

An Exploratory Analysis of Economic Growth and Governance Indicators of Bangladesh, 1996-2018

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A thesis submitted to the Department of Economics and Social Sciences in partial fulfillment of the requirements for the degree of M.Sc. in Applied Economics

Department of Economics and Social Sciences
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Declaration

It is hereby declared that

1. The thesis submitted is my own original work while completing degree at Brac University.
2. The thesis does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The thesis does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
4. I have acknowledged all main sources of help.

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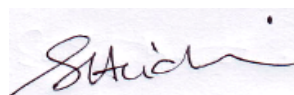
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Abstract

Bangladesh has been experiencing a steady economic growth around seven percent for the last few years. Although the economy is growing faster but the governance indicators are showing a different scenario in six dimensions of governance: voice and accountability, political stability, government effectiveness, regulatory quality, rule of law and control of corruption. Thus, there has been a wrangle regarding the relationship between economic growth and governance. This thesis examines the relationship of World Governance Indicators (WGI) and GDP growth of Bangladesh. Both exploratory and econometric analyses of the relationship have been undertaken. The study estimates regression model using data for the period, 1996-2018. The regression results find that control of corruption (CC) is the most important governance variable that influences positively on economic growth. Similarly, rule of law (RL) shows significant positive relationship to economic growth. Although the estimated coefficient for voice and accountability (VA) is statistically significant, the negative magnitude of the coefficient does not really reflect the expected impact on GDP growth, perhaps due to small sample size of the study. However, the remaining three variables such as government effectiveness (GE), regulatory quality (Reg) and political stability (PS) are not found statistically significant and have not really impacted economic growth in Bangladesh. Therefore, if corruption can be curbed and ensure rule of law, we will be able to attain a steady higher economic growth. In this paper, we have carried out tests to determine the presence of serial correlation. The results show no presence of serial correlation, hence, no corrective measures required. As the sample size is small there are the issues of stationarity, causality, multicollinearity, endogeneity that may arise in time series model. Within the purview of this analysis, we refrain from carrying out further tests of perfect collinearity, heteroskedasticity, stationarity, etc for the purpose of simplicity. However, such tests are highly recommended for more reliable and robust results.

Keywords: GDP Growth; Governance; Corruption Control; Rule of Law; Voice and Accountability

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List of Acronyms

ANOVA	Analysis of Variance
BBS	Bangladesh Bureau of Statistics
CC	Control of Corruption
CPI	Corruption Perception Index
GE	Government Effectiveness
GDP	Gross Domestic Product
GDPG	Gross Domestic Product Growth
ICGN	International Corporate Governance Network
OECD	Organization for Economic Co-operation and Development
OLS	Ordinary Least Squares
PS	Political Stability
RL	Rule of Law
Reg	Regulatory Quality
TI	Transparency International
UCM	Unobserved Components Model
UNDP	United Nation Development Program
VA	Voice and Accountability
WB	World Bank
WGI	World Governance Indicators

Chapter 1

Introduction

1.1 Context of the Study

Bangladesh is one of the most densely inhabited countries in the world bearing a population of over a hundred and sixty million. Its developing economy is wedged by its governance.

The economic growth is lower than the other developing countries. The other major deterrent to growth is the corruption which specifically influences the picture of the nation to the rest of the world. It leads the nation to administrative weakness and poor governance. Therefore, the administrative power may weaken due to poor governance.

Our economic development could not flourish because of political and plenty of different constraints. During this twenty first century, our economic development is going on not rapidly but gradually. But unemployment, low wages and higher inflation rate are the main reasons behind our slow economic growth. Necessary measures should be taken against these problems. The growth rate of GDP in Bangladesh is comparatively too slower than that of many developed countries which is also another type of problem.

Governance is comprised of numerous governing processes which are ruled by either government of a state or a community. It indicates the interaction and decision making of a government of a state or nation.

The term “Governance” is defined as an activity of power or authority for developing a country and its nation which is lead by the political leaders. It a process whereby some sectors of the society use power, authorizes and proclaims public policies which leads to human, social and economic development (Tamayo, 2014).

However, the term “Economic Growth” can be defined as an increase in aggregate production of goods and services by utilizing proper resources efficiently, compared from one timeframe to another (Potters, 2021). It refers to changes in the level of economic activities over a period of time. Economic growth is measured by Gross Domestic Product (GDP) per capita, the value of all goods and services produced by a country in one year divided by the country’s population.

The aim of this research is to understand the impact of governance on the economic growth. Bangladesh's economy is developing and gradually boosting in a way that has drawn attention of different influential platforms.

According to Yuen Ang (2017), “Economic growth and good governance are interdependent on each other which lead to a never-ending chicken and egg debate about which comes first in terms of development.”

Governance is a broad concept with variety of definitions. Kaufmann, Kraay and Mastruzzi (2010) define governance as a group of conventions and institutions that can be utilized to practice the control of authority. The governance includes six basic dimensions such as political stability and absence of violence/terrorism, freedom of voice and accountability, government effectiveness, regulatory quality, control of corruption and the rule of law.

