.15627	0.53	0.599	-1.658782	2.873715
y	.0109978	.0389596	0.28	0.778	-.0653617	.0873573
_cons	589.3955	52.35316	11.26	0.000	486.7852	692.0058
sigma_u	0					
sigma_e	344.52419					
rho	0	(fraction of variance due to u_i)				

### Annex-3

```
. xtreg gdppc politicalstabilityandabsenceofvi openness popt m2 fdi orgdp armimpots gcfgdp inflation netodagni y D1 , robust

Random-effects GLS regression           Number of obs   =       933
Group variable: year                   Number of groups =       14

R-sq:  within = 0.0570                 Obs per group: min =       1
      between = 0.3930                   avg =       66.6
      overall = 0.0570                   max =       78

Wald chi2(12) = 22878.50
corr(u_i, X) = 0 (assumed)             Prob > chi2     = 0.0000
```

(Std. Err. adjusted for 14 clusters in year)

gdppc	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
politicalstabilityandabsenceofvi	1.700002	.6749631	2.52	0.012	.3770983	3.022905
openess	.7583629	.0766542	9.89	0.000	.6081235	.9086024
popt	-.0783165	.0222405	-3.52	0.000	-.121907	-.034726
m2	-.9333776	.3485988	-2.68	0.007	-1.616619	-.2501365
fdi	1.013892	.7525011	1.35	0.178	-.4609835	2.488767
orgdp	.9309053	.4260199	2.19	0.029	.0959217	1.765889
armimpots	.2254771	.1090209	2.07	0.039	.0118001	.4391541
gcfgdp	-.9549359	.7914721	-1.21	0.228	-2.506193	.5963208
inflation	-.8196831	.4070099	-2.01	0.044	-1.617408	-.0219584
netodagni	.6258698	1.145279	0.55	0.585	-1.618836	2.870575
y	.0093004	.038265	0.24	0.808	-.0656977	.0842985
D1	-13.43404	12.54466	-1.07	0.284	-38.02112	11.15304
_cons	603.6191	56.18793	10.74	0.000	493.4928	713.7454
sigma_u	0					
sigma_e	344.59627					
rho	0	(fraction of variance due to u_i)				

## Annex-4

```
. xtreg gdppc governmenteffectivenesspercentil openness popt m2 fdi orgdp armimpots gcfgdp inflation netodagni, robust

Random-effects GLS regression           Number of obs   =       934
Group variable: year                   Number of groups =       14

R-sq:  within = 0.0515                 Obs per group: min =       1
      between = 0.5123                   avg =       66.7
      overall = 0.0517                   max =       78

Wald chi2(10) = 2700.88
corr(u_i, X) = 0 (assumed)             Prob > chi2     = 0.0000
```

(Std. Err. adjusted for 14 clusters in year)

gdppc	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
governmenteffectivenesspercentil	1.357408	.9714314	1.40	0.162	-.5465625	3.261379
openess	.6699647	.1029121	6.51	0.000	.4682607	.8716688
popt	-.0851858	.0283835	-3.00	0.003	-.1408163	-.0295552
m2	-1.046282	.3295263	-3.18	0.001	-1.692141	-.4004219
fdi	1.293848	.7429483	1.74	0.082	-.1623042	2.749999
orgdp	.7586119	.4115008	1.84	0.065	-.0479148	1.565139
armimpots	.1926212	.1180845	1.63	0.103	-.0388202	.4240625
gcfgdp	-.7513045	.8050683	-0.93	0.351	-2.329209	.8266004
inflation	-.8618072	.4191924	-2.06	0.040	-1.683409	-.0402052
netodagni	.9814347	.2154232	4.56	0.000	.5592129	1.403656
_cons	619.0759	57.42585	10.78	0.000	506.5234	731.6285
sigma_u	0					
sigma_e	345.30485					
rho	0	(fraction of variance due to u_i)				

## Annex -5

```
. xtreg gdppc governmenteffectivenesspercentil openness popt m2 fdi orgdp armimpots gcfgdp inflation netodagni yl , robust
```

```
Random-effects GLS regression           Number of obs   =    934
Group variable: year                   Number of groups =    14
```

```
R-sq:  within = 0.0586                 Obs per group: min =    1
      between = 0.5795                 avg =    66.7
      overall = 0.0590                 max =    78
```

```
Wald chi2(11) = 4363.62
Prob > chi2   = 0.0000
```

```
corr(u_i, X) = 0 (assumed)
```

