BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF COMMERCE

GOVERNANCE-GROWTH NEXUS: A COMPARATIVE ANALYSIS OF COUNTRIES IN DIFFERENT OPERATIONAL LENDING GROUPS

SUBMITTED BY

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A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE MASTER OF SCIENCE DEGREE IN DEVELOPMENT ECONOMICS

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The undersigned certify that they have read and recommended to the Bindura University of Science Education, for acceptance a research project titled **'Governance-growth nexus: A comparative analysis of countries in different operational lending groups'**, submitted by Nobert Chapwanya in partial fulfilment of the requirements for the Master of Science Degree in Development Economics

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I, Nobert Chapwanya, Student Number B225745B, do hereby declare that this work represents my individual and original effort and that there is no prior submission to any university or institution of this or similar research work for a degree programme.

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DEDICATION

To my parents and my family for supporting me all the way emotionally and financially.

ACKNOWLEDGEMENTS

The researcher is grateful to God for the strength at every stage of this programme. The researcher is also grateful to the Bindura University of Science Education community, her lecturers with special mention of the dissertation supervisor, Mr Chigusiwa for his patience and sacrifice. The researcher wants to acknowledge his colleagues in the classroom. To them I say thank you ladies and gentlemen for the advice, the team work, laughter, encouragement and strength that you gave me. Last but not least, I earnestly thank my family, friends and workmates for their encouragement and moral support without which I would have been faint-hearted and easily despaired. Despite all the ups and downs and experiences, working on this project has been a great and memorable learning experience.

ABSTRACT

This study sought to investigate governance-growth nexus using the case experience of Blend and IBRD operational lending categories. There were four specific research objectives, the first one being to figure out the impact of individual governance indicators on economic growth in different lending groups. The second objective was to assess whether the impact of good governance on GDP growth depend on lending category or not. Thirdly, the study seeks to examine the influence of credit status on the governance-growth nexus. The last research objective was to investigate the overall long-term link between governance and economic growth. This study adopted the quantitative research approach to answer the research questions. The population in this study was made up of countries in both Blend and IBRD operational lending groups. These are all developing countries. The researcher made use purposive sampling techniques. Data was collected from World Bank databank and Standard & Poor databank. STATA package was used in coming up with the model results. The study found out that although government effectiveness and rule of law had a slightly significant negative result in Blend countries, generally good governance and economic growth had a positive connection. A close association between credit status and the governance-growth nexus was also established. It was also observed that there is a differential effect on economic growth between countries of different credit status. The study recommends policy interventions in on rule of law, government effectiveness and political stability so as to ensure economic growth. Ssecondly, the study recommends for the careful allocation of public resources so that governance issues receive a fair share in budgets nationally and internationally. To improve economic growth, governments are recommended to change the underlying institutional arrangements so as to change the equilibrium to which policy outcomes gravitate irrespective of operational lending category. The international community and governments need to promote rule of law. Rule of law is the basis for property rights and the adjudication of commercial claims, and protects a private sphere and individual human rights. Growth is only possible if there is a clear protection of property rights and enforcement of laws.

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LIST OF ABBREVIATIONS

IFIs	International Financial Institutions
FDI	Foreign Direct Investment
FEM	Fixed Effects Model
GDP	Gross Domestic Product
GE	Government Effectiveness
GFC	Gross Domestic Fixed Capital Formation
GFDR:	Global Financial Development Report
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
OECD:	Organisation for Economic Cooperation and Development
REM	Random Effects Model
RL	Rule of Law
SDGs:	Sustainable Development Goals
TO	Trade Openness
OLS	Ordinary Least Squares
PV	Political Stability and Absence of Violence
PL	Inflation
UN:	United Nations
UNCTAD:	United Nations Conference on Trade and Development
WGIs	World Governance Indicators

CHAPTER I

THE PROBLEM AND ITS SETTING

1.0 Introduction

The relationship between governance and economic growth has risen up the international policy debate, mainly when challenges of governance are at the center of many of the urgent problems confronting developing countries. In theory, the long-run positive link between good governance and growth is not disputable. In view of that, an active empirical research is to test this theoretically expected relationship. An additional area of enquiry has been motivated by the fact that good governance is multidimensional. It is thus likely that certain indicators of good governance are more relevant than others for economic growth of specific countries during specific periods. This study seeks to comparatively examines the role that good governance can play in supporting economic growth in IBRD and Blend countries, separating between effects of different governance indicators namely, political stability, government effectiveness and rule of law. As an introductory chapter, the background to the study, research questions and objectives, research problem, the significance of the study, scope, limitations and delimitations of the study will be unpacked. At the end of the study, recommendations were proffered on how Blend and IBRD countries should grasp the benefits of having a holistic governance system.

1.1 Background to the study

Until today, the relationship between good governance and economic growth have been enigmatic. Modelling this relationship has been one of the most contentious topics of concern to economic experts, research scientists, and policy experts in recent decades. This seems to be merely because a pretty obvious comprehension of the connection between these two variables is absolutely essential, particularly for policymakers seeking to formulate and implement effectual macro - prudential policies. Using panel data for the period 2001 to 2021, this study is a comparative analysis of the connection between governance and economic growth of countries in different operational lending categories. The World Bank usually classifies member countries based on income levels, geographic region and operational lending policies (operational lending categories). The lending categories include IBRD countries (International Bank for Reconstruction and Development), IDA countries (International Development Association) and Blend countries. Economies are classified into IDA, IBRD, and Blend categories based on the operational policies of the World Bank. This study focuses on Blend and IBRD categories. Blend countries are eligible for IDA loans but are also eligible for IBRD loans because they are financially creditworthy. IBRD countries are governments of middle-income and creditworthy low-income countries 12 eligible for loans on market-based rates. Governance refers to the nature of institutions and their capacity to provide adequate public goods and services.

United Nations Development Program UNDP (2019) however, points out that governance is the wielding of foresight by an administrative authority to ply political and economic activities in a manner that strives to birth rule of law, transparency, equity, effectiveness, efficiency and accountability. In this regards the World Bank Development Indicators (2018) has provided governance indicators that include Political Stability, Government Effectiveness and Rule of Law. On the other hand, economic growth is a measure of economic output for a given period of time, usually one year. Economic growth is a fundamental indicator about the health of an economy, it fuels a positive trajectory by enhancing national income and the level of employment, which increases the standard of living and reduces poverty (Agarwal, 2017). In conceptualization of economic growth Acemoglu (2009) sees economic growth as the increase in output produced in an economy, while Guha (1981) says economic growth is the increase in per capita income and individual welfare, Growth rates of per capita income in inter-country differences, if sustained overtime, is impactful on the living standards of such countries. The connection between the two is complex and can be influenced by many factors.

Although theory predicts mechanisms through which Governance can really influence GDP growth, the issue has stirred up considerable debate. Several approaches have been developed over the years that allow researchers to more thoroughly investigate the relationship that lies behind the relationship between these variables. Governance and economic growth are thoroughly interlinked, Asmara & Sumarwono (2021) expounded, though a debate exists whether GDP growth encourages quality governance or quality governance pushes GDP growth. Governance is a widely used concept. Kaufmann & Kraay (2002) described it as an authority operating through institutions and customs in a country. Al-Faryan & Shil (2022) note that the nexus has market-enhancing and growth enhancing.

Kaufmann et al. (1999) expounded that the main aim of quality governance should be to revitalise market-enhancing conditions. However, Al-Faryan & Shil (2022) note that market enhancing governance initiatives appear to be deficient in less developed countries due to spineless institutions as a consequence of extractive political culture. On the contrary, growthcompounding governance attempts to raise efficiency in resource utilization and productivity in the economy. However, Ahmad et al. (2012) concluded that growth-enhancing governance may intensify the chances of corrupt activities among the ruling elite and those politically connected. A prudent mixture of market and growth augmenting conditions are thus pivotal to positively drive the economic activity towards sustained growth.

The connection of governance and economic growth has been at the fulcrum of attracting development finance inflow from the International Financial Institutions (IFIs) to most developing economies to assist in the development agenda. In this light, most developing countries have been mostly affected by good governance conditions attached to these funds. Given the enormity of bad governance indicators replete amongst most developing countries, this has precipitated the focus on political and economic freedom as a requisite for economic growth. Heterogeneity of good governance amongst developing countries in different lending categories has opened up a yearning gap for the current study to fill, while considering the specificity and peculiarities.

A brief look at related empirical literature has revealed that better governance creates economic growth. Works such as Samarasinghe (2018), Kaufmann and Kraay (2002) and Ramadhan et al (2016), while using the various disaggregated governance indicators, inclusive of Voice and accountability, Political Stability, Government Effectiveness, Regulatory Quality, Rule of Law and Control of Corruption, as proxies for governance as provided by the World Bank revealed positive and significant connection. On the other hand, Ross (2016) while asserting that few studies tend to indicate the direction of the correlation between governance and economic growth, however, concluded that improving economic growth serves as the link to enhanced efficient governance. Sirowy and Inkeles (1990) arguments are aligned to this thinking as they posit via the conflict perspective theory that good governance can be established if only economic growth is improved. Further studies in the Governance-Economic growth nexus have unfolded mix results or bidirectional relationship. These works include Huag and Yuan-Hong (2016), Dollar, Kleineberg, and Kraay (2016), Salhodjaev (2015).

The case for the heterogeneity of governance- economic growth nexus is further reinforced given empirical studies by Knack (1995), Campos and Nugent (1999), Kaufmann, Kraay, and Zoido Lobaton (1999), Acemoglu, Johnson and Robinson (2004) identified problems associated with governance aggregation measures but concluded that good governance impacts economic growth positively. On the other hand, Sachs, McArthur, Schmidt- Traub, Kruk, Bahdur, Faye, & McCord (2004) has averred that the focus on governance as a catalyst to economic growth may be misguided given that if there are differences in development amongst developing countries then it might not be duly ascertained that such differences are traceable to the differences there in of the quality of governance amongst these countries.

Given these contentious issues of country heterogeneity and the possibility that the feedback to governance might arise from economic growth and development that this study attempts to evaluate the causality of the governance- economic growth nexus in Nigeria from 1999 to 2018, which the country has enjoyed about 20 years of uninterrupted democratic governance. The paper would further investigations on this causal relationship, using the both aggregated and disaggregated governance index as it interacts with economic growth so as to provide answers to the problematic.

This study contributes to the body of knowledge by identifying the nature of the relationship between good governance and economic growth, and the role that quality governance can play in this relationship. More so, this investigation is intended to contribute to the existing literature by highlighting the major aspects of this relationship in different lending categories of countries.

1.1 Statement of the problem

Because the creation of wealth is vital to the welfare of the majority of people worldwide, the current disarray in growth economics is not only a topic of academic interest but also of practical importance. The way how ruling authorities run affairs of their respective countries cannot be ignored because of the overall impact on economic growth and development. Puzzlingly, given that understanding the link between governance and economic growth is of paramount importance, much of the empirical literature has mostly focused on individual countries or a single group of countries. For example, Degboyega and Arikewuyo (2020) have examined the impact of good governance on economic development in Nigeria and Mahran (2023) has investigated the effects of governance on economic growth in a sample of 116 countries categorised by geographical boundaries. In contrast, there is scant literature on the relationship between governance and economic growth focusing on the three main lending categories namely IDA, IBRD and Blend countries (the exceptions are Rajkumar and Swaroop (2008) and Hallerod et al. (2013).

1.2 Purpose of the study

Although researchers have demonstrated that governance can have an impact on economic growth, there is still much to learn to ensure that governance-related policies are appealing to policymakers. Most importantly, as evidenced by the literature, the relationship between governance and economic growth has yet to be proven. It is critical to identify the key governance factors that influence economic growth in order to make effective policy interventions. As a result, the purpose of this research is to assess the impact of governance on economic growth in three operational lending groups. To achieve the study's goal, four objectives have been established:

1. To figure out the impact of individual governance indicators on economic growth in different lending groups.
2. To assess whether the impact of good governance on GDP growth depend on lending category or not.
3. To examine the influence of credit status on the governance-growth nexus.
4. To investigate the overall long-term link between governance and economic growth.

1.3 Research questions

The main question that this study sought to answer is, 'what is the influence of operational lending category on the governance-growth nexus?'

The specific research questions are:

1. What is its impact of individual governance indicators on economic growth?
2. Does the impact of good governance on GDP growth depend on lending category?
3. Is there any influence of credit status on the governance-growth nexus?
4. What is the long-term relationship between governance and growth?

1.4 Research hypotheses

Six null hypotheses along with an alternative hypothesis are developed to address the research questions. The first null hypothesis and the alternative hypothesis focused on addressing the first question, whereas the remaining null hypotheses are concentrated on addressing the second question. The first question is oriented on exploring the relationship between governance and economic growth, while the second question looks at the magnitude of influence of each indicator. As for the third question, its answer will be drawn from theoretical literature as well as the empirical results of this study.

The formulated hypotheses are stated as follows:

Hypothesis 1: There is no statistically significant connection between governance and economic growth in IBRD and Blend countries.

Hypothesis 2: Political stability has no impact on economic growth in IBRD and Blend countries.

Hypothesis 3: Government effectiveness has no impact on economic growth in the IBRD and Blend countries.

Hypothesis 4: Rule of Law has no impact on economic growth in IBRD and Blend countries.

Hypothesis 5: Credit status has no impact on governance-economic growth link in IBRD and Blend countries.

Hypothesis 6: There is a statistically significant differential relationship between governance dimensions and economic growth in IBRD and Blend categories.

1.5 Significance of the study

Although the overall picture of the linkage between governance and economic growth has been derived, it is still valuable to elaborate more on the linkage taking into account various operational lending groups. Different lending categories are significant in this study because they allow the identification and description of each category's governance characteristics. This allows the category to be defined, compared, and contrasted with other categories.

Categorization of different operational lending groups is also important in determining whether presence or absence of financial ability to borrow from the IBRD, ineligibility or eligibility for IDA loans, and financial creditworthiness are critical factors influencing the relationship between governance and economic growth.