The economic freedom score of Bangladesh has been raised. In economic freedom 2020 index, Bangladesh is the 122nd freest country. The economic freedom score has increased by 0.8% and reached to 56.4. Bangladesh has ranked 29th among 42 countries in the Asia-Pacific region and it is below the world average score. (<https://www.heritage.org/index/country/bangladesh>). However, fiscal health has increased and obtained the highest score. Private consumption and investment show a very noticeable increase. Yet, there are several issues and misleading sustain which leads to poor

infrastructure, corruption, insufficient power supplies, absence of proper ruling, political instability, uncertain regulatory qualities, unhealthy environment, weak property rights and slow implementation of economic reforms etc. Bangladesh's economy is severely hampered with these factors and affected economic growth which is not healthy for the development.

From various development literatures, it is assumed that a good economic growth should always have a positive relationship with governance. In order to find the answer of the research questions, correlation and multiple regression models have been used in this paper. The study is narrowed down to the Bangladesh perspective only.

1.2 Objectives

The main objective of the study is to find the relationship between governance and economic growth of Bangladesh.

1.3 Analytical Framework and Data

This thesis has done both exploratory and econometric analyses to investigate the effect of governance on the economic growth of Bangladesh. The study uses a time series dataset to estimate the correlation and multiple regression models. The data has been collected from secondary source. They have been collected from Bangladesh Bureau of Statistics (BBS) and World Governance Indicators (WGI) of the World Bank. The sample contains the data for the period 1996-2018.

1.4 Structure of the Thesis

The thesis is organized in 7 chapters. Following the introductory chapter, which contains the context of the study and research objectives, Chapter 2 provides a brief literature review of governance and economic growth. Chapter 3 presents the global scenario of the governance and also the current status of governance in Bangladesh. Chapter 4 explains the concept of

governance and its importance. Chapter 5 provides an exploratory analysis of governance indicators in Bangladesh. Chapter 6 presents the methodology, empirical design, and model specification and regression analysis. Chapter 7 includes conclusion and policy recommendations.

1.5 Limitations

The data for World Governance Indicators (WGI) are available only from 1996 to 2018. Due to data limitation and smaller sample size, we did not find all significant results. However, overall result would be more appropriate with a larger sample size.

Chapter 2

Literature Review

In the literature, different sorts of indicators remain as intermediary factors for governance. However, recent studies have used World Governance Indicators (WGI) as one of their most vital variables. These indicators observe the six different dimensions of governance such as voice and accountability, political stability and absence of violence, regulatory quality, government effectiveness, and control of corruption and the rule of law. This section discusses the impacts of some of the important governance factors on economic growth.

World Bank (1989) interprets governance in administrative and managerial terms detached from politics which has been criticized by many scholars and experts. Canan (2004) discusses that Western governments, OECD and UNDP relate it with more extensive conception of majority rule (participatory) administration .In addition Adams & Mengistu (2008) have explained in more details about the alternative effect of good governance .They concludes that good governance has also shown to have a negative effect on income inequality .Wherever governance situation is malfunctioned, economic development loses its balance and is found to be endangered and vice versa.

On the other hand, voice and accountability play a significant role in the control of corruption and regulatory quality, and the rule of law. Mo (2001) shows that expanding corruption levels diminishes the financial development whereas Gani (2011) claims that, for developing countries, there's a negative and noteworthy relationship between corruption control and economic growth. In expansion to that, the administrative quality and the rule of law show a negative but not noteworthy affiliation with economic growth.

Kaufman (2002) shows the relationship between corruption and poverty by drawing a summary table. The author said that, absence of rule of law and property rights is an evident scenario in a corrupt system.

Governance is a broad and multi-faceted concept. It describes the way that a state power is used to run a country's socio-economic components (The World Bank, 1994). According to North (1991), Grief (1994), Acemoglu and Robinson (2012), Acemoglu and Robinson (2010), North & Thomas (1973) and Rodrik and Subramanian (2003), there is a group of governing components that are required for economic growth. These incorporate well-defined property rights, unbiased agreement implementations, low information gap between purchasers and venders, and steady macroeconomic conditions.

The Social Indicator takes demographic pressure, refugees and Intrusion Detection and Prevention System (IDPs) and external (particularly security and economy of a state) actors into account. It reflects the pressure on food supply and access to safe water due to demography, health, diseases & epidemics, high population growth, skewed population distribution and natural disasters, like earthquake, flood, drought and cyclone. Again, this indicator measures pressure on public services, security challenges, and broader humanitarian issues. The correlation between good governance and economic growth is stronger with higher level of income which heavily hampers business growth (Fayissa & Nsiah, 2013).

Begum (2019) has also showed a relationship between GDP growth and world governance indicators with additional indicators. She added fragile state index, doing business index, corruption perception index and illicit fund flow beside WGIs. In her paper she concludes that economic growth and governance are interdependent and governance of Bangladesh is mostly impacted by voice and accountability, corruption perception index and fragile state index.

Governance situation in Bangladesh has been evaluated from various institutional contexts to ensure public and private services and good governance is still a fragile plant in Bangladesh that is seriously obstructing social and economic development of the nation (Hasan, Sultana & Hasan, 2014). Confrontational politics has more or less destroyed the bureaucracy and local governmental institutions which have had a severe impact on the governance (Osman, 2010).