(Std. Err. adjusted for 14 clusters in year)

gdppc	Robust					[95% Conf. Interval]	
	Coef.	Std. Err.	z	P> z			
governmenteffectivenesspercentil	2.322632	.8318775	2.79	0.005	.6921816	3.953081	
openess	.711943	.1159198	6.14	0.000	.4847444	.9391417	
popt	-.0788335	.0268288	-2.94	0.003	-.1314169	-.0262501	
m2	-1.013862	.3186876	-3.18	0.001	-1.638478	-.3892453	
fdi	1.185263	.7837738	1.51	0.130	-.3509052	2.721432	
orgdp	.6250788	.4022936	1.55	0.120	-.1634021	1.41356	
armimpots	.1749891	.1166517	1.50	0.134	-.053644	.4036221	
gcfgdp	-.7137706	.8432309	-0.85	0.397	-2.366473	.9389316	
inflation	-.8802627	.4020961	-2.19	0.029	-1.668356	-.0921689	
netodagni	4.486149	.8399444	5.34	0.000	2.839888	6.13241	
yl	-.1011551	.0257711	-3.93	0.000	-.1516656	-.0506447	
_cons	573.0394	52.85903	10.84	0.000	469.4376	676.6412	
sigma_u	0						
sigma_e	344.20764						
rho	0	(fraction of variance due to u_i)					

## Annex -6



```
. xtreg gdppc governmenteffectivenesspercentil openess popt m2 fdi orgdp armimpots gcfgdp inflation netodagni y1 D1 , robust

Random-effects GLS regression                Number of obs   =       933
Group variable: year                        Number of groups =       14

R-sq:  within = 0.0589                      Obs per group: min =       1
        between = 0.5811                    avg =          66.6
        overall = 0.0596                    max =          78

Wald chi2(12) = 4324.38
corr(u_i, X) = 0 (assumed)                  Prob > chi2     = 0.0000
```

(Std. Err. adjusted for 14 clusters in year)

gdppc	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
governmenteffectivenesspercentil	2.349473	.8454433	2.78	0.005	.6924342	4.006511
openess	.7031065	.1133027	6.21	0.000	.4810373	.9251756
popt	-.079265	.0268369	-2.95	0.003	-.1318645	-.0266656
m2	-1.056614	.3083119	-3.43	0.001	-1.660895	-.4523343
fdi	1.157987	.810388	1.43	0.153	-.4303442	2.746319
orgdp	.6390114	.4241336	1.51	0.132	-.1922751	1.470298
armimpots	.1604094	.1165592	1.38	0.169	-.0680423	.3888612
gcfgdp	-.7694017	.8292655	-0.93	0.354	-2.394732	.8559288
inflation	-.8766968	.4069103	-2.15	0.031	-1.674226	-.0791674
netodagni	4.475893	.8346981	5.36	0.000	2.839915	6.111871
y1	-.1019266	.0253575	-4.02	0.000	-.1516263	-.0522269
D1	-14.81397	14.35312	-1.03	0.302	-42.94556	13.31762
_cons	588.66	59.87656	9.83	0.000	471.3041	706.0159
sigma_u	0					
sigma_e	344.26502					
rho	0	(fraction of variance due to u_i)				

## Annex – 7

```
. xtreg gdppc controlofcorruptionpercentileran openess popt m2 fdi orgdp armimpots gcfgdp inflation netodagni, robust

Random-effects GLS regression                Number of obs   =       934
Group variable: year                        Number of groups =       14

R-sq:  within = 0.0519                      Obs per group: min =       1
        between = 0.5266                    avg =          66.7
        overall = 0.0522                    max =          78

Wald chi2(10) = 2668.30
corr(u_i, X) = 0 (assumed)                  Prob > chi2     = 0.0000
```

(Std. Err. adjusted for 14 clusters in year)

gdppc	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
controlofcorruptionpercentileran	1.414378	.6200535	2.28	0.023	.199095	2.62966
openess	.6607296	.1026562	6.44	0.000	.4595272	.861932
popt	-.0807974	.0267647	-3.02	0.003	-.1332552	-.0283396
m2	-1.053381	.346855	-3.04	0.002	-1.733204	-.3735577
fdi	1.296472	.7048237	1.84	0.066	-.0849568	2.677901
orgdp	.8159352	.395387	2.06	0.039	.0409908	1.59088
armimpots	.1985294	.1128402	1.76	0.079	-.0226333	.419692
gcfgdp	-.6796829	.8010113	-0.85	0.396	-2.249636	.8902704
inflation	-.8506595	.4111478	-2.07	0.039	-1.656494	-.0448247
netodagni	.8858567	.1965189	4.51	0.000	.5006867	1.271027
_cons	618.241	48.37829	12.78	0.000	523.4213	713.0607
sigma_u	0					
sigma_e	345.24015					
rho	0	(fraction of variance due to u_i)				

## Annex – 8

```
. xtreg gdppc controlofcorruptionpercentileran openess popt m2 fdi orgdp armimpots gcfgdp inflation netodagni y3 , robust
```

```
Random-effects GLS regression           Number of obs   =       934
Group variable: year                   Number of groups =        14

R-sq:  within = 0.0625                 Obs per group:  min =         1
      between = 0.4962                   avg =        66.7
      overall  = 0.0619                   max =         78

Wald chi2(11) = 2378.23
Prob > chi2   = 0.0000
```

```
corr(u_i, X) = 0 (assumed)
```