This study is of significance to numerous groups, which encompass academicians and researchers, governments and policy makers. Governments and policy makers could use the findings of this study to assess the effect of good governance on economic growth and on overall development. This study will act as a vital source of literature for review by future studies. Furthermore, the study provides to the body of knowledge by imparting insights to issues around governance and economic growth in the whole world.

1.6 Delimitations of the study

This study is concerned with the relationship between good governance and economic growth in different operational lending groups, namely, IBRD and Blend. Because of data unavailability 73% of Blend and 84% of IBRD countries were included. From a total of 144 countries in the three categories, this research focuses on a panel of 97 countries. The three governance indicators, namely, Political Stability and Absence of Violence/Terrorism, Government Effectiveness and Rule of Law were used as proxies of good governance. Data from the World Bank for the period from 2001 to 2020 was used. Economic growth is the dependent variable, three indicators of governance are dependent variables and control variables include net savings, trade openness, inflation, foreign direct investment and gross fixed capital formation.

The research will not examine the relationship in developed countries because they are not party of the lending categories under the study.
The study only focuses on the 'governance to economic growth" part of the causality. It examines the impact of governance on the level of economic growth not vice-versa.

1.7 Limitations

The current investigation, while it gives some light on the relationship between governance and economic growth, has some drawbacks. These limits are the result of data incompatibility. The lack of data for some years and countries thereby limit the scope of analysis, the size of sample, or it can be a significant obstacle in finding a trend and a meaningful relationship. To solve this limitation, the periods and countries with incomplete data were dropped because the number of years and countries without complete data were not significant.

Lack of prior research studies on the nexus between governance and economic growth particularly focusing on the three operational lending groups is another limitation. Citing prior research studies forms the basis of literature review and helps lay a foundation for understanding the research problem investigated being. Most studies focus on the income groups of countries and individual countries.

The time available to investigate this research problem and to measure change or stability within a sample is constrained by the submission date of this research. Work, family, leisure and research need to balanced. As a result, a topic that does not require an excessive amount of time to complete the literature review, apply the methodology, and gather and interpret the results was chosen.

1.8 Definition of terms

- **Economic growth**: Economic growth is the development of activities in the economy that causes goods and services produced in society to increase and the prosperity of society to increase. In conceptualization of economic growth Acemoglu (2009) sees economic growth as the increase in output produced in an economy, while Guha (1981) says economic grow this the increase in per capita income and individual welfare. Economic growth is the process of changing the economic conditions of a country on an ongoing basis towards a better state, namely an increase in the physical production of goods and services prevailing in a country (Andesta et al., 2022).

- **Governance**: Kaufmann (2003) defines governance as the exercise of authority through formal and informal traditions and institutions for the common good, thus encompassing:
    - ❖ the process of selecting, monitoring and replacing governments;
    - ❖ the capacity to formulate and implement sound policies; and
    - ❖ the respect of citizens and the state for the institutions that govern economic and social interactions among them.

In the same vein, the World Bank describes governance as consists of the traditions and institutions by which authority in a country is exercised. This includes the process by which governments are selected, monitored and replaced; the capacity of the government to effectively formulate and implement sound policies; and the respect of citizens and the state for the institutions that govern economic and social interactions among them" (World Bank, 2013).

- **Governance indicators:** Governance indicators refers to World Governance Indicators (WGIs) published by the World Bank, are derived from a mixture of governance data from a wide variety of sources (Quibria, 2006). The WGI dataset present information on six aggregate indicators, which are voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. Governance indicators are indices used to measure governance.
- **Operational lending categories**: Operational lending categories are groups of similar countries classified by the World Bank in accordance with their credit worthiness and level of development. In this study two operational lending groups namely, Blend and IBRD categories were used. Blend countries are countries that are eligible for both International Development Association (IDA) support and International Bank for Reconstruction and Development (IBRD) borrowing. IBRD countries are nations with per capita income above the operational cut-off and creditworthy or have limited creditworthiness to borrow from IBRD.

1.9 Organisation of the study

The study is made up of five chapters. This introductory chapter provided the background of the study, problems statement, research objectives, research questions, significance of study, statement of the hypotheses, delimitation of study, and definition of key terms. Chapter two provides literature review. There is a review of theoretical literature, conceptual, and empirical literature review. Chapter three will present and discuss the research methodology. The chapter provides research philosophy, research design, population, sampling, research instruments, and ethical considerations. Data analysis, presentation, and discussions will be done in chapter four. Chapter five concludes the research and it presents the major findings from the study conducted and also the recommendations.

1.10 Organisation of the study

The study is made up of five chapters. This introductory chapter provided the background of the study, problems statement, research objectives, research questions, significance of study, statement of the hypotheses, delimitation of study, and definition of key terms. Chapter two provides literature review. There is a review of theoretical literature, conceptual, and empirical literature review. Chapter three will present and discuss the research methodology. The chapter provides research philosophy, research design, population, sampling, research instruments, and ethical considerations. Data analysis, presentation, and discussions will be done in chapter four. Chapter five concludes the research and it presents the major findings from the study conducted and also the recommendations.

1.11 Chapter summary

This chapter looked at the general problem area. Focus was on background to the study, statement of the problem, research objectives, research questions, statement of the hypotheses, and explanation on the importance of the study. The chapter also presented the delimitation of the study, and definition of terms. The next chapter looks ate literature review.

CHAPTER II

LITERATURE REVIEW

2.0 Introduction

This section introduces the concepts governance and economic growth, followed by a theoretical review of the relationship between governance and economic growth, and finally, savings, investment, trade openness, and economic growth in various theories/models.

2.1.0 Theoretical framework

2.1.1 Theoretical link between governance and the growth of the economy

Governance is a broad and complex concept. It describes how state power is used to manage the economic and social components of the state (World Bank, 1994). The way the state wields power is linked to a set of institutions that act as catalysts for economic growth. There is a set of fundamental institutions required for economic growth, according to North (1991), Grief (1994), Acemoglu and Robinson (2012), Acemoglu and Robinson (2010), North & Thomas (1973), and Rodrik and Subramanian (2003). Well-defined property rights, unbiased contract enforcement, a low information gap between buyers and sellers, and stable macroeconomic conditions are examples of these institutions.

2.1.2 Major growth theories and governance

Political stability, the absence of terrorism and violence, competent government policy formulation and implementation, improved regulatory mechanisms, reduced corruption, and adherence to the rule of law are all examples of good governance (Kaufmann, Kraay, & Mastruzzi, 2010). The provision of accomplished governance leads to improvements in the aforementioned institutions. The Solow model, new growth theory, and social infrastructure view can all be used to explain the increase in economic growth as a result of high-quality institutions, both directly and indirectly. World Governance Indicators (WGI)

2.1.3 Modern economic growth and performance theory

Adam Smith pioneered modern economic growth and performance theory in his 1776 book The Wealth of Nations. The main factors of economic growth, according to Smith, are division of labour and capital accumulation. However, these are constrained by what he refers to as "market extent." This is influenced primarily by geographical factors, but also by institutional factors such as the political-legal environment. Improved institutions create a favourable environment for investors. According to this logic, increased investment in physical and human capital development is appropriate. Human capital development includes the knowledge, abilities, and skills that an individual worker acquires through the learning process (Romer, 2001), and it results in an increase in output per worker. Increased investments in physical capital, on the other hand, increase capital per worker when compared to the initial condition. These approaches eventually lead to economic growth via the capital accumulation process (Romer, 2001).

2.1.4 The Solow growth model

The basic Solow (1956) growth model suggests that capital accumulation plays a pivotal role for the growth of an economy. According to this model the rise in the saving rate affects the stock of capital and the level of per capita, but does not affect the rate of economic growth. The model further shows that aggregate saving (investment) determines the growth of capital stock, which, in turn plays a key role in the growth of an economy. Although the saving rate has no effect in the long run on the growth rate per capita, it affects (positively) the level of per capita income in the steady state. But changes in the saving rate affect the rate of growth in the short run (Agénor and Montiel, 2008). The implication of the Solow model is that an increase in the saving rate increases per capita output and per capita capital stock in steady- state. A higher savings rate will bring about more investment per unit of output than it did before- which in turn will lead to an expansion of capital per worker. The process, however, comes to a halt as for a given growth rate of labour, as increasing proportion of investment will be devoted to maintaining this higher capital-labour ratio. The saving rate thus determines the level of per capita capital stock and thus per capita output towards which the economy gravitates in equilibrium, rather than the rate at which either magnitude changes. Higher-quality institutions can contribute to the Solow model by increasing technology availability. Any form of bad governance, such as high political violence, terrorism, and widespread corruption, clearly harms citizens mentally and physically by reducing their productivity. Then, it is reasonable to assume that improved governance removes these physical and mental constraints, resulting in increased labour productivity.

Hall and Jones (1999) comment on the Solow model, arguing that physical capital accumulation and worker learning achievements can only explain a portion of output per worker. Policy and institutional differences across countries account for a significant portion of the remaining cross-country differences in per-worker output (Hall & Jones, 1999). Furthermore, North (1991), North and Thomas (1973), Grief (1994), Acemoglu and Robinson (2008, 2010 & 2012) explain the role of institutions and government policies in economic growth from different perspectives. Better governance, according to this theory, creates favourable institutions and government policies that encourage investment and production. Economic growth is caused by increased investment in human and physical capital. Better institutions and government policies, on the other hand, direct a country's valuable resources toward production rather than diversion. Allocating a country's resources for investment and production raises future output (Romer, 2001).

2.1.5 Endogenous growth model

The long-run economic growth process is explained by an endogenous force such as knowledge spillover, human capital, and information technology in new growth theory. New technologies and innovations do not emerge by chance, but rather as a result of the nature of institutions. According to this theory, technology is a driving force for economic growth (Romer, 2001; Mankiw & Ball, 2011). The rate of technological progress rises in tandem with the rate of knowledge accumulation. As stated by this model, research and development generate knowledge (Romer, 2001), and favorable institutions such as property rights encourage investment in R&D and thus contribute to economic growth.

Romer (2001) identifies two paths to consider when studying economic growth: growth over time and regional disparity. The Solow model and new growth theory can explain long-term growth. However, these neoclassical growth models fall short of explaining global regional disparities. Although the concept of social infrastructure has the potential to provide a better explanation for regional differences, there aren't enough high-quality studies in this field (Romer, 2001). However, as previously stated, better governance can create favorable economic conditions for technological progress, as well as the human and physical capital formation necessary for economic growth.

Khan (2007) classified governance capabilities into "market enhancing" and "growth-enhancing" governance. Market structural constraints in developing economies necessitate critical governance capacities to boost growth and development. Furthermore, technologically backward economies with effective institutions have the potential to "catch up" with technologically advanced nations. Market-enhancing governance capabilities include the ability to maintain stable property rights, to ensure efficient and low-cost contracting and dispute resolution, and to deliver public goods and services efficiently. Efficient markets ensure the attraction and maximization of investments in technological advancements. In general, countries with good and adequate governance are more likely to advance economically. China and India are examples of how governance affects economic growth. Both countries' growth has been accompanied by average governance levels that are higher than in most other poor countries (Keefer, 2006). Political checks and balances are important in improving a country's governance outcomes.

2.2 Disaggregated governance indicators and economic growth

Various types of indicators are used as proxy variables for governance in the literature. Recent studies, however, have primarily used the World Governance Indicators (WGI). These indicators look at six aspects of governance: voice and accountability, political stability and the absence of violence/terrorism, regulatory quality, government effectiveness, corruption control, and the rule of law. This section examines the effects of key governance factors on economic growth.

2.2.1 The rule of law

The rule of law is an important institution for economic growth because it is directly related to ensuring personal security, property rights, impartial contract enforcement, and corruption control (Haggard & Tiede, 2011). To maintain the rule of law and avoid the consequences of government failure, a government must maintain law and order, judicial independence, and corruption control. Butkiewicz and Yanikkaya (2004), Rogobon and Rodrik (2004), and Hoggard and Tiede (2011) all emphasize a positive relationship between the rule of law and economic growth. Corruption, expropriation, and violence are more likely in developing countries where the rule of law is weak (Hoggard & Tiede 2011). According to Rogobon and Rodrik (2004) and Butkiewicz and Yanikkaya (2004), the rule of law and democracy work together to increase economic growth.

2.2.2 Government effectiveness

The quality of government service, competent policy formulation, and the ability to implement desired policies all contribute to government effectiveness (Kaufmann, Kraay, and Mastruzzi, 2010). In the process of economic growth, La-Porta et al. (1999) emphasize the importance of limited government intervention, a competent bureaucracy, and legitimacy in property rights and contract enforcement. According to Easterly and Levine (1997), there is enormous income diversity among ethnic groups in Africa, and one of the factors tying this diversity together is ineffective public policy. An unequal distribution of public goods supported by poor public policies may exacerbate inequality among different communities and ethnic groups, affecting economic growth. Furthermore, La Porta et al. (1999) assert that better performing governments in developed countries collect a higher percentage of tax than those in developing countries. Higher-income governments can invest in human and physical capital formation. According to Burnside and Dollar (2000), foreign aid is more effective when the recipient country has a stable and supportive policy environment.

2.2.3 Political stability

Some studies show a significant positive relationship between political stability and economic growth (Younis et al., 2008; Ramadhan et al., 2016; Tan & Abosedra, 2014; Aisen & Veiga, 2011). The country's political system is critical to ensuring the country's political stability. Both democratic regimes and the multi-party system reduce political stability and, as a result, economic growth (Younis et al., 2008). The one-party political system and high levels of political stability can be attributed to China's economic miracle. However, it is reasonable to argue that India's low economic prosperity is due to higher levels of democracy and a multi-party political system (Younis et al., 2008). Pere (2005), on the other hand, discovered that political stability had no statistically significant effect on economic growth. According to Alesina et al. (1992), political instability has a negative and significant impact on economic growth.