Most of the literature has investigated the relationship between governance and economic growth using numerous variables or combining all of these variables. Hence, relating the six World Governance Indicators (WGI) with economic growth is not much studied in this context. Therefore, the study is going to provide further evidence about the impact of governance on GDP considering a broader range of variables. Therefore, this study intends to examine whether governance indicators have had any impact on the economic growth in Bangladesh and thus attempts to fill up the gap in the empirical literature of the governance in Bangladesh.

Chapter 3

Governance: Global Scenario and Bangladesh Perspective

3.1 Growth and Development

It is a matter of long history of research and discussion since the time of Adam Smith, David Ricardo or Maynard Keynes, why some countries are poor and some countries are rich. The Nobel laureates of 2019 Dr. Avijit Banarjee and Dr. Esther Dufflo also identify clear distinction between rich economics and poor economics, and their works in the field of development economics have opened the door for governments to seriously consider the policy recommendations to fight against poverty and ensure economic development (Begum, 2019).

Growth and development are not similar things. Individual growth is not responsible for overall development. Economic growth is the increase in real output of a country over a specific time period. On the other hand, economic development refers not only a single growth but also several things. It comprises of improvement in life style, quality and standard, life expectancy, poverty, ignorance, literacy rate, inflation rate, health care etc. It can be measured in nominal or real term. Statisticians measure such growth as the percentage rate of increase in real gross domestic product or real GDP. In this paper, we have focused specifically on the economic growth which is measured by GDP growth.

3.2 Governance: Global Scenario

Governance represents the economic condition of a country. Governance must reflect most of the sectors such as administration, policy, mission, responsibility, rules and regulations, corporate, ethics, decision making. The main reason behind the difference between developed and least developing countries is the cooperation between the administrative and

political sectors. The stronger the control over the governing system, the more the country will be developed as well their economy.

International Corporate Governance Network (ICGN) which is established in 1995 aims at creating a supportive and affirmative organizational environment for investors, organizations and other parties. In 1990s our attention was mainly on corporate governance. It focused on emerging markets including the financial crises of Asia and Russia.

According to Mehra (2003) (President of World Council for Corporate Governance), “Good governance is not only about corporate excellence but more about the key engines of both economic and social transformation.”

The status of governance in different countries around the world is different.

The Indian Corporate is administered by the company’s Act of 1956 that takes after more or less the UK demonstrate. The design of private companies is generally held by a founder, his family and associates. Until the early 90s the Indian corporate situation was more or less steady. The objectives of the Indian corporate sectors have changed after the liberalization in 90s. India’s financial change program made a continuous development in 1994. The Indian Companies Act of 2013 presented a few progressive and transparent processes which benefit stakeholders, directors as well as the administration of companies which focus to move forward the corporate administration in India.

South Africans represent diverse societies and racial groups that exist in South Africa. The National Planning Commission issued their National Development Plan (NDP) – Vision for 2030. It was anticipated that, South Africa would accomplish good governance after implementation of the NDP. This NDP contains a variety of vital suggestions. These would boost the economic growth and job creation (SA National Development Plan, 2011). According to Cilliers & Aucoin (2016), governance indicators for South Africa’s governance

effectiveness and control of corruption have shown a gentle decline within the country since 1996.

A developed country like Australia's governance has taken an increasingly one of the most significant roles within its business environment. According to Williams (2016), the corporate governance structure set up in Australia reaches out past consistence with administrative environment; it incorporates a combination of certain components. There are three key components, such as "hard" law (Corporate Act, 2001), "soft" law (ASX) and "non-binding guidelines (ASX principles, 2003).

The regions of South, Southeast and East Asia contain different cultural values & norms, ethics, geography and moral values. According to Haque (2001), the political and constitutional systems in managing the economy are different from each other. However, many countries of East and Southeast Asia are now considered as developed but still there can be seen a poor scenario in South Asian counties. Their economic and financial condition is witnessing poor governance, lack of rule of law and a huge range of corruption. In the last decade or so, some other countries had been witnessing an improving and developing growth in economy.

3.3 Governance in Bangladesh

Bangladesh is a developing country with a small area of 147,570 km/sq with a 16 million of population. In Bangladesh, all the sectors such as administration, politics, financial sectors, rules and regulation, corruption system, all the internal and external sectors need a good management and cooperation. A good management can be only possible if there is Good governance. The governance situation in Bangladeshis not good and satisfactory and providing a hindrance to our economic growth. The present situation of governance in Bangladesh is worsening day by day. It shows all the signs of an immature administration.

Corruption is going to engulf the entire nation. Parliamentary system and freedom of human rights are not satisfactory .In Bangladesh, all the internal and external actors of politics and development are emphasizing on the requirement of satisfactory governance. As the condition is worsening day by days because of the corruption and politics, the stability between the major sectors is deteriorating. Therefore, the economic growth also impacted by these obstacles.