(Std. Err. adjusted for 14 clusters in year)

gdppc	Robust					[95% Conf. Interval]
	Coef.	Std. Err.	z	P> z		
controlofcorruptionpercentileran	.3185472	.6275681	0.51	0.612	-.9114636	1.548558
openess	.7326757	.0921539	7.95	0.000	.5520574	.9132941
popt	-.0788182	.025486	-3.09	0.002	-.1287698	-.0288665
m2	-.9356419	.3528753	-2.65	0.008	-1.627265	-.2440189
fdi	.8032724	.6771187	1.19	0.236	-.5238559	2.130401
orgdp	.8108773	.4246499	1.91	0.056	-.0214212	1.643176
armimpots	.2275552	.1120374	2.03	0.042	.0079659	.4471444
gcfgdp	-1.068117	.7974231	-1.34	0.180	-2.631038	.4948036
inflation	-.8434959	.4026971	-2.09	0.036	-1.632768	-.0542242
netodagni	1.029667	.1813061	5.68	0.000	.6743133	1.38502
y3	.0365773	.0087257	4.19	0.000	.0194753	.0536793
_cons	603.5963	46.10557	13.09	0.000	513.231	693.9615
sigma_u	0					
sigma_e	343.47334					
rho	0	(fraction of variance due to u_i)				

## Annex – 9

```
. xtreg gdppc controlofcorruptionpercentileran openess popt m2 fdi orgdp armimpots gcfgdp inflation netodagni y3 D1 , robust
```

```
Random-effects GLS regression           Number of obs   =    933
Group variable: year                   Number of groups =    14

R-sq:  within = 0.0626                  Obs per group:  min =     1
      between = 0.4864                    avg =    66.6
      overall  = 0.0624                    max =     78

Wald chi2(12)   = 57921.05
corr(u_i, X)    = 0 (assumed)           Prob > chi2     = 0.0000
```

(Std. Err. adjusted for 14 clusters in year)

gdppc	Coef.	Robust Std. Err.	z	P> z	[95% Conf. Interval]	
controlofcorruptionpercentileran	.3508926	.6460844	0.54	0.587	-.9154096	1.617195
openess	.7234957	.0898475	8.05	0.000	.5473979	.8995936
popt	-.0791348	.0255519	-3.10	0.002	-.1292156	-.029054
m2	-.9806253	.341076	-2.88	0.004	-1.649122	-.3121286
fdi	.7631033	.7075202	1.08	0.281	-.6236108	2.149817
orgdp	.8236941	.4440906	1.85	0.064	-.0467076	1.694096
armimpots	.2123512	.1121434	1.89	0.058	-.0074458	.4321482
gcfgdp	-1.134064	.7942233	-1.43	0.153	-2.690713	.4225854
inflation	-.8418694	.4060822	-2.07	0.038	-1.637776	-.0459629
netodagni	.9868786	.1893093	5.21	0.000	.6158392	1.357918
y3	.0364492	.0089551	4.07	0.000	.0188976	.0540008
D1	-17.32612	13.54213	-1.28	0.201	-43.86821	9.215964
_cons	621.869	52.18782	11.92	0.000	519.5827	724.1552
sigma_u	0					
sigma_e	343.57725					
rho	0	(fraction of variance due to u_i)				

## List of Developing Countries

Algeria	Egypt, Arab Rep.	Kenya	Pakistan	Tanzania
Argentina	Ethiopia	Malaysia	Peru	Thailand
Botswana	Guatemala	Mali	Paraguay	Trinidad and Tobago
Bolivia	Ghana	Morocco	Philippines	Uruguay
Brazil	Gambia, The	Malawi	Senegal	Venezuela, RB
Chile	Guyana	Madagascar	Sierra Leone	Zambia
Colombia	India	Mexico	Sri Lanka	Zimbabwe
Costa Rica	Indonesia	Nicaragua	Turkey	
Cote d'Ivoire	Honduras	Niger	Tunisia	
Ecuador	Haiti	Nigeria	Togo	

## List of Transition Countries

Albania	Estonia	Mongolia	Uzbekistan
Azerbaijan	Georgia	Poland	Vietnam
Armenia	Hungary	Romania	
Belarus	Kazakhstan	Russian Federation	
Bosnia and Herzegovina	Kyrgyz Republic	Serbia	
Bulgaria	Lao PDR	Slovak Republic	
Cambodia	Latvia	Slovenia	
China	Lithuania	Tajikistan	
Croatia	Moldova	Turkmenistan	
Czech Republic	Macedonia, FYR	Ukraine	