2.3 Empirical review

The link between economic growth and governance is critical for developing macroeconomic policies. As a result, the role of good governance in stimulating growth has recently received increased attention in many empirical studies. The sections that follow present some of the empirical literatures that have been reviewed in the area of the relationship between governance and economic growth.

Several studies have been conducted on the role of good governance in contributing to economic growth. Evans' (1996) study reveals the impact of bureaucracy on economic growth in 35 developing countries from 1970 to 1990. This study employs GDP data as economic growth and factors in the bureaucracy with government policies. The findings indicate that the Weberian bureaucracy wields significant power and merits inclusion in the economic growth model.

According to the findings of the research, Chang (1998) demonstrates how misleading the current widespread belief that many Asian countries need to embark on radical institutional reforms to bring them closer to the "best practices" that Anglo-American institutions should pursue is. Not only is there no single best institution that every country should adopt, but many Asian institutions, which are currently accused of causing inefficiency and even being to blame for the current crisis, have played an important role in their development. Daniel Kaufmann and Aart Kraay (2002), as well as Robert J Barro (1996, p. 2), conducted several econometric studies. Daniel Kaufman (2010, p. 4) defines six good governance variables: 1) freedom of expression and responsibility 2) Political stability and low levels of violence/terror intensity; 3) government effectiveness; 4) legislative quality; 5) supremacy law; and 6) corruption control. The six variables of good governance, according to Kaufmann, are related to market efficiency and economic growth.

Meanwhile, Khan (2007, p. 3) mentions Kaufmann as an example of a liberal economist who is committed to improving market governance. The strategy focuses on improving governance in order to drive market improvements that reduce transaction costs and allow marketplaces to operate more efficiently. Kaufmann's study, according to Khan, was challenged by heterodox economists who believed that an efficient market alone was insufficient. Furthermore, productivity must be increased through technological innovation, political stability, and rapid transformation (growth-enhancing governance). Kaufmann, on the other hand, believes that the heterodox economist's growth-enhancing good governance approach necessitates an increase in government capabilities (growth-enhancing government capabilities).

Two findings are highlighted by Hagard (2004). First, there are numerous institutional means for addressing the collective action, credibility, and information issues that are impediments to growth. The search for a single institutional "taproot" for growth is likely to be futile, and more emphasis should be placed on understanding the various forms of capitalism in East Asia. Second, institutions are endogenous to other political factors that appear to be more important to growth, such as the nature of the relationship between the state and the private sector.

Hasyim (2008) discovered that countries with high growth rates have good institutional characteristics, as measured by a variety of variables such as judicial efficiency, economic freedom, low levels of corruption, effective government, and property protection. Economic freedom is a key factor in influencing growth and investment; it also characterizes a good institution.

Meanwhile, Wibowo (2013, pp. 8-10) concludes that freedom of expression and responsibility, political stability, regulatory quality, and corruption control have no effect on economic growth in five EAST ASIA countries from 2011 to 2017. Only variable governance and the rule of law have an impact on economic growth.

Lehne, Mo and Plekhanov (2014) divided Kaufmann's indicators of good governance into two categories in their study of 121 countries, including Indonesia. Economic institutions and political institutions are the two types of indicators. Economic institutions' indicators include: i) the quality of legislation, ii) the effectiveness of government, iii) the rule of law, and iv) corruption control. Freedom of expression and political stability are two indicators of political institutions. Political institutions, according to Jonathan, are related to economic institutions. Except for Singapore, autocratic countries generally have weak political and economic institutions. Democracies, on the other hand, have strong political and economic institutions. In practice, however, this relationship is influenced by natural resource wealth, history (colonial), geography (natural disasters; climate), ethnic race, and economic openness. In this study, this political institution variable is denoted as polity. The polity index scales from -10 (representing a fully autocratic regime, such as a monarchy) to 10 (representing a well-functioning democracy). Countries with a polity score of less than -5 are classified as "autocracies" by the Center for Systemic Peace. In this study, this political institution variable is denoted as polity. The polity index ranges from -10 (representing a fully autocratic regime, such as a monarchy) to 10 (representing a functioning democracy). Countries with a polity score of less than -5 are classified as "autocracies" by the Center for Systemic Peace. In this study, this political institution variable is denoted as polity. The polity index ranges from -10 (representing a fully autocratic regime, such as a monarchy) to 10 (representing a functioning democracy). Countries with a polity score of less than -5 are considered "autocracies" (Center for Systemic Peace).
Kaufman's study inspired subsequent research using the regression method. Noha Emaran and I Ming Chiu (2016, p. 135) conclude that in Middle Eastern and North African countries, there is a positive relationship between good governance and per capita income. If good governance increases by one unit, income per capita rises by 2%.

Alam and colleagues (2017, p. 5) provide empirical evidence that government effectiveness has an impact on economic growth in their study of 81 sample countries. Richard Mira and Ahmed Hammadache (2017, pp. 234-235) agree with the Khan study. In countries with economic and social policies that support the development of governance institutions, good governance is important for economic growth. Rachid Mira, citing Khan's study, stated that the study of

Kaufmann and his followers had two flaws: temporality and political and institutional capacity. Good governance indicators in the 1980s and 1990s were not related to economic growth during the same time period.

Puruweti Siyakiya (2017, p. 16) provides empirical evidence, as do Jean-Baptiste Hanyarimana and Berttrand Dushimayezu (2018, p. 13) using a sample of 28 European Union countries. Rwanda's good economic performance, economic growth, and development are aided by good governance.

Paitoon Kraipornsak (2018, p. 102) concludes that from 1996 to 2016, good governance was a critical factor in contributing to economic growth in 16 developing Asian countries, including Indonesia. According to Kraipornsak, achieving a composite index of good governance of 1% from the previous year can help increase the per capita income of Asian countries in the sample by US$ 31.34, or 0.54 percent per year. According to Jiandang Liu and colleagues (2018, pp. 1-23), the quality of good governance in China has a positive impact on economic growth. Because good governance reduces the pressure of arbitrary power, this positive impact is possible.
According to Tharanga Samarashinge (2018, pp. 33-34), effective corruption control contributes to economic growth in a number of Asian, African, and North American countries. Effective corruption control, while also ensuring political stability and zero terrorism, has a greater impact on economic growth. Samarange discovered that freedom of expression and political stability had no positive effect on economic growth. Anna Marija and Krista Bulderberga (2018, p. 33) conclude that institutional development had a positive impact on economic growth in the Balkans from 2006 to 2016. Anna's research makes use of WGI data as well as other variables. These variables are as follows: a) the global competitiveness index for institutional pillars, b) the macroeconomic index, c) the demographic index, and d) economic freedom.

In 2002-2015, Chan Phuc Nguyen, Thanh Dinh Su, and Thai Vu Hong Nguyen (2018, p. 1952) conducted the same study in 29 emerging market countries and conclude that institutional quality is critical in stimulating economic activity and accelerating growth. In the studies of Anna Marija Radzevica and Krista Bulderberga (2018), Puruweti Siyakiya (2017), Canh Phuc Nguyen, Thanh Dinh Su, and Thai Vu Hong Nguyen (2018), institutions are defined using six indicators of good governance.

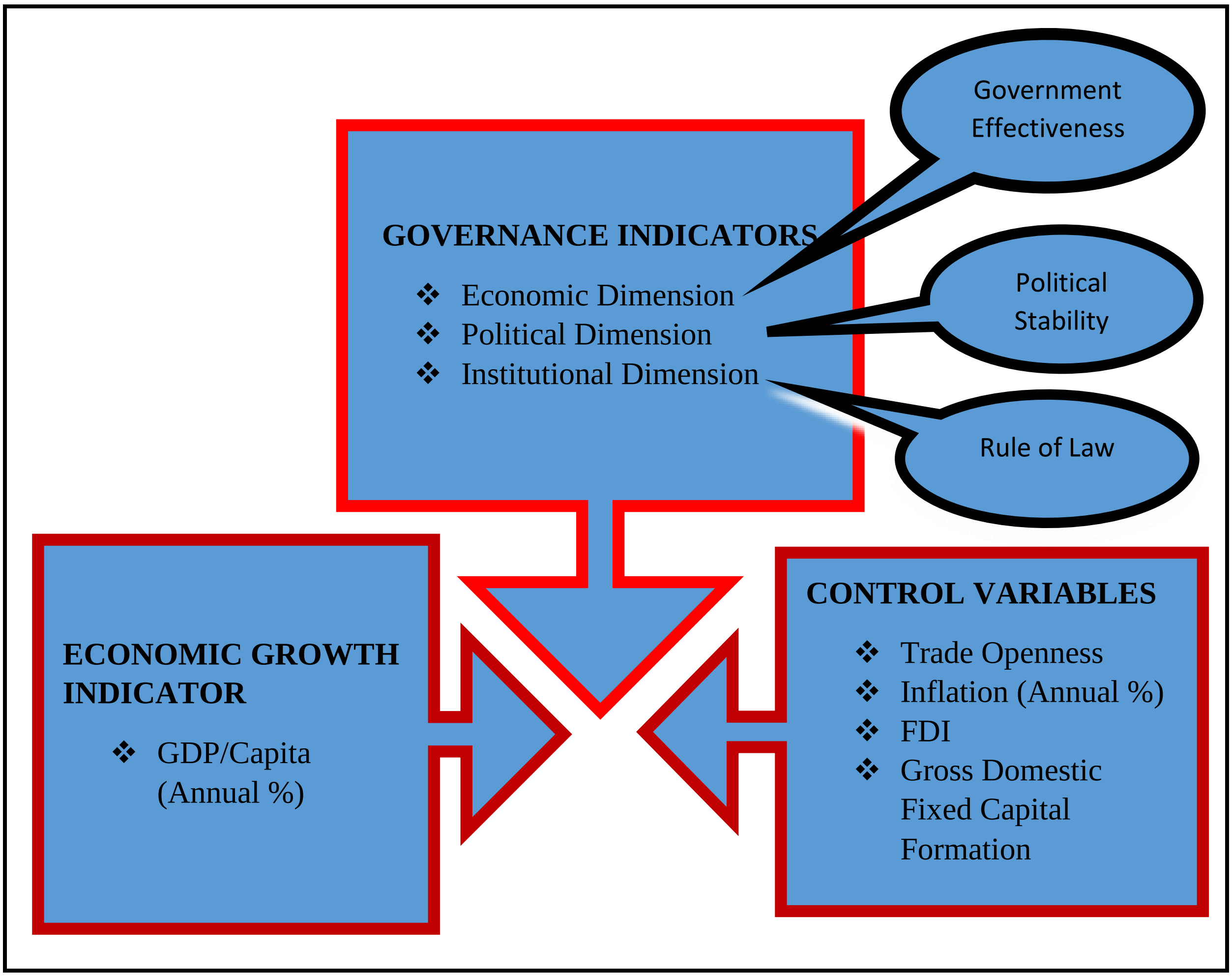
In Sub-Saharan Africa, Kokou Dzifa and Kossi Edem Baita (2019, p. 2) provide empirical evidence that improvements in good governance contribute to increased economic growth. Government effectiveness and the rule of law, according to Kokou, are important factors in promoting economic growth. With data from 2002 to 2018, Muhammad Ramadhan (2019, p. 2596) concludes that six good governance variables have a significant positive influence on Indonesia's economic growth.

Zhang Zhuo, Sultan of Almaki, and Bashir Muhammad Sherkan (2020, p. 2) conducted a similar study using panel data from 31 developed European countries from 2002 to 2018. The study discovered a significant effect of supremacy law, corruption control, freedom of speech, and economic growth responsibility. Zhang's research also discovered the effect of a 1% increase in governance effectiveness, political stability, and regulatory quality against economic decline.

2.4 Conceptual framework

As shown in figure 2.1 on the next page, in this study economic growth is influenced by governance. The independent variables, which are Rule of Law, Government Effectiveness and Political Stability and Absence of Violence influence economic growth of countries in various operational lending groups. Figure 2 shows the concept mapping of all the study variables including independent, dependent and control variables. As indicated in figure 2.1, the three governance independent variables have an influence on the dependent variable, which is economic growth. However, to control endogeneity, Savings, Gross Fixed Capital Formation, Net National Savings, Foreign Direct Investment, Trade Openness and Inflation, are control variables.

Figure 2.1: Concept mapping of study variables



Source: Author

2.5 Chapter summary

A literature review was conducted on the effect of devolution on local development, with several instances proving devolution can play an important role in enhancing local and regional development. This chapter provided the theoretical foundation for the inquiry. This study's main topics and concepts were also examined. The study also looked at the experiences of other countries, such as the Kenya, South Africa and Brazil in order to draw lessons about how devolution in those countries have enhanced local and regional development.

CHAPTER III

RESEARCH METHODOLOGY

3.0 Introduction

This chapter is dedicated to the orderly research design and methodology employed to gather data required to answer the investigation questions and ultimately contribute to addressing the research problem specified in the first chapter. The research is aimed to comparatively inspect the link between governance and economic growth in the IBRD and Blend countries over the period of 2002-2021. Three crucial questions have been delineated that this study is intended to address. The first research question concentrates on the effect of governance on economic growth among states in the IBRD and Blend countries and examines the effect of each indicator of governance on economic growth with the use of an econometric model to find which dimensions have the highest influence. The second question goes in depth to statistically analyse and compares credit status effect on governance-growth link in IBRD and Blend categories. The third question focuses on an in-depth analysis on the differential effect of governance on economic growth between countries of different credit status. A comprehensive study will be conducted in two operational lending categories. Based on the observed results as well as the theoretical literature, concrete recommendations will be provided.

3.1 Research design

One of the key stages in research is that a relevant research design is correctly selected and in agreement with the investigation purpose. A research design is an organized plan to guide the researcher from the initial point of outlining the problem to the findings. Cresswell (2008) defines a research design as a plan and processes for research that span the decisions from wide-ranging assumptions to comprehensive methods of data gathering and analysis. Cresswell (2008) further observes that research designs can be either: quantitative, qualitative, and mixed methods. A quantitative study can be experimental, quasi experimental, or correlational.