Bangladesh: Governance Indicators

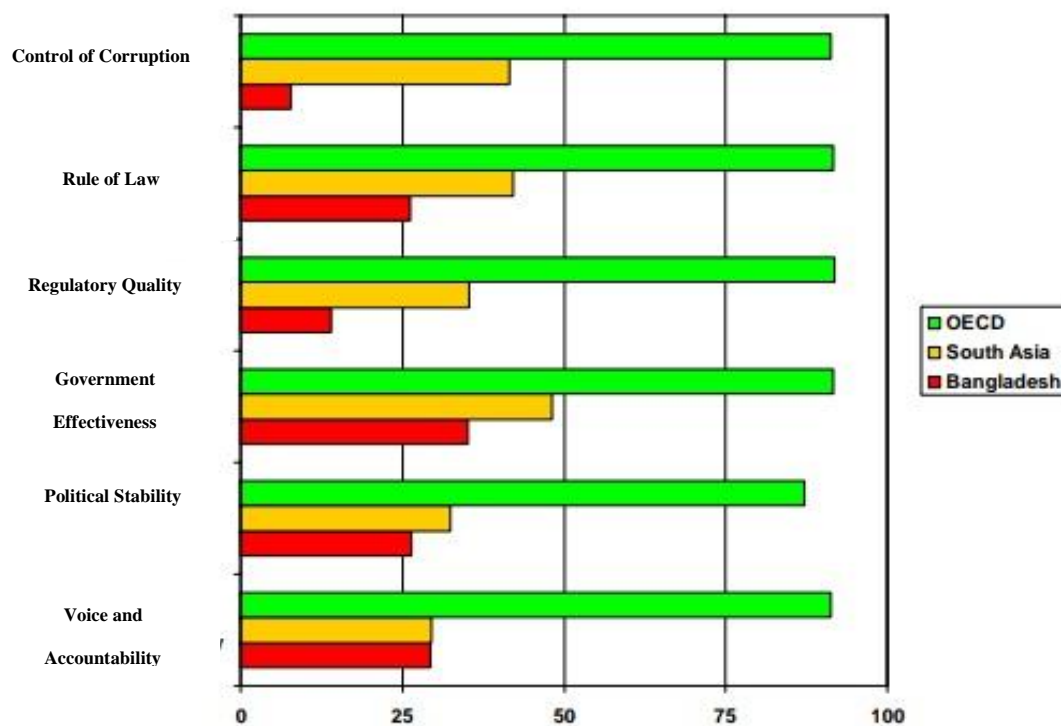


Figure 1: Governance indicators in OECD, South Asia and Bangladesh

Website: <https://info.worldbank.org/governance/wgi/Home/Documents>

In the figure 1 above, it illustrates six world governance indicators in the perspectives of different countries including Bangladesh. The figure shows control of corruption, rule of law, regulatory quality, government effectiveness, political stability and voice & accountability in OECD countries, South Asian countries and Bangladesh respectively. All the indicators in

OECD countries are very high mostly 100%. On the other hand, South Asian countries are lower than the OECD countries but more than Bangladesh. The indicators range from 25% to 50%. However, in the perspective of Bangladesh the indicators are not very significant. Rule of law, political stability, government effectiveness and voice & accountability are more than 25% but the rest two indicators control of corruption and regulatory quality are less than 25%.

Chapter 4

Governance: Conceptual Framework

4.1 Concept of Governance

Governance is a mechanism where a country exercises their economical and political power on behalf of their citizens by administrative authority to deal with their undertakings and security through which citizens and groups can express their interests, practices their legitimate rights, meet their commitments and intervenes their disparities (Osman, 2010). It is the method by which governments are selected, monitored and replaced; and also the government's ability to develop and implement effective policies.

4.1.1 Criteria of Good Governance

“Governance” is a process of formulating effective decisions and the method by which decisions are applied (Kelly, 2010). Good governance represents good maintenance systems in a country or nation which have a balance proportion of all the major elements. Good governance can lead a country in improving economic growth. Governance must fulfill some criteria. Good governance has some major characteristics. These are Political and Executive Accountability, People's Participation, Real participation of civil society organizations, Predictability, Transparency, Promotion of Democracy & Political pluralism, Rule of law & Human rights, Decentralization. Different organizations both national-international and different good governance researchers, authors talk about the criteria of good governance from different angles and point of views. Some of them are discussed in a short in the following:

A number of multilateral organizations (e.g., UNDP, World Bank, OECD) and many researchers reflected on the components of good governance and their impact on the

development. Multilateral organizations generally equate good governance with effective economic management based on four categories; such as (i) accountability; (ii) participation; (iii) predictability (iv) Transparency.

UNDP (1977) has mentioned some specific criteria which will define a “Good Governance”.