In the context of this investigation, it is designed to employ a quantitative statistical methodology, an econometric model based on the examination of the use of panel data set over the period 2002-2021 for IBRD and Blend countries, which are defined as the research population, to examine the correlation between governance and economic growth. Leavy (2017) postulates that quantitative research values breadth, statistical descriptions, and generalizability. Quantitative methodologies to research focus on attaining objectivity, control, and accurate measurement. Stata software will be used to statistically analyse the data that will be collected from the World Bank's WGI dataset. The OLS will be used to estimate the coefficients of the independent and dependent variables as well as estimating the effect of controlling variables. The robust standard errors model will be used also to solve the problems with the standard error and solve for heteroskedasticity.

3.2 Population

A population is a gathering of individuals or objects having comparable characteristics of a defined variable of the researcher's interest. The population of this study comprises two operational lending groups, namely IBRD and Blend categories. 15 Blend countries and 61 IBRD countries were made up the total population giving a total population of 76 countries.

3.3 Sampling

It was not being possible for the researcher to collect data from all the 76 countries. Therefore, a section of the population was studied. The primary purpose of sampling was due to data unavailability from some countries. Instead of using information from all members of the population, the researcher took information from only a part of the population. The researcher made use of purposive sampling techniques. For the IBRD and Blend category, 51 and 11 countries were selected respectively.

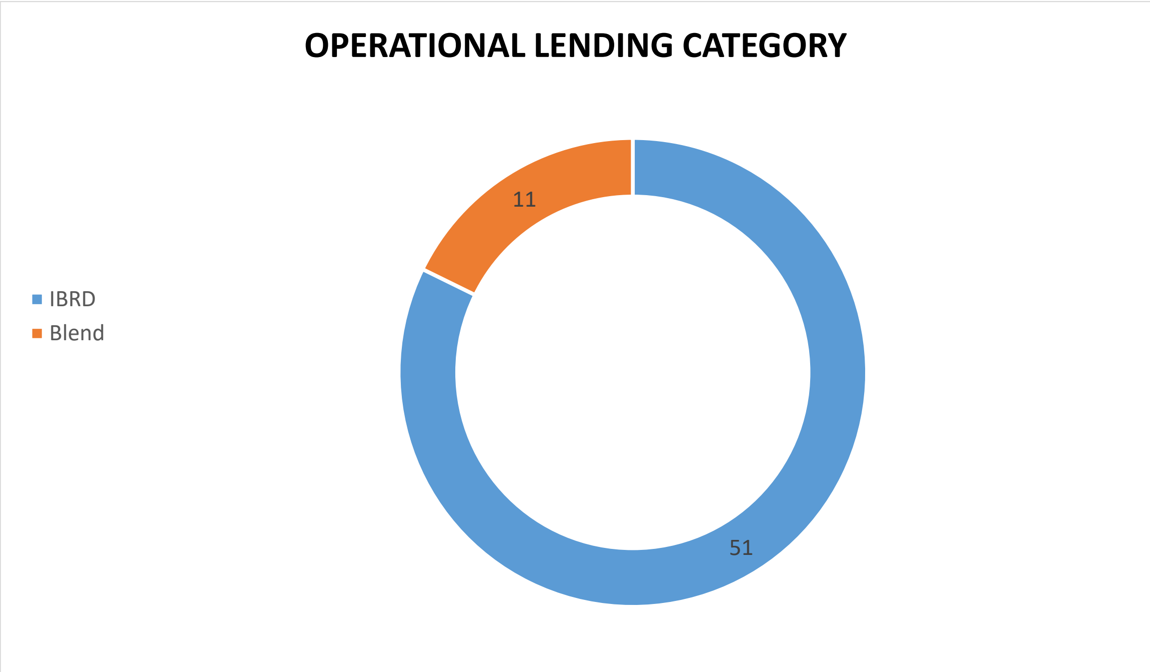
3.4 Purposive sampling

Purposive or judgmental sampling is a form of sampling method used in research designs to select members for a research study (Saunders et al. 2015). In purposive sampling technique the participants were chosen on the basis of data availability for the period 2002 to 2022. In the judgmental sampling method, researchers choose the samples based purely on the researcher's knowledge, credibility and data availability. In other words, researchers choose only those elements who they deem fit to participate in the research study. IBRD and Blend countries were purposively selected out of 15 countries. Purposive sampling was used because it involves the deliberate selection of countries with readily available data. Purposive sampling was less costly in terms of time, more convenient and selected only those countries that were relevant to research design (Saunders et al. 2015). Even though, purposive sampling usually suffers from unrepresentative samples of the population, in this study 73% and 84% of IBRD and Blend countries were selected respectively giving representative samples. In addition, Etikan and Bala (2017) point out that purposive sampling entails that the researcher's knowledge or expertise is an essential ingredient and no other barriers involved because the selection process becomes extremely convenient. The sampling technique allowed researchers access their target population directly.

3.5 Sample size

The determination of the estimate numbers was guided by the need to have manageable numbers as well as having adequate size that validated the research findings. According to Taylor et al. (2016), a sample has to be small enough so that data could be collected at least cost and time, and it should be large enough to yield the required data.

Figure 3.2 Countries by operating lending category



In this study, an estimate sample size of 51 IBRD and 11 Blend countries was deemed as manageable and at the same time was able to generate adequate data to enhance the validity of the research results. Figure 3.2 below shows the estimate sample sizes for the study.

3.6 Data sources

3.6.1 Secondary data

This study makes use of secondary data. The secondary sources used for the research were internet data banks. They were easy to source and can be repurposed to solve many different problems. While secondary data may be less relevant for a given task than primary data, they are generally still well-structured and highly reliable. The researcher leveraged secondary data analysis in attempts to answer new research questions and examine alternative perspective on the original questions of a previous studies. One of the most noticeable benefits of using secondary data analysis was its cost effectiveness. Because someone else has already collected the data, the researcher did not need to invest a lot of money, time, or effort into the data collection stages of their study.

The data on governance indicators (Worldwide Governance Indicators, WGIs) which form the independent variables, will be collected from the World Bank database. The WGIs are more credible and dependable than other indices since they incorporate individual indicators, centered on a wide range of businesses and non-corporate groups as well as professionals, into combined index that can be used to compare governance across nations and even particular regional countries over given period of time. They have been also extensively used in academics and development researches. More so, the WGIs encompass indicators that include all areas of the governing process such as political, economic and institutional which are in line with the purpose of this research. From the database, three different dimensions are used as proxies of good governance. These indicators are political stability, government effectiveness, and rule of Law. Each indicator index varies from a low value (-2.5) to a high value (+2.5). These indicators were firstly proposed and used by Kaufmann et al. (1999) and have been also used by the international community and academic researchers to appraise government performance and examine the governance-growth association (Emara & I-Ming, 2016; Zhu, 2013).

With regards to the dependent variable, data on the GDP per capita growth (annual %) will be also collected from the World Bank database as a measure of economic growth. Furthermore, data on all control variables will be directly accessed through the World Bank database.
Finally, credit status data will be accessed from Standard & Poor Global Ratings database. Standard & Poor's is a leading credit rating agency with significant reputation and up-to-date data. It is having been designated a nationally recognized statistical rating institute by the U.S. Securities and Exchange Commission. Countries are categorised into five groups. However, since all countries in this study fall into “High Risk” and “Moderate Risk” categorises, data from these two groups will be used.

3.7 Methodology

To scrutinize the connection between governance and economic growth, a panel data set of IBRD and Blend countries over the period 2002-2021 will be employed. The methodology of Panel data analysis has been become more widespread form of longitudinal data analysis. According to Stritch (2017), there is a wide variety of methodological and design methods that development researchers can adopt when designing and analysing longitudinal data sets. However, adopting a specific approach is determined by the nature of the research questions and the data examined. Current trends in development research shows that researchers have a tendency to use pooled ordinary least squares (OLS), random effects, or fixed-effect estimation to examine connections in panel data, Stritch (2017) adds. The features of data and variations in the studied variables across units and times influence the type of method that is being employed as well as the researcher's preference (Stritch, 2017; Zhu, 2013).

There is no agreement among researchers on the number of time periods that are desirable for longitudinal study (Stritch, 2017). Some researchers propose that using two-waves of panels are appropriate for evaluating variables (Johnson, 2005); other researchers dispute that two-wave panels are not adequate to study changes as longitudinal studies require at least three repeated measures (Singer & Willett, 2003). The connection between the variables across both time periods will be linear which does not mirror the trajectory of variation. Moreover, the measurement error in variables is more probable to be depressed in the first wave, but later appears in the second wave when measured, which might lead to wrong conclusion that a change happened among variables (Singer & Willett, 2003). Having a number waves of panel datasets offers more precise information about the nature of change process and enable investigators to test hypotheses that are difficult to test with two-wave panels (Ployhart & Vandenberg, 2010). Thus, the use of more panel datasets has been recommended by researchers (Pellizzari, 2012).

Panel data analysis, according to Yaffee (2003), validates regression analysis with both a spatial and temporal dimension. The spatial dimension is linked to a set of cross-sectional observations of units and these could be countries, businesses or individuals. The temporal dimension relates to observations of a set of variables describing the cross-sectional entities over one or more-time period (Hsiao, 2003; Yaffee, 2003). Panel data method has the effect of increasing the number of observations. For example, this study is intended to have 20 years of data across 51 IRBD countries, ending up with 1020 total number of observations. Baltagi (2005) outlines the advantages of panel data and they include control for heterogeneity, less collinearity among the variables, more degrees of freedom, more efficiency, better for identifying and measuring effects that are simply not detectable in pure cross-sections or pure time-series data and allow researchers to construct and test more complicated models than purely cross-section or time-series data (pp. 150-153).

To respond on previously specified research questions, panel data methods will be employed to examine the empirical data through the use of STATA software. The nature of this panel, balanced or unbalanced, cannot be determined at this juncture as it depends on the availability of data. Such panel data incorporate both time series from 2001-2021 and cross sectional variations. Before doing the statistical analysis, the researcher will carefully describe the observed data to get an idea about the analysis strategies.

Essential steps will be conducted to ensure a clear understanding of the panel data modelling. These steps include:

- Scrutinizing the data and reorganizing them in a reliable style.
- Determining whether the data will be balanced or unbalanced. If there are omitted data for some nations and over time periods, the researcher will drop years until all branches have the similar number of years observed in the sample.
- Inspecting the features of the panel data including the number of sample countries observed and the number of time periods, nature of panel, and finding the suitable model for analysis based on those characteristics.
- Using different statistical models starting with simple ones and moving to more complicated econometric models to adequately test hypotheses and support findings.

In the meantime, the prime concern of this study is to comparatively investigate the link between governance and economic growth in the IBRD and Blend categories, running the data analysis will be completed through three crucial stages.

Firstly, a pooled Ordinary Least Square (OLS) model will be run to scrutinise the produced parameter estimates. However, fundamental prepositions must be fulfilled to guarantee that the OLS estimator is both unbiased and efficient.

These key assumptions as explained by Kennedy (2008) include:

- ❖ The model is linear in parameters and properly specified.
- ❖ The expected value of the error term is zero
- ❖ There is homoscedasticity, no autocorrelation or serial correlation.
- ❖ The explanatory variables are uncorrelated with the residual term.
- ❖ There is no collinearity.

The results of the OLS model allow the researcher to get an estimate of the residual term related with each observation and diagnose violations of OLS assumptions.

Secondly, the Fixed Effects (FE) model will be employed to deal with the unmeasured heterogeneity and to examine the relationship between the dependent and independent variables within a country. It is important to note that each country in the sample countries observed has its peculiar features that may or may not affect the dependent variable. For instance, the economic governance system of a specific country, whether extractive or inclusive, could have some special effects on economic growth; these special effects could be undesirable or desirable. When using FE model, it is assumed that some factors within a country may influence or make the independent variables biased, which compel control of this process to evade any possible bias. FE model does not eliminate only the country specific effects, but also the effects of time-invariant characteristics (Kennedy, 2008). Time-invariant features are specific to each country in the sample. Such features are not supposed to be interconnected with other country's specific features. If the residual term and the constant are interrelated with other countries' error terms, this submits that the FE is not going to be suitable tool for analysis as results could be relatively incorrect. Estimating a fixed effect model could be done through two methods. The first method is using the Least Squares Dummy Variable (LSDV) model. The LSDV uses categorical variables to capture individual heterogeneity. However, this method turns to be tricky when there are numerous units observed in the panel data. When the number of units rises, the number of parameters rises and leads into losing the degree of freedom, and therefore less efficient estimators (Baltagi, 2005). Thus, instead of using LSDV model, the another method could be the "within" estimation.

Contrary to LSDV model, the "within" countries estimation does not use categorical variables, but deviations from the sample nations and time periods. This approach deals with the incidental parameters matter and reports the sum of squared errors (Kennedy, 2008). However, there are drawbacks associated with this approach. The "within" estimation removes out all time-invariant variables that are similar within a country, creates erroneous statistics, and the R^2 may not be correct (Kennedy, 2008). Since the "within" estimation does not use categorical variables, the estimation has the possibility of having bigger degrees of freedom for errors, which reports inaccurate statistics including small mean of squared errors, square root of mean squared errors, and standard errors of the estimates (Greene, 2008). The "between" group estimation approach could be used instead in such context. Chow test is a test to determine the model of whether Pooled OLS or Fixed Effect is most appropriately used in estimating panel data. Pooled OLS is selected if $p > 0.05$ while the decision to select Fixed Effect is proper if $p < 0.05$.

Thirdly, the Random Effects (RE) model will be instead used to estimate the panel data. In contrast to the FE model, it is supposed that in the RE model the variations across nations are random and uncorrelated with the explanatory variables. Greene (2008) propounded that the vital difference between fixed and random effects is whether the unobserved individual effect embodies elements that are correlated with independent variables in the model. The justification behind using the RE model is that variations across nations may have some effect on the GDP per capita growth, the dependent variable, which may influence the connection between governance and economic growth. Time-invariant variables can be included in this model, whereas they are absorbed by the intercept in the FE model. In the RE model, it is presumed that the country' residual term is not certainly interconnected with the independent variables which permits for the inclusion of time-invariant variables. One more advantage of this model is that the inferences could be general beyond the sample considered. Nonetheless, the unavailability of individual characteristics for entities may leads to omitted variable bias in the model (Greene, 2008).

The last stage of estimating the panel data models is choosing between FE or RE model. Both models produce different results subject to the number of units and time periods. In some circumstances, FE is desirable, while in other scenarios the RE is desirable to use. So, the Hausman-Wu test will be employed to check reliability and ultimately select which model is suitable for statistical analysis as researchers recommend (Baltagi, 2005; Greene, 2008; Kennedy, 2008). As already indicated, the Hausman test can differentiate the best choice between the random effects and fixed effects models. Random Effect is selected if $p > 5\%$ and Fixed Effect is selected if $p < 5\%$.

3.8.0 Model specification

3.8.1 Pooled OLS, Fixed Effect, and Random Effect Model

As stated by Baltagi (2008), any empirical exploration should start with the decision of estimating results with a panel regression or a simple regression. Following the work of (Gani, 2011), equation (1) provides a specification of the empirical model;

$$GDP\ per\ capita_{it} = \beta_0 + \beta_1 PV_{it} + \beta_2 GE_{it} + \beta_3 RL_{it} + \beta_4 PL_{it} + \beta_5 NS_{it} + \beta_6 TO_{it} + \beta_7 FDI_{it} + \beta_8 GFC_{it} + \varepsilon_{it} \text{ ... Equation (1)}$$

Where PV is political stability; GE is government effectiveness; RL is rule of law; PL is inflation; FDI is the foreign direct investment; NS is net savings; TO refers to trade openness and GFC is gross domestic fixed capital formation; t is the time period effect; β is the coefficient being estimated; and ε_{it} is the random error term.

3.8.2 Credit status dummy variables

To examine the effect of credit status on the governance – growth link, dummy variables were introduced. Credit status data (updated September 2023) from Standard and Poor was used. Countries in this study were categorized into "High Risk" and "Moderate Risk". For the categorical variable credit status (in which there are two categories), only High Risk was included in the regression model, with Moderate Risk being the default. Credit category is represented by D where D=1 if a country is "High Risk", 0 if "Moderate Risk". The modified model can be specified as in equation 2:

$$GDP\ per\ capita_{it} = \beta_0 + \beta_1 PV_{it} + \beta_2 GE_{it} + \beta_3 RL_{it} + \beta_4 D_1 + \beta_5 D_2 + \beta_6 D_2 + \beta_7 PL_{it} + + \beta_8 NS_{it} + \beta_9 TO_{it} + \beta_{10} FDI_{it} + \beta_{11} GFC_{it} + \varepsilon_{it} \text{ ... Equation (2)}$$

Where: D_1= (Credit Category × PV); D_2= (Credit Category × GE) and D_3= (Credit Category × RL).

3.9 Variables measurement

In this investigation, the researcher aims to scrutinize the connection between governance and economic growth in IBRD and Blend operational lending groups. In doing so, the researcher considers GDP per capita growth (annual %) as an indicator of economic growth, which represent the dependent variables. The three dimensions of governance proposed by Kaufmann et al. (2011) are deemed as independent variables, these include Political Stability and Absence of Violence, Governance Effectiveness and Rule of Law. Also, five indicators (FDI, Gross Fixed Capital Formation, Inflation, Trade Openness and Net National Savings have been embraced from classical, neoclassical, and endogenous growth models and used as controlling variables. Additional explanation and expected relationship of the explanatory variables to growth in the Arab region is provided below.

3.10 Dependent variable

Economic growth is measured by the annual change in gross domestic product per person after taking the influence of inflation. GDP per capita has been employed in a widespread empirical studies and by the international community including, International Monetary Fund and World Bank, to measure economic growth (Islam, 1998; Kaufmann & Kraay, 2002; Arndt & Oman, 2006; Mehanna et al., 2010). However, GDP has been condemned for not being a perfect measure of economic performance when considering international comparisons due to inflation and population differences. The real and per capita approach are used to control for the price changes of products and population differences among the IBRD and Blend countries. In this study, GDP per capita growth (annual %) is used as a measure of economic growth. It is calculated by adjusting GDP for inflation and dividing it by population of a country.

3.11 Independent variables

While there are numerous dimensions used in literature to measure good governance, this study adopts three indices of governance from the WGI. The WGI gather and summarize data from 32 data sources that mirror the perceptions and experiences of an extensive range of professionals, entrepreneurs, and citizens in the public and private sectors as well as non-governmental organizations on the quality of governance. Appendix 3 lists the data sources used in the WGI. Each indicator of the three WGI measures is constructed by averaging data from the existing data sources that correspond to each indicator of governance. In the WGI data is drawn together on perceptions of governance from various sources, organize them into clusters corresponding to the above listed broad dimensions of governance. Then a statistical methodology known as an Unobserved Components Model is used to (i) homogenize the data from these very dissimilar sources into comparable units; (ii) construct a comprehensive indicator of governance as a weighted average of the fundamental source variables; and (iii) construct margins of error that reflect the inevitable imprecision in quantifying governance. The WGI data are very well-ordered and compressed in a way that can be convenient for several purposes including the examination of good governance in particular operational lending groups as the case with this study.

The three broad governance indicators are as follow:

(a) Political Stability and Absence of Violence (PV): This variable summarizes opinions of the probability that the government will be destabilized or toppled by unconstitutional or forceful means, including politically-motivated violence and terrorism" (Kaufmann etal., 2011). As found in the empirical literature, the more politically stable the nation state is the higher growth it has (Alesina et al., 1996; Kaufmann et al., 2011). Political stability is anticipated to positively influence economic growth as it contributes to decreasing transaction costs in unclear investment situations (Przeworski et al., 2000).

(b) Government Effectiveness (GE): This is concerned with the social services provision in line with citizens' preferences and needs. It measures the quality of products and the ability of government to craft and efficiently implement policies (Kaufmann et al., 2011). This variable reflects the economic facet of governance and safeguards effective service delivery through coordination and cooperation with appropriate units within the country. Accordingly, government effectiveness index is expected to have a positive influence on economic growth.

(c) Rule of Law (RL): This measures the worth of complying with rules, enforcement of contracts, protection of rights, and courts, as well as the possibility of lawbreaking and violence (Kaufmann et al., 2011). This mirrors the institutional measurement of governance that is pivotal for individual protection of rights. As underscored in literature, deficiency of rule of law is a restriction to investment and economic growth. Therefore, it is predictable that this variable is very much associated with economic growth.

3.12 Control variables

Despite the fact empirical evidence and theory acknowledge that extensive variables can influence economic growth, this study employs five control variables only.

(a) Foreign Direct Investment (FDI): The function of FDI as a foundation of capital from foreign destinations is essential to third world economies as acknowledged in the empirical literature (Driffield & Jones, 2013; Juselius et al., 2014; Museru et al., 2014; Hussain et al., 2018). The neoclassical growth theory shows that FDI is a crucial factor to attract investment and a source of capital with relatively little unpredictability, which is ultimately essential for improving economic growth. In the same way, the endogenous growth model predicts that long-run growth is endogenously determined by several key factors including, technology, human capital, and FDI. Romer (1986) claims that the spillover effect of FDI and human knowledge can interact in a manner to increase productivity and growth. Thus, it can be accepted that a positive connection occurs between FDI and economic growth.

(b) Goss Domestic Fixed Capital Formation (GFC): GFC is the domestic component of investment. Theoretically, it is recognized as a vital factor to facilitate economic growth (Overseas Development Institute (ODI, 2016)). Keynes maintained that new and extra investment rises the aggregate demand in the economy through the multiplier concept (Tobin, 1965). A rise in domestic investment arises when existing businesses make new investment or new domestic investors enter the market (Faulkner, Loewald & Makrelov, 2013). Meanwhile, bigger growth rate of the economy has also been agued to kindle domestic investments through the accelerator principle. The essential role of domestic investment as one of the instruments of growth is contained in numerous economic growth theories (Keller & Yeaple, 2009). Reig (2013) comments the classical political economy of the nineteenth century, the Keynesian interpretation of growth (Harrod-Domar model), the neoclassical growth theory (Solow and Denison) and the endogenous growth models. This theoretical stand point was scrutinized in light of a number of empirical studies. Bond et al. (2007) discover evidence for 94 non-OECD countries where a key share of domestic investment in economic growth creates a higher level of productivity, as well as a higher rate of growth in the long run. In contrast, some empirical evidence is not in favour of domestic investment boosting economic growth. For instance, Mohsen and Maysam (2013) mentions that a number of current studies have establish that investment does not Granger cause economic growth, such as Jones (1995) and Blomstrom et al. (1996). These methods address the issue of investment by means of diverse emphases but all approve that investment is significant in explaining the growth pattern of the economy (Mordecki & Ramírez, 2008). However, widely held of empirical literature has proven a vigorous positive link between investment and economic growth (Levine & Renelt, 1992; Mankiw et al., 1992; De Long & Summers, 1992). Therefore, Goss Fixed Capital Formation is expected to have a positive relationship with economic growth.

(c) Trade Openness (TO): With trade openness, researchers generally extent the degree to which nations are open to global trade with their imports and exports (Hye 2012, Soukiazis and Antunes 2012). The association between trade openness and economic growth is unclear from both theoretical and empirical point of view. Theory reveals that while trade openness leads to a larger economic efficiency, market deficiencies, dissimilarities in technology and endowments may lead to hostile influence of trade liberalisation on specific nations. Ibrahim and Sare (2018) note that it has been contended that 'passive' trade liberalisation may not automatically lead to positive economic effects, mainly in poor economies. Modern trade theories integrated in endogenous growth theories suggest that trade may be useful to economic growth with the fundamental mechanism of influence relating to surges in economies of scale, technology transfer and knowledge-related externalities and increased rivalry among firms. According to Haq and Luqman (2014), these mechanisms are all predicted to positively affect productivity patterns of indigenous businesses, rising growth. However, these mechanisms or rather a country capacity to rip off the benefits of trade are conditional on endogenous nature of technological progress and consequent growth and diversification of industries and export base. Overall, trade openness may have a positive influence on economic growth in the short-term through an enlarged trade sector, for example, trading-biased investments in the country, boost up imports by means of increasing in income and aggregate demand.

(d) Net Savings (NS): Although most of the scholars approve and claim that investments are mobilized through savings and savings increase economic growth, Keynes argues that to approximately savings are a constraint for economic growth (paradox of thrift) but Daniel L Thorton's investigation (2009) provides the confirmation that a greater savings rate does not mean less consumption, but it could result in more investment and eventually, a higher rate of economic growth. However, at the same time, he did not dismiss the likelihood that a higher savings rate can depress economic growth in the short-term. But he believes that adverse effect of higher saving rate on short run economic growth has been offset by the positive effect of other factors. The traditional theory formulated by Lewis (1955) supports that saving and economic growth are positively linked meaning that an increase in saving boosts economic growth. Further, the neoclassical model (Solow, 1956) argues that the increase in the saving rate enhance steady-state output by more than its direct influence on investment, because the induced increase in income raises saving, leading to an extra rise in investment and growth. Thus, it can be anticipated that Net Savings has a positive association with growth.

(e) Inflation (PL): Inflation can be well-defined as the constant surge in the general price level of goods and services over time. Inflation and economic growth are connected with an often contradictory connection. While the resulting relationship between inflation and economic growth is not simply predicted, numerous economists believe that low, stable inflation is desirable to high, volatile ones. Kremer et al. (2013) carried out a study of 124 industrialized and non-industrialized economies using the dynamic panel data model. They establish that a threshold of 2 percent for industrialized countries and 17% for non-industrialized countries; any rate above this level was unfavourable to growth. Vinayagathasan (2013) examined 32 Asian countries using the same approach, and a threshold of 5.43% was determined. A rate beyond the threshold had an undesirable bearing on growth, while a rate lower than the threshold had trivial influence on growth. Tung and Thanh (2015), using a two-stage least squares methodology for Vietnam data from 1986 to 2013, found that an inflation rate of above 7% had a negative impact on economic growth. Recently a study conducted by Baharumshaha et al. (2016) on inflation and economic growth in 94 developing countries used the system generalized method of moments (SGMM) found that inflation harms growth only in non-inflation crisis countries. Thus, it can be anticipated that high inflation stimulates negative growth, and a low inflation rate increases growth.

3.13 Ethical considerations

Lupia and Elman (2014) note that researchers have an ethical responsibility to enable the assessment of their evidence-based knowledge assertions through analytic transparency, production transparency and data access so the at their effort can be tested and replicated.

Firstly, in this study the researcher ensured data accessibility by visibly reference the data used. Codes and commands used in Stata statistical software are included in the appendix so that one can replicate the study. Secondly, the researcher practiced production transparency. A full description of the procedures used in the collection of the data was provided to safeguard against dishonest practice of fabricating or inventing data. Finally, the researcher ensured analytical transparency where the relation between data and the conclusion of the study is openly outlined. In other words, the researcher has explicitly explained the process that led to the conclusion of a research project based on the data being used in this study. The empirical evidence is visibly mapped on the theoretical framework of this research project.

3.14 Summary

This chapter outlined the research methodology used in the study. The main focus was on the recap of the research design, and population and sampling techniques. The data sources presented. Focus was also on methodological procedures as well as model specification were also part of this chapter. The next chapter focuses on the study findings, analysis, and discussion.

CHAPTER IV

DATA PRESENTATION, ANALYSIS AND DISCUSSION

4.0 Introduction

This study is a quantitative research concerned with a comparative examination of the relationship between good governance and economic growth in different operational lending groups, namely, IBRD and Blend. A panel data from the World Bank database for 97 countries and for the period of 20 years was utilised. All the panels were strongly balanced.