It has given five principles of good governance. They are given as follows:

<p>1. Legitimacy and Voice</p>	<p>Participation- In decision making, both men and women should have equal rights, either straightforwardly or through legitimate authority. This expansive participation creates a freedom of speech as well as the ability to participate constructively.</p> <p>Consensus Orientation- Good governance leads different interest to achieve a wider consensus for the betterment of the group where possible by policies and procedures.</p>
<p>2.Direction</p>	<p>Strategic Vision- Both the leaders and general public have a common broader conception regarding good governance as well as the sense of knowing the essentials for its development. They also maintain a harmony among historical, cultural and social factors.</p>
<p>3.Performance</p>	<p>Responsiveness- Responsibility and attempt to serve all stakeholders.</p> <p>Effectiveness and efficiency- Proper use of assets and utilize them effectively and efficiently</p>

<p>4.Accountability</p>	<p>Accountability- In decision making, both private and civil sectors are bound and accountable to the public as well as to stakeholders. Hence, depending on external or internal decision accountability may differ.</p> <p>Transparency- People who are concerned with transparency have free access of information, interaction and establishment. Also sufficient information is provided for their easy understanding and monitoring.</p>
<p>5.Fairness</p>	<p>Equity- Both men and women have freedom to improve or maintain their prosperity.</p> <p>Rule of law- Legal frameworks especially the laws on human rights should be implemented fairly.</p>

Table 1: Five Principles of Good Governance

Source: UNDP-Governance and Sustainable Human Development, (1977)

Website: https://www.academia.edu/2463793/Principles_for_good_governance_in_the_21st_century

Dhiraj Kumar Nath (2004) has identified eight major criteria of good governance. These are participatory, consensus oriented, accountable, transparent, responsive, effectiveness, efficient equitable, inclusive, strict rules of law and their follow-up which have been overviewed by the figure below:

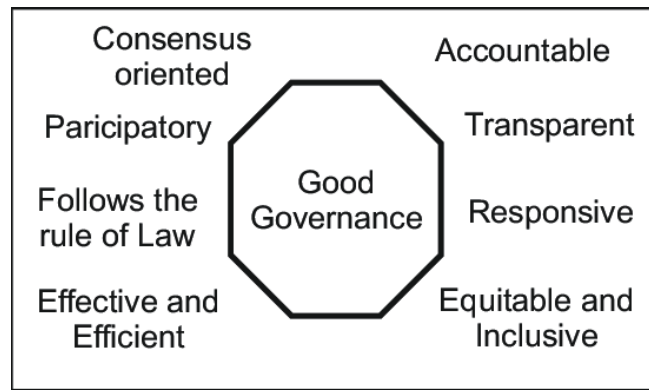


Figure 2: D.K. Nath's eight major criteria of good governance

Source: Nath, D.K. (2004) *Guidelines for Good Governance*, CIRDA, Dhaka

The World Bank (1992) has identified a number of parameters of good governance which plays a significant role in both developed and developing countries. They are given below:

1. Regular elections and political accountability are performed to accomplish the authenticity of political framework.
2. Freedom of affiliation as well as participation through different sectors of governing system such as financial, social and professional.
3. Legitimate structure mainly depends on the rule of law and freedom to secure common human rights as well as guarantee social equity.
4. Transparent governing sectors and bureaucratic accountability
5. Freedom to access data and information
6. Efficient and effective regulatory framework.

World Bank emphasizes mainly on corruption control, political stability, freedom and human rights. It has focused on seven different characteristics which is an integral part of a governing system. These criteria will make the governance a perfect and satisfactory one and also play the most significant role in the development of a country. For under developed and developing countries like Bangladesh good governance is mandatory.

OECD (1999) has also highlighted several aspects of good governance. Some of these include:

1. Open diversified society and advanced democratic system.
2. Public and local governing sectors must be crystal clear, accountable, productive and successful and must give effort for making it stronger.
3. Freedom of human rights and its advancement
4. Strict rule of law should be re-established which will include both fair and accessible legal rights.
5. Anti-corruption activities
6. Intemperate military expenditure must be diminished effectively

The parameters of good governance can be characterized essentially into two sorts which are institutional parameters and non-institutional parameters. Institutional include independent election commission, adequacy of parliament, productive bureaucracy, strong and independent local government, freedom of media, respectful society, independent and effective anti-corruption agencies. However, non-institutional includes legitimacy of the political framework, mass cooperation of the nation, energetic and efficient authority, responsibility of the government, productive authoritative framework, effective the rule of law, decentralization, proper human rights, women empowerment, high literacy rate and combating corruption (Hasan, Sultana & Hasan, 2014)

For the economic development there should be a sound and satisfactory relationship between development and governance. But unfortunately, there are several obstacles can be seen in administration, political sectors and transparency. Some of them has mentioned below:

- a) Illiteracy
- b) Illegal activities and corruption

- c) Political involvement in administrative sectors
- d) Weak ruling systems
- e) Unproductive parliament
- f) Absence of the rule of law
- g) Absence of Excellencies etc.

These obstacles are standing like a barrier for the good administrative, ruling and governing system. They are making hindrances towards the economic growth as well as development of a country.

4.1.2 World Governance Indicators (WGI)

The idea of good governance is comprehend in five different proportionate by Stoker in 1998. The term “good governance” refers to establishments from within and beyond government, recognizing the obscuring of limits and responsibilities regarding attaching social and economic issues, and recognizes the power of force reliance engaged with the connections between foundations associated with aggregate activities. The concept is constructed by a range of independent self governing actors which have the capability to overcome different challenges.

The WGI refers to “World Governance Indicators”. It consists of six components of broad dimensions of governance. The governance is defined and presented by these six dimensions. It refers to a combination of corruption, political, administrative and other functional channels.