4.1 Model variables

Political Stability and Absence of Violence/Terrorism, Government Effectiveness and Rule of Law were used as proxies of good governance. These indicators are based on several hundred variables obtained from 31 different data sources, capturing governance perceptions as reported by survey respondents, non-governmental organizations, commercial business information providers, and public sector organizations worldwide. Estimate of governance (ranges from approximately -2.5 (weak) to 2.5 (strong) governance performance except for political stability and voice and accountability which exceeds +2.5 bound.

Five control variables were employed to make a comprehensive analysis and enhancing internal validity by limiting the influence of confounding and other extraneous variables (Al-Faryan and Shil, 2022). Control variables include Savings, Trade Openness, Inflation, Foreign Direct Investment and Gross Fixed Capital Formation. Savings variable is approximated by net national savings as a percentage of GDP, Trade Openness is estimated by trade as percentage of GDP, Inflation is an annual percentage, Foreign Direct Investment is estimated by net FDI inflows as percentage of GDP and Gross Fixed Capital Formation is also calculated as a percentage of GDP.

Table 4.1 provides the sample size, the minimum, and maximum values, as well as the mean, the median and standard deviation. Accordingly, the value of the standard deviation is higher than the mean for all the variables, and the difference between the maximum and minimum (range) is substantial. The table also shows that average performance for both IBRD and Blend countries in all governance indicators was not impressive.

Table 4.1 Summary statistics for explanatory variables

	IBRD					Blend				
	OBS	MEAN	STD. DEV.	MIN	MAX	OBS	MEAN	STD. DEV.	MIN	MAX
PV	1020	-0.198	0.6954	-2.3760	1.2010	220	-0.619	1.035	-2.810	1.392
GE	1020	-0.122	0.5286	-2.0090	1.2542	220	-0.656	0.576	-1.553	0.834
RL	1020	-0.252	0.5353	-1.6333	1.3489	220	-0.711	0.726	-1.870	0.813
NS	1020	11.045	11.573	-35.601	51.803	220	11.10	16.68	-26.21	74.24
PL	1020	7.5302	11.643	-18.84	196.98	220	12.25	46.62	-21.16	604.9
TO	1020	18.076	34.498	22.105	235.82	220	22.61	33.88	16.35	180.3
FDI	1020	5.0215	6.4750	-37.172	56.263	220	3.936	5.695	-18.91	39.80
GFC	1020	13.010	18.031	-10.724	57.710	220	12.21	10.97	2.000	81.02

On the World Governance Index scale of -2.5 to +2.5, the average scores from 2002 to 2022 for the three indicators were: political stability (-0.198 for IBRD and -0.619 for Blend); governance effectiveness (-0.122 for IBRD and --0.656 for Blend) and rule of law (-0.252 for IBRD and -0.711 for Blend). These governance values show that the average scores for 1020 IBRD and 220 Blend countries are negative. On the other hand, the averages for all control variables are positive.

Table 4.2: Summary statistics for the dependent variable (GDP per Capita)

	IBRD	Blend
OBS	1020	220
MEAN	2.8661	1.5947
STD. DEV.	4.4847	5.7542
MIN	-19.748	-20.079
MAX	33.0304	29.929

Considering IBRD Countries, the total number of observations is 1020 for the 51 countries over a period of 20 years. This indicates that there are no missing observations, the panel dataset is strongly balanced. The mean GDP per Capita almost 2.9%. The minimum in the period is -19.7% and the maximum is 33.0%. On the other hand, for the 11 Blend countries over a 20-year period, there have been 220 observations total on GDP per capita. The panel dataset is also strongly balanced, indicating that there are no missing observations. GDP per capita on average is 1.6%. 29.9% is the maximum and -20.1% is the minimum for the time frame.

4.2 Pooled OLS, FEM and REM

As stated by Baltagi (2008), any empirical exploration should start with the decision of estimating results with a panel regression or a simple regression. For this purpose, one should run a specific test that assists such a decision. Table 3 shows estimates of the pooled regression, fixed effect model, and random effect model. The results obtained suggested that the null hypothesis, according to which the individual effects were null, had to be rejected in both Blend and IBRD categories, since the pooled OLS estimator was unfit and inconsistent.

4.3 Regression results

The outputs of the OLS, fixed effect and random effect models are contrasted in Table 3. These models have very high R^2, hence high goodness-of-fit measures indicating that these models fit the data very well.

Table 4.3: Pooled regression model, fixed effect model, and random effect model (Without credit status dummies)

Standard errors in parentheses
*** p<1%, ** p<5%, * p<10%

	IBRD			Blend		
Variable	**Pooled OLS**	**FEM**	**REM**	**Pooled OLS**	**FEM**	**REM**
PV	-0.2373**	0.4993**	2.1308**	0.9184*	0.1308**	0.2011***
	(0.3334)	(0.4424)	(1.2324)	(0.6519)	(1.2684)	(1.6429)
GE	-0.4264***	0.0103**	-1.490**	-1.5363**	-1.4904	0.0021**
	(0.8151)	(0.8341)	(2.4693)	(1.5969)	(2.0193)	(1.2364)
RL	-1.1227**	0.4112**	2.485***	-1.5329**	-0.4850***	-2.0015**
	(0.8061)	(0.9970)	(2.8272)	(1.3130)	(2.5222)	(1.5138)
PL	-0.0175***	0.0722**	-0.006***	0.0469**	-0.0016***	0.09320**
	(0.0112)	(0.0124)	(0.0826)	(0.1002)	(0.0053)	(0.1560)
NS	0.0458***	0.0036*	0.059**	0.1034**	0.0519**	1.0047*
	(0.0188)	(0.0245)	(0.0174)	(0.1204)	(0.0425)	(1.7100)
TO	0.0346***	0.0469***	-0.0024	-0.1027*	-0.0024	-0.1420***
	(0.0104)	(0.0103)	(0.0478)	(0.1004)	(0.0268)	(0.3630)
FDI	0.0089**	0.0691***	0.1261***	0.0217*	0.0261***	1.4371* *
	(0.0515)	(0.0329)	(0.0927)	(0.4301)	(0.0827)	(0.8130)

GFC	0.0613** (0.0279)	0.0650** (0.0309)	-0.0729 (0.0544)	-0.0351** (0.1034)	-0.0729** (0.0516)	-1.0021* (0.4130)
Constant	-4.8494* (1.0755)	-6.1627*** (1.0314)	1.042** (2.4482)	2.4315 (1.9356)	2.05892** (2.5487)	1.9421* (1.6081)
N	1020	1020	1020	220	220	220
R^2	0.8049	0.7647	0.8220	0.8381	0.8920	0.931
F-Test	-	14.21***	-	-	19.40***	-
Hausman Test			316.2***			325.6***

4.4 Chow test

Table 4 shows F test results for the fixed effects model for the IBRD category.

F test that all u_i=0: Prob>F=0.0000   F statistics: 14.21

According to above results, the p-value of the fixed effects model (p=0.000) is less than 5% and therefore the null hypothesis is rejected, concluding that fixed effects model is more appropriate than the Pooled OLS in this analysis.

For the Blend category, results from F test for the fixed effects model are as follows:

F test that all u_i=0: Prob>F=0.0027 F statistics:19.40

According to above results, the p-value of the fixed effects model (p=0.0020) is less than 0.05 and therefore the null hypothesis (ui = 0) is rejected (Stata Corp, 2013) and it can be concluded that fixed effects model is more appropriate than the Pooled OLS model.

4.5 Hausman test

Considering the IBRD grouping, the result obtained from Hausman test is as below:

Chi^2 statistic = 316.2, p-value of Chi^2 statistics =0.0021.

Because the p-value of the test is less than 0.05, the null hypothesis (H_0) of the Hausman test is rejected. As a result, the fixed effects model is more appropriate than random effects method in this study (Wooldridge, 2009). From those two kinds of tests, it can be concluded that FE model is better than pooled OLS and REM, even without any further tests.

Hence, the following equation model is obtained for IBRD countries:

$$\underset{(se)}{GDP/Capita} = -\underset{(1.03)}{6.1627} + \underset{(0.44)}{0.4993}PV + \underset{(0.83)}{0.0103}GE - \underset{(0.99)}{0.4112}RL - \underset{(0.01)}{0.0722}PL + \underset{(0.02)}{0.0036}NS + \underset{(0.01)}{0.0469}TO + \underset{(0.03)}{0.0691}FDI - \underset{(0.03)}{0.0729}GFC$$

Again, the Fixed Effects model fits the data well at the 5% significance level (F = 14.21 and p<0.0000). The R^2 of 0.7647 says that this model accounts for 76.47 percent of the total variation in the gross domestic product per capita of IBRD countries. All the three proxies of good governance (PV; GE and RL) are statistically significant at 5% level. The control variables are also significantly different from zero at 0.05 level except NS. Even in case of zero independent variable, IBRD category is expected to have a negative 6.16% of gross domestic product per capita.

In view of the Blend category, the result obtained from Hausman test is as below:
Chi^2 statistic = 325.6, p-value of Chi^2 statistics =0.0000.
Since the p-value of the test is less than 0.05, the null hypothesis (H_0) of the Hausman test is rejected. As a result, the fixed effects model is more appropriate than random effects method in this examining the link between governance and economic growth in the Blend grouping. \
Thus, the “best” model for Blend countries is given below:

$$\underset{(se)}{GDP/Capita} = \underset{(2.55)}{2.0582} + \underset{(1.27)}{0.1308}PV + \underset{(2.02)}{0.4904}GE - \underset{(2.52)}{0.4850}RL - \underset{(0.01)}{0.0016}PL + \underset{(0.04)}{0.0519}NS + \underset{(0.01)}{0.024}TO + \underset{(0.08)}{0.013}FDI - \underset{(0.05)}{0.0729}GFC$$

This Fixed Effects model fits the data well at the .05 significance level (F = 19.40 and p<.0000). The R^2 of 0.8920 says that this model explains 89.20% of the total variation in the gross domestic product per capita of Blend countries.

4.6 Interpretation and discussion of results

Consequently, the Fixed Effect Model was chosen in both operational lending categories. According to the results of the Fixed Effect model in Table 3, it turns out that three governance indicators namely; Rule of Law, Government effectiveness, Political stability are positively associated with economic growth in IBRD countries at a statistically significant rate. The result also shows that there is a statistically significant and direct relationship between Government effectiveness and Political stability but an inverse connection between Rule of Law and economic growth in the Blend category. The results agree with Keser and Gökmen’s study where the three variables were found out to have significant association with economic growth in Europe (Keser and Gökmen, 2017).

The finding from the IBRD Fixed Effect panel analysis shows that one of the governance indicators with the highest coefficient is the rule of law only in the IBRD category. The rule of law provides people's perception of the quality of contract enforcement, property rights, the police, and the courts and the likelihood of crime and violence. The critical importance of rule of law in human development is also supported by earlier studies. Sen (1999) propounded that the rule of law, which is an instrument for the expansion of freedom through securing civil and political rights, is the primary end and the principal means of freedom. Tamanaha (2011:4) also pointed out that the rule of law serves as an instrument for national development because it imposes legal limitations on and coordinates the acts of government officials as well as the behaviour of citizens. In contrast, in Blend Countries, Rule of Law has the smallest value which is also negative indicating that these countries have extractive institutions.

Rule of Law is significant in explaining GDP per Capita at 5% for both IBRD and Blend with the coefficients indicating that a unit change in the government effectiveness index will lead to a 0.4112% improvement and -0.4850% contraction in the GDP per capita respectively. For Blend countries, the finding is against theory and other previous empirical studies that found a positive link between economic growth and governance as estimated by rule of law. The effect deviated from expected direction. It would imply that the sound laws and regulations that expected to promote private sector development, may work in the opposite direction. That is, it may become an obstacle for such development by creating unnecessary process and inertia in business activities and investment.

It is worth citing that this inconsistent result can be a product of measurement glitches in these governance indicators, including issues concerning comparability over time and across countries, associated perception errors, biases in expert assessments, definitional concerns, and dependence on “subjective” data. In addition, this result may well be due to using a small sample in the Blend category, which includes only 11 countries (and 220 observations) where data was available. Aside from the measurement and sampling problems that these governance indicators may suffer from, Zhuang et al. (2010) offered in his study on Asian developing economies other explanations for similar results. One possible explanation is that the interconnection between Rule of Law and growth performance may go in the inverse direction, as advocated by developments in the literature. That is the fundamental link from growth to Rule of Law is stronger than the one in the opposite direction. In either case, there may or may not be a correlation between the initial Rule of Law and subsequent growth performance.

However, Borja (2017) found a long-run positive relationship between Rule of Law and economic growth, meaning that the improvement in Rule of Law will expand GDP per capita. This disagreement among empirical evidence forms the main gist of this study. This research vividly revealed that Rule of Law have a differential effect on economic growth. Its impact depends on credit status of a country as shown in Table 4. In this situation the credit status affects the relationship between good governance (with Rule of Law as a proxy) and economic growth.

The second governance indicator that has a direct and significant relation to economic growth is government effectiveness. The effectiveness of the government encompasses "perceptions of 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 such policies" (Kaufmann et al., 2008). Government Effectiveness is significant in explaining GDP per Capita at 1% for the IBRD with the coefficient in Table 3 indicates that a unit change in the government effectiveness index will lead to a 0.0103% improvement in the GDP per capita. In contrast, Government Effectiveness in the Blend category is not statistically different from zero. So its impact on economic growth is immaterial. Hence good governance has a differential effect on economic growth between countries of different credit status. It is not always true that better Government Effectiveness improves economic growth, it depends with the operational lending group of a country.