The Worldwide Governance Indicators (WGI) are a research dataset regarding the nature and quality of governance which are given by countless organizations, citizen and expert observation respondents in both developed and under-developed countries (Kaufmann, Kraay and Mastruzzi, 2010).

The WGI is measured on six broad dimensions of governance for over 200 countries and territories over the period 1996-2018. The WGI consists of six composite indicators of governance. These indicators are:

- 1) Control of Corruption
- 2) Voice and Accountability
- 3) Rule of Law
- 4) Political Stability
- 5) Regulatory Quality
- 6) Government Effectiveness

All these six components are integrated and demonstrate in the diagram below:

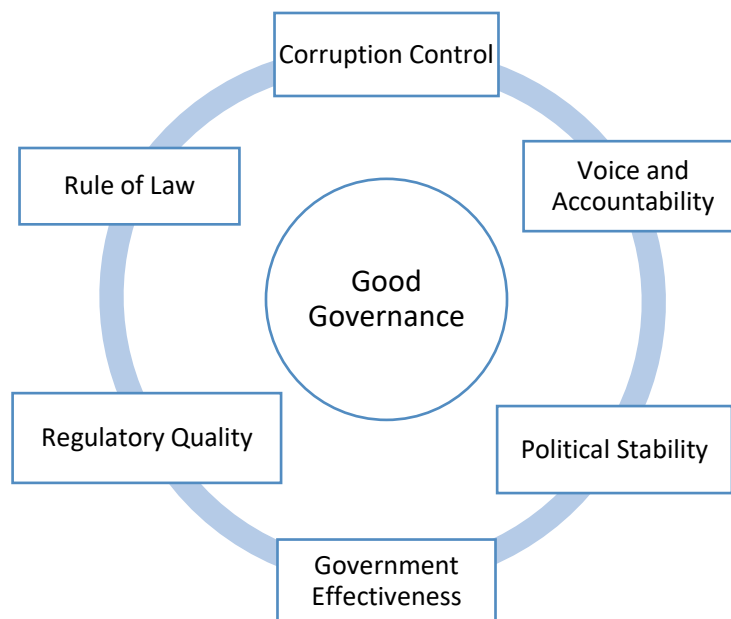


Figure 3: Components of Good Governance

4.1.3 Role of Governance in an Economy

Development is primarily a domestic responsibility composed of integrating all the economic, social, political, cultural and ecological components. The World Leaders in the

2005 World Summit reported that good governance is a vital part to economic growth, reducing poverty and steady development. If good governance is not accomplished most abused groups will include women, youth and impoverished people. Administrative authority should find out and consider their perspectives. Citizens must participate in decision making process for the existence of good governance in both theories and practice. They should have a right access to information and technology. The entire citizen must have equal priorities and freedom in a state.

Kaufmann (2002), a World Bank Scholar, has developed a diagram showing multi-pronged strategies for improving governance, good government and, combating corruption indicating a relationship between governance and political economy as given below:



Figure 4: Multi-pronged strategies for improving governance, good government, and combating corruption

Source: Kaufmann, (2002)

Kaufmann (2002) explains that good governance should be achieved following some major strategies. The multi-pronged strategies model shows that there is political economy which is dependent on institutional reforms and economic policy. Combination of the both the country leads to good governance. Moreover, with the other components, such as financial controls,

legal-judicial, public oversight and civil society together can make actual improvement of governance, ensuring good government and combating corruption.

The impacts of governance on economic growth are still partially understood. Samarasinghe (2018) finds that corruption control is an expository factor for economic growth where per unit increase in control of corruption results 6.9% increase in economic growth. However, she added that it is essential to manage both corruption control and political stability and absence of violence to attain higher economic growth.

All the factors or indicators of governance are more or less play a vital role for economic growth of a country. The adoption of these good governance indicators will lead to a wide range of economic development and growth.

Chapter 5

Governance in Bangladesh: An Exploratory Analysis

5.1 Governance Indicators in Bangladesh

Good governance plays an essential role in economic growth. Governance situation in Bangladesh has been evaluated from various institutional contexts to ensure public and private services and administrations (Hasan, Sultana & Hasan, 2014). The impacts of donor assistance to improve governance in Bangladesh have also been evaluated (Cormier & Gordon, 2001). Many researchers find that clientelistic political system has captured the state institutions of this country which has deteriorated the governance structure in a multiplying way (Alam & Teicher, 2012). Besides, confrontational politics has nearly destroyed the bureaucracy and local governmental institutions which have had an adverse impact on the governance of Bangladesh (Osman, 2010).

The following section discusses the trend in different governance indicators, such as gross domestic products, control of corruption, rule of law, government effectiveness, regulatory quality and voice and accountability in Bangladesh.

5.1.1 Gross Domestic Product (GDP) Growth

The GDP of Bangladesh has been gradually increasing over the years. Figure 5 shows the increasing trend in GDP growth in Bangladesh during the sample period of 1996 to 2018. The figure reveals that GDP growth has been increasing upward since 2014.