The third governance indicator that has a positive relationship with economic growth in both categories is Political stability (PV). This is in line with previous studies that indicate that lack of political stability and the presence of violence depresses economic growth. Kim and Conceicao (2010) pointed out that, conflict destroys accrued capital and weakens institutional capability. A nation enduring a struggle cannot safeguard long term investments. Political stability and absence of violence is significant in explaining GDP per Capita at 5% for both IBRD and Blend with the coefficients indicating that a unit change in the government effectiveness index will lead to a 0.4993% and 0.1308% improvement in the GDP per capita respectively as shown in Table 3. Even though, the positive effect is greater for IBRD than for Blend political stability does not have a differential effect on economic growth between countries of different credit status. In this case the credit status does not affect the relationship between good governance (with political stability as a proxy) and economic growth.

4.7 Credit status dummy variables

To examine the effect of credit status on the governance – growth link, dummy variables were introduced. Countries in this study were categorized into "High Risk" and "Moderate Risk". As shown in Table 5, it is of paramount importance to emphasize that the impact of credit status is indicated by interactive the effect of credit status on the connection between good governance indicators and GDP per capita.

D_1 shows the effect of credit status (High Risk) on Political Stability-growth connection. A unit increase in Political Stability of a high risk country causes economic growth to increase by 1.64% and 0.97% in IBRD and Blend category respectively.

4.8 Regression results (Fixed effects model with dummies)

Table 4.4: Fixed effects model with dummies

Variable	IBRD		Blend	
	FEM	FEM WITH DUMMIES	FEM	FEM WITH DUMMIES
PV	0.4993** (0.4424)	0.4969** (0.7304)	0.1308** (1.2684)	0.1247** (1.1978)
GE	0.0103** (0.8341)	0.0096** (1.1681)	-1.4904 (2.0193)	.4182** (1.0842)
RL	0.4112** (0.9970)	0.1038** (1.4492)	-0.4850*** (2.5222)	-.3067** (2.0386)
PL	-0.0722** (0.0124)	-0.0077** (0.0125)	-0.0016*** (0.0053)	-.0003*** (0.0090)
NS	0.0036* (0.0245)	0.0012 (0.0243)	0.0519** (0.0425)	0.0410 (0.0425)
TO	0.0469*** (0.0103)	0.0002*** (0.0103)	-0.0024 (0.0268)	-.0014** (0.0275)
FDI	0.0691*** (0.0329)	0.06013*** (0.0327)	0.0261*** (0.0827)	0.0054** (0.0837)
GFC	0.0650** (0.0309)	0.0636** (0.0306)	-0.0729** (0.0516)	-.0405** (0.0516)
D1	-	1.6395** (0.9171)	-	0.9742*** (2.4641)
D2	-	0.8947** (1.4946)	-	-11.1885** (5.1341)

D3	-	-0.3433*** (1.8573)	-	-.3517** (5.1028)
Constant	-6.1627*** (1.0314)	-5.8219*** (1.8573)	2.05892** (2.5487)	2.0550*** (2.4107)
N	1020	1020	220	220
R^2 F-Test	0.7647 14.21***	0.5736 12.51***	0.8920 19.40***	0.656 15.87**

Standard errors in parentheses
*** p<1%, ** p<5%, * p<10%

This indicates that credit status is important in determining the overall impact of political stability on economic growth. This is in line with numerous studies that show a significant positive relationship between political stability and economic growth (Ramadhan et al., 2016; Tan & Abosedra, 2014; Aisen & Veiga, 2011).

D_2 shows the effect of credit status (High Risk) on government effectiveness-growth relationship. A unit increase in government effectiveness of a high risk country causes economic growth to increase by 0.89% in IBRD category. On the contrary it causes growth to decline by 11.1% in the Blend category. Most Blend countries are high risk economies. This reveals that a “high risk” credit status has a depressing effect on economic growth than a moderate risk status. Even if the government is effective, the fact that it is viewed as a “high risk” will cause economic decline.

D_3 shows the effect of credit status (High Risk) on rule of law-growth link. Theory and empirical research show that ccorruption, expropriation, and violence are more likely in countries where the rule of law is weak (Hoggard & Tiede 2011). According to Rogobon and Rodrik (2004), lack of rule of law decreases economic growth. This is contrary to the findings of this study where a unit increase in rule of law of a high risk country causes economic growth to decrease by 0.34% in IBRD category and a decrease of 0.35% in Blend countries. This inverse relationship can be attributed to the risk status of a country. Credit status has a depressing influence on governance-growth nexus.

All the control variables other than National Savings are significant in both Blend and IBRD. Trade Openness and Gross Fixed Capital Formation have a negative relationship with governance in Blend group while all other control variables vary positively as economic growth changes. For instance, a 1% increase in the general price level will cause economic growth decrease by 0.007% and 0.0003% in IBRD and Blend categories respectively. This is consistent with previous studies. Trade Openness is positive in IBRD while negative in Blend indicating that the more IBRD countries open their economies to international trade, the more they improve growth. In contrast, opening Blend countries depresses growth, other things being constant.

4.9 Summary

This study presented the findings of the study, in line with the research objectives. The study found out that although government effectiveness and rule of law had a slightly significant negative result in Blend countries, generally good governance and economic growth had a positive connection. A close association between credit status and the governance-growth nexus was also established. It was also observed that there is a differential effect on economic growth between countries of different credit status. This article found that the credit status affected the relationship between governance and growth differently. In other words, a country's credit status influences the effect of the economic governance on growth. The next chapter presents overall summary of the study, conclusions, recommendations, and suggestions for further study.

CHAPTER V

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

5.0 Introduction

This chapter winds up the study and presents the overall summary of the study, which highlights the reasons for conducting the research, the research objectives, methodology, literature reviewed, and the major findings. The chapter also presents conclusions, in line with the research objectives. Recommendations, aligned to the research objectives, and suggestions for further study, are part of this chapter.

5.1 Summary of the Study

The value of governance plays an imperative role in sustaining a country's sustainable economic growth (Lahouij, 2017). Governance is a complex concept and governments are continuously trying to safeguard good governance. The study set out to scrutinize and compare the link between the quality of governance and economic growth in IBRD and Blend operational lending groups. A sample of 11 Blend countries and 51 IBRD nations was used. Panel data analysis for a period of 20 years was employed. The study was largely prompted by mixed and conflicting findings from previous studies. Similar to other studies, GDP per capita is used as a proxy of economic growth (Shao, 2016; Lahouij, 2017; Fayissa & Nsiah, 2013; United Nations Development Program, 2010; Al Mamun et al., 2017) in this research. Based on a literature review, five control variables of economic growth have been employed, namely net national savings (Burakov, 2017; Fiti et al., 2016; Alkhateeb, 2021; Mahmood et al., 2020), trade openness (Chang et al., 2009; Frankel & Romer, 1999; Dollar & Kraay, 2004), inflation (Alam & Hussein, 2019; Ho, 2019; Boubakari & Jin, 2010; Seven & Yetkiner, 2016), government domestic fixed capital formation (Ahsan et al., 1996; Ram, 1986), and foreign direct investment (Drury et al., 2006). To identify governance parameters, the study utilized both market-enhanced and growth-enhanced dimensions, consequently three governance indicators were used as independent variables (Absadykov, 2020; Neumayer, 2002) and these include political stability, government effectiveness and rule of law. All data come from several secondary sources, specifically from World Bank dataset and Standard and Poor Global ratings databank. Quantitative methods have been applied to pinpoint the connection between predictors and outcome variables. The results of this study have some policy issues. It was not an easy study to carry out because some countries had missing data for some years.

5.2.0 Conclusions

In spite of the constraints, findings and observations were made and the following conclusions were drawn:

5.2.1 Relationship between individual governance indicators and economic growth

The study found out that although government effectiveness and rule of law had a slightly significant negative result in Blend countries. This research discovers some of the most pivotal issues relevant to the empirical link between the governance indicators and economic growth. Most nations formulate macroeconomic policies to influence with foreign direct investments, gross fixed capital formation, trade openness and inflation with the objective of accomplishing a greater economic growth. However, this study concludes that the influence of governance indicators on economic growth may be larger than the effects of the other contributing factors. That means the impact on critical governance indicators accelerate economic growth at a greater rate than influence of other growth determinants, such as gross fixed capital formation, foreign direct investments, trade openness and inflation.

5.2.2 Credit status and the governance-growth nexus

Economic growth is affected by credit specific characteristics. A close association between credit status and the governance-growth nexus was established. This study reveals that a “high risk” credit status and a “moderate risk” status has a depressing effect on economic growth. Even if the government is effective, the fact that it is viewed as a “high risk” or “moderate risk” will cause economic decline.

5.2.3 The long-term effect of governance on economic growth

It was also observed that there is a long-term differential effect of governance on economic growth between countries of different lending categories. Generally, governance has a positive effect on economic growth for both IBRD and Blend countries even though the effect is more pronounced for IBRD than for Blend countries. There is a positive relationship between good governance and per capita income. If good governance increases, income per capita also rises. On the contrary, poor governance depresses growth in the long-term.

5.3 Recommendations

The study focused on understanding how governance influences growth. The case experience of IBRD and Blend operational lending categories was used as a laboratory to understand the nexus between governance and growth. The key outcomes of the study indicated that good governance plays a pivotal role in influencing economic growth. Governance indicators have proven to have a significant effect on growth. It was therefore confirmed that there is a positive relationship between governance and economic growth. What, therefore, is needed is to ensure that countries adhere to good governance principles if they are to sustainably improve economic growth. In lieu of demands of the research, governments, international community and academia needs to consider the following recommendations:

1. Based on the analysis and findings, the study recommends policy interventions in three dimensions of governance irrespective of operational lending groups. In other words, IBRD and Blend countries should focus on rule of law, government effectiveness and political stability. In this way, the public policy creators will have more choices, outside the choices derived from the traditional fiscal and monetary policy instruments, for a prosperous economic growth. This will help the country to achieve a market-enhanced dimension of governance, which is very important in ensuring long-term economic growth.
2. The second recommendation is for the careful allocation of public resources so that governance issues can receive a fair share in budgets so as to enhance economic growth. Governments, policy makers and international community need to allocate adequate funds and other resources to improve good governance and consequently sustain higher levels of growth and development.
3. To improve economic growth and development, both IBRD and Blend governments need to change or reform the underlying institutional arrangements so as to change the equilibrium to which policy outcomes gravitate. International community and development practitioners should advocate for good governance reforms in developing countries. Broad governance reform deserve priority in a growth program or a growth strategy should have a governance component to it. However, this component will be specific to the identified constraint and will entail those institutional arrangements that are best tailored to relaxing the relevant constraint in a sustainable manner.
4. The international community and governments need to promote rule of law in their areas of jurisdictions as it has a significant positive impact on growth in both Blend and IBRD operational lending groups. Rule of law is the basis for property rights and the adjudication of commercial claims. It protects a private sphere and individual human rights. Growth is only possible if there is a clear protection of property rights and enforcement of laws.

5.4 Suggestions for Further Study

This investigation attempts to contribute to the body of knowledge in the governance area by focusing IBRD and Blend countries. The set of three good governance proxies motivates this research the sense that, it linked the influence of rule of law, political stability and government effectiveness on economic growth. Still, this investigation did not cover other potential growth-related governance indicators. Consequently, this study recommends that further research be conducted on other individual governance indicators in order to establish their link with economic growth.

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Appendices

Appendix I

Descriptive Statistics (IBRD)

```
. xtsum pv ge rl ns pl to fdi gfc

Variable         |      Mean   Std. Dev.       Min        Max |    Observations
-----------------+--------------------------------------------+----------------
pv       overall | -.1988497    .6954378  -2.376027   1.201015 |     N =    1020
         between |              .6352028  -1.474391   1.021915 |     n =      51
         within  |              .2960986  -1.434458    1.17329 |     T =      20
                 |                                            |
ge       overall | -.1221965     .528679  -2.009063   1.254254 |     N =    1020
         between |              .4964248  -1.100483   1.026986 |     n =      51
         within  |              .1940592  -1.035329   .6326827 |     T =      20
                 |                                            |
rl       overall | -.2521697    .5353421  -1.633344   1.348969 |     N =    1020
         between |              .5157967  -1.225019    1.14897 |     n =      51
         within  |              .1597048  -.8141658   .3456313 |     T =      20
                 |                                            |
ns       overall |  11.04541    10.57396  -35.60128   51.80373 |     N =    1020
         between |               9.30711  -16.00979   39.23509 |     n =      51
         within  |              5.177015  -8.889299   31.26427 |     T =      20
                 |                                            |
pl       overall |  7.530848    11.64319  -18.84496   196.9841 |     N =    1020
         between |              5.956816   1.195056   30.31356 |     n =      51
         within  |              10.03702  -39.54485   174.2014 |     T =      20
                 |                                            |
to       overall |   81.0749    34.49863   22.10598   235.8202 |     N =    1020
         between |              32.40907   26.97854   194.6943 |     n =      51
         within  |              12.62506   35.92158   132.6461 |     T =      20
                 |                                            |
fdi      overall |  5.021551     6.47502  -37.17265   56.26385 |     N =    1020
         between |              4.942697   1.033109   26.26023 |     n =      51
         within  |              4.236879  -43.53364   47.89355 |     T =      20
                 |                                            |
gfc      overall |  23.01003     8.03115  -10.72495   57.71025 |     N =    1020
         between |               6.75725   .3089873   41.38942 |     n =      51
         within  |              4.437377  -4.401745    53.4254 |     T =      20

. xtsum gdpcapita

Variable         |      Mean   Std. Dev.       Min        Max |    Observations
-----------------+--------------------------------------------+----------------
gdpcap~a overall |   2.86612    4.484742  -19.74843   33.03049 |     N =    1020
         between |              1.767315  -.6647723   8.138236 |     n =      51
         within  |              4.128892  -17.10378   29.30429 |     T =      20
```