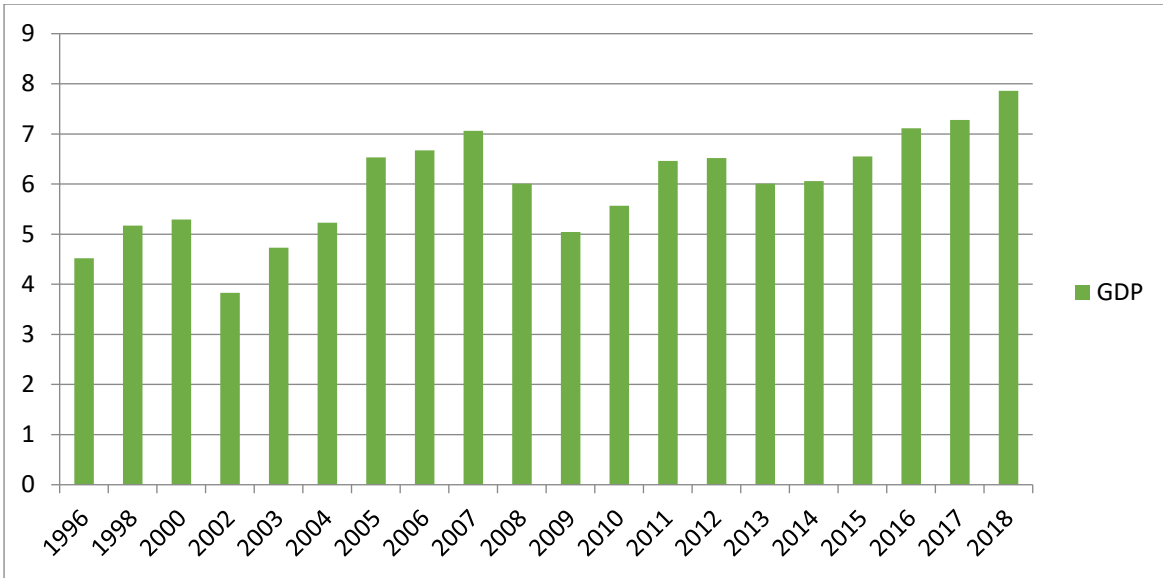


Figure 5: Gross Domestic Product (GDP) Growth (1996-2018)

Therefore, Bangladesh’s economy is growing. Although the scenario was worst in 2001-2002 and improved slightly in 2006, it was again deteriorated in 2013. However, it has shown an increasing trend from 2014.

5.1.2 World Governance Indicators

The World Bank identifies six governance indicators. These are control of corruption, governance effectiveness, political stability, regulatory quality, voice and accountability and rule of law.

5.1.2.1 Control of Corruption

Figure 6 shows the trend in control of corruption declined since 2000. However, from 2006 it shows an upward trend to the end of the period with some fluctuations in between.

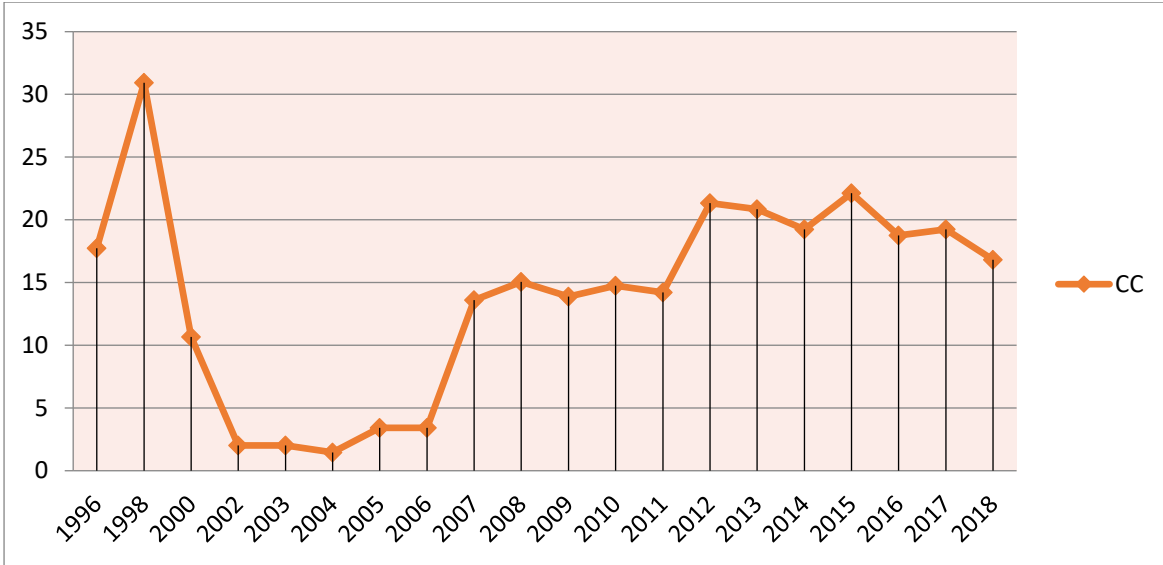


Figure 6: Corruption Control (1996 - 2018)

5.1.2.2 Government Effectiveness (GE)

An affective government can play a vital role in economic growth. Government effectiveness (GE) has a great impact on a developing country like Bangladesh. Figure 7 shows a gradual fluctuation of GE during the period 1996-2018. The GE was approximately 27.32 in 1996 and it reached to the point 21.63 in 2018.