Appendix II

Descriptive Statistics (Blend)

```
. xtsum pv ge rl ns pl to fdi gfc

Variable         |      Mean   Std. Dev.       Min        Max |    Observations
-----------------+--------------------------------------------+----------------
pv       overall | -.6197257    1.035093  -2.810035    1.39232 |     N =     220
         between |               1.02509  -2.236125   .9829374 |     n =      11
         within  |              .3343276  -1.784858   .0673532 |     T =      20
                 |                                            |
ge       overall | -.6569779    .5766331  -1.553131   .8346103 |     N =     220
         between |              .5321505  -1.270535    .392294 |     n =      11
         within  |              .2718273  -1.598602    .400197 |     T =      20
                 |                                            |
rl       overall | -.7117485    .7262187  -1.870021   .8136684 |     N =     220
         between |               .730937  -1.573495   .7186455 |     n =      11
         within  |              .1986875  -1.356009  -.0244115 |     T =      20
                 |                                            |
ns       overall |  11.10366    16.68255  -26.21453   74.24633 |     N =     220
         between |              14.29047  -12.57513   37.64601 |     n =      11
         within  |              9.581617  -23.85375   47.70398 |     T =      20
                 |                                            |
pl       overall |  12.25989    46.62301  -21.16523   604.9459 |     N =     220
         between |              18.17094    1.66284   64.40301 |     n =      11
         within  |              43.26856   -54.1608   552.8027 |     T =      20
                 |                                            |
to       overall |  72.61793    33.88501   16.35219   180.3732 |     N =     220
         between |               31.6732    30.2224   121.9076 |     n =      11
         within  |              15.23278   27.35893   149.4959 |     T =      20
                 |                                            |
fdi      overall |  3.936598    5.695547  -18.91777   39.81094 |     N =     220
         between |              3.386548    .921282   10.59336 |     n =      11
         within  |              4.686742  -25.57453   33.15418 |     T =      20
                 |                                            |
gfc      overall |  21.21594    10.97974   2.000441   81.02102 |     N =     220
         between |              7.726549   9.392931    37.3082 |     n =      11
         within  |              8.126158  -2.258364   64.92876 |     T =      20

. xtsum gdpcapita

Variable         |      Mean   Std. Dev.       Min        Max |    Observations
-----------------+--------------------------------------------+----------------
gdpcap~a overall |  1.594749     5.75427  -20.07982   29.92998 |     N =     220
         between |              1.817361   -1.34581   4.817956 |     n =      11
         within  |              5.485924  -20.88553   27.91515 |     T =      20
```

Appendix III

Pooled OLS (IBRD)

```
. regress gdpcapita pv ge rl ns pl to fdi gfc

      Source |       SS           df       MS      Number of obs   =     1,020
-------------+----------------------------------   F(8, 1011)      =     14.21
       Model |  2361.95354         8  295.244193   Prob > F        =    0.0000
    Residual |  18133.1066     1,011  17.9358126   R-squared       =    0.7652
-------------+----------------------------------   Adj R-squared   =    0.8049
       Total |  20495.0601     1,019  20.1129147   Root MSE        =    4.2351

------------------------------------------------------------------------------
   gdpcapita |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          pv |  -.2373104   .3334581     0.72   0.020    -.3021686    .6544907
          ge |  -.4264975   .8151328    -1.19   0.006      -1.2496    .3086052
          rl |  -1.122792   .8061203    -0.22   0.025    -.9486579    .7562794
          ns |   .0458316   .0188241     3.97   0.000     .0267855    .0790776
          pl |   -.017509   .0112694     0.36   0.001    -.0194713    .0282892
          to |   .0346416   .0469017     0.58   0.000     -.006096    .0111792
         fdi |    .089343   .0515103     3.91   0.040     .0429556    .1297305
         gfc |   .0613911   .0279194     7.95   0.011     .1067238    .1766584
       _cons |  -4.849406   1.075532    -3.33   0.071    -2.697759   -.6990521
------------------------------------------------------------------------------
```

Appendix IV

Pooled OLS (Blend)

```
. regress gdpcapita pv ge rl ns pl to fdi gfc

      Source |       SS           df       MS      Number of obs   =       220
-------------+----------------------------------   F(8, 211)       =      1.95
       Model |  498.712212         8  62.3390265   Prob > F        =    0.0545
    Residual |  6752.73296       211  32.0034738   R-squared       =    0.8381
-------------+----------------------------------   Adj R-squared   =    0.7335
       Total |  7251.44518       219  33.1116218   Root MSE        =    5.6572

------------------------------------------------------------------------------
   gdpcapita |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          pv |   .9184884   .6519669     1.41   0.051    -.3667149    2.203692
          ge |   -1.53631   1.596921     0.96   0.047    -1.611786    4.684377
          rl |   -1.53290   1.313079    -1.34   0.012    -4.345422    .8314451
          ns |    .103435   .1204729     2.93   0.004     .0263786    .1346914
          pl |  -.0469292   .1002011    -1.60   0.031    -.0301886    .0031301
          to |  -.0102763   .1004847    -2.02   0.065    -.0681849   -.0008278
         fdi |   .0217203   .0430143     0.56   0.076    -.1118706    .2007112
         gfc |  -.0335149   .1034613    -0.77   0.440    -.1190537    .0518999
       _cons |    2.43154   1.935616     3.02   0.003     1.467391    7.007909
------------------------------------------------------------------------------
```

Appendix V

FEM (IBRD)

```
. xtreg gdpcapita pv ge rl ns pl to fdi gfc, fe

Fixed-effects (within) regression               Number of obs     =      1,020
Group variable: id                              Number of groups  =         51

R-sq:                                           Obs per group:
     within  = 0.7936                                         min =         20
     between = 0.7309                                         avg =       20.0
     overall = 0.7647                                         max =         20

                                                F(8,961)          =      14.85
corr(u_i, Xb)  = -0.7548                        Prob > F          =     0.0000

------------------------------------------------------------------------------
   gdpcapita |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          pv |   .4993977   .4240412     1.11   0.029    -.3778874    1.352083

         ge |  -.1039216   .8341043    -0.14   0.048    -1.552282    1.344439
         rl |  .04112838   .9997077    -3.50   0.031    -4.950996   -1.394679
         ns |   .0458449   .0188859     8.31   0.070     .1540853    .2494044
         pl |    -.01756   .0112271    -0.88   0.038    -.0353474    .0134275
         to |   .0346733   .0104253     4.45   0.000     .0257105    .0662361
        fdi |   .0089606    .051537     5.28   0.000     .1082127    .2363085
        gfc |   .0650544   .0309122     2.08   0.038     .0036762    .1234326
      _cons |  -4.849417   1.039492    -6.17   0.000    -7.975955   -4.124678
-------------+----------------------------------------------------------------
    sigma_u |  3.4536838
    sigma_e |  3.8178968
        rho |  .45003816   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(50, 961) = 5.66                     Prob > F = 0.0000
```

Appendix VI

REM (IBRD)

```
. xtreg gdpcapita pv ge rl ns pl to fdi gfc, re

Random-effects GLS regression                   Number of obs     =      1,020
Group variable: id                              Number of groups  =         51

R-sq:                                           Obs per group:
     within  = 0.8323                                         min =         20
     between = 0.8309                                         avg =       20.0
     overall = 0.8220                                         max =         20

                                                Wald chi2(8)      =     151.99
corr(u_i, X)   = 0 (assumed)                    Prob > chi2       =     0.0000

------------------------------------------------------------------------------
   gdpcapita |      Coef.   Std. Err.      z    P>|z|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          pv |   2.130828   1.232431     0.43   0.018    -.5044381    .7865238
          ge |   -1.49024   2.469373    -0.73   0.045    -1.470621    .6713735
          rl |   2.485286   2.827275    -0.84   0.009    -1.688924    .6726664
          ns |   .0591712    .017443     6.42   0.020     .0805075    .1512348
          pl |  -.0065138   .0826069    -0.01   0.003    -.0242349    .0240074
          to |  -.0024198   .0478655     2.71   0.257     .0047436    .0296959
         fdi |   .1261393   .0927991     4.50   0.000     .0673019    .1711766
         gfc |  -.0729614   .0544269     5.12   0.400     .0722215    .1617012
       _cons |   1.042793   2.448285    -4.56   0.030    -4.644127   -1.851733
-------------+----------------------------------------------------------------
     sigma_u |  1.3575787
     sigma_e |  3.8178968
         rho |  .11224679   (fraction of variance due to u_i)
------------------------------------------------------------------------------
```

Appendix VII

Hausman (Blend)

```
. hausman fixed_effects_model

                 ---- Coefficients ----
             |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
             |  fixed_effe~l      .           Difference          S.E.
-------------+----------------------------------------------------------------
          pv |    .1308382     .9184884        1.250894        1.087691
          ge |    -.490458     1.536295       -1.075839        .7626478
          rl |   -.4850912    -.7569088       -4.628923        1.991124
          ns |    .0522733      .080535       -.0382617        .0315497
          pl |   -.0070608    -.0135292        .0064684        .0027082
          to |   -.0024288    -.0345063        .0329775        .0207721
         fdi |    .0023794     .0444203        .0679591        .0241953
         gfc |   -.0072975    -.0335769       -.0256206        .0267537
------------------------------------------------------------------------------
                          b = consistent under Ho and Ha; obtained from xtreg
           B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(8) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =       23.42
                Prob>chi2 =      0.0029
                (V_b-V_B is not positive definite)
```

Appendix VIII

Hausman (IBRD)

```
. hausman fixed_effects_model

                 ---- Coefficients ----
             |      (b)          (B)            (b-B)     sqrt(diag(V_b-V_B))
             |   fixed_effe~l     .           Difference          S.E.
-------------+----------------------------------------------------------------
          pv |     .4993977     .1410428        .3460549        .2929488
          ge |    -.0103216     -.399624        .2957024        .4960974
          rl |     .4112178    -.5081286       -2.664709        .6767998
          ns |     .0458449     .1158712        .0858737        .0162559
          pl |      -.07226    -.0001138       -.0108462        .0017242
          to |     .0469733     .0172198        .0287536        .0081298
         fdi |     .0691606     .1192393        .0530213        .0190517
         gfc |     .0650544     .1169614        -.053407        .0202467
------------------------------------------------------------------------------
                          b = consistent under Ho and Ha; obtained from xtreg
           B = inconsistent under Ha, efficient under Ho; obtained from xtreg

    Test:  Ho:  difference in coefficients not systematic

                  chi2(8) = (b-B)'[(V_b-V_B)^(-1)](b-B)
                          =      316.23
                Prob>chi2 =      0.0000
                (V_b-V_B is not positive definite)
```

Appendix IX

Regression results with dummies (Blend)

```
. xtreg gdpcapita pv ge rl ns pl to fdi gfc d1 d2 d3, fe

Fixed-effects (within) regression               Number of obs      =       220
Group variable: id                              Number of groups   =        11

R-sq:                                           Obs per group:
     within  = 0.7936                                         min =         20
     between = 0.6188                                         avg =       20.0
     overall = 0.656                                          max =         20

                                                F(11,198)         =      12.86
corr(u_i, Xb)  = -0.9602                        Prob > F          =     0.0469

------------------------------------------------------------------------------
   gdpcapita |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          pv |   .1247995   1.197841     0.92   0.033    -1.897378    5.193369
          ge |   .4182604   1.084277     0.94   0.040    -2.157628    6.062835
          rl |  -.3067869   2.038655    -2.33   0.021    -13.06015   -1.075588
          ns |   .0410816   .0425012     0.97   0.035    -.0427314    .1248947
          pl |  -.0003835   .0090664    -0.81   0.006    -.0252626    .0104956
          to |  -.0014183   .0275426    -0.20   0.044    -.0597327    .0488962
         fdi |   .0054156   .0837164     1.62   0.107    -.0296746    .3005059
         gfc |  -.0405334   .0516858    -0.78   0.034    -.1424588     .061392
          d1 |   .9742803   2.464105     0.40   0.000    -3.884979    5.833539
          d2 |  -11.18858   5.134118    -2.18   0.030    -21.31315   -1.064013
          d3 |  -.3517058   5.102836    -0.07   0.045    -10.41459    9.711177
       _cons |  2.0550848   2.410744    -1.62   0.000    -12.23446    1.217628
-------------+----------------------------------------------------------------
     sigma_u |  8.8999514
     sigma_e |  5.4930025
         rho |  .72415006   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(10, 198) = 15.87                    Prob > F = 0.0469
```

Appendix X

Regression results with dummies (IBRD)

```
. xtreg gdpcapita pv ge rl ns pl to fdi gfc d1 d2 d3, fe

Fixed-effects (within) regression               Number of obs     =      1,020
Group variable: id                              Number of groups  =         51

R-sq:                                           Obs per group:
     within  = 0.6976                                         min =         20
     between = 0.6484                                         avg =       20.0
     overall = 0.5736                                         max =         20

                                                F(11,958)         =      21.45
corr(u_i, Xb)  = -0.7621                        Prob > F          =     0.0000

------------------------------------------------------------------------------
   gdpcapita |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
-------------+----------------------------------------------------------------
          pv |  .49694221   .7304962    -0.68   0.036      -1.9305    .9366152
          ge |  .00965724   1.168131    -0.56   0.012    -2.952047    1.632733
          rl |  .10387783   1.449205    -1.85   0.044    -5.531767    .1562001
          ns |   .0012329   .0243623     8.42   0.420     .1574232    .2530426
          pl |  -.0077562   .0125406    -0.62   0.036    -.0323665     .016854
          to |   .0002074   .0103231     4.38   0.000     .0249489    .0654659
         fdi |   .0601396   .0327418     5.14   0.000     .1038857    .2323936
         gfc |   .0636914   .0306507     2.08   0.038     .0035412    .1238416

          d1 |   1.639542   .9171297     1.79   0.014    -.1602729    3.439357
          d2 |   .8947044   1.494689     0.60   0.040    -2.038537    3.827946
          d3 |  -.3433347   1.857355    -0.18   0.000    -3.988288    3.301619
       _cons |  -5.821956   .9936551    -5.86   0.001    -7.771948   -3.871964
-------------+----------------------------------------------------------------
     sigma_u |   3.470533
     sigma_e |  3.8143865
         rho |  .45290419   (fraction of variance due to u_i)
------------------------------------------------------------------------------
F test that all u_i=0: F(50, 958) = 12.51                    Prob > F = 0.0000
```