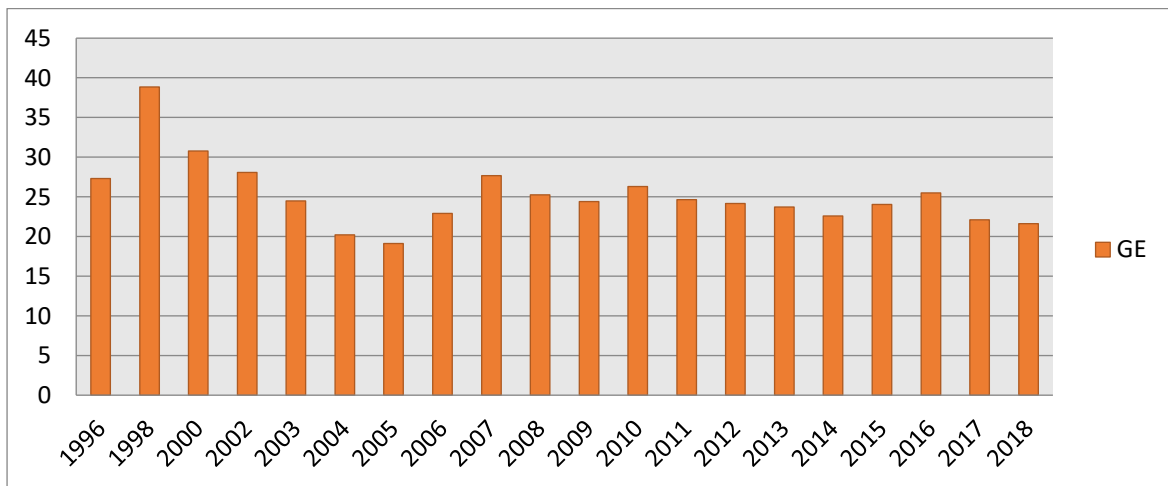


Figure 7: Government Effectiveness (1996-2018)

5.1.2.3 Political Stability (PS)

Political stability is an important factor for the growth process and has a positive relationship with economic growth. Figure 8 shows significant fluctuation of political stability over the time 1996-2018. In 1998 it was 33.51 and gradually it decreased to 4.36 in 2005 and then increased in 2014. Further it started to decrease with some fluctuations.

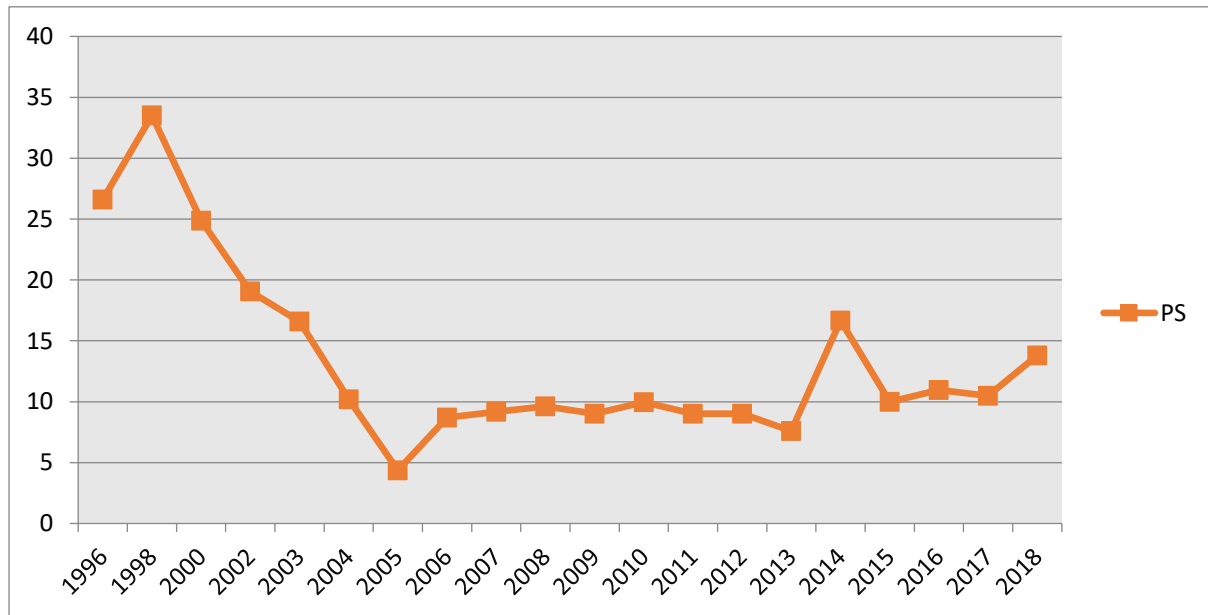


Figure 8: Political Stability (1996-2018)

5.1.2.4 Regulatory Quality (Reg)

Improvement of regulatory quality is the core for economic development. Figure 9 shows Regulatory quality with a gradual increasing trend during the period 1996 to 2018 in Bangladesh with slight fluctuations.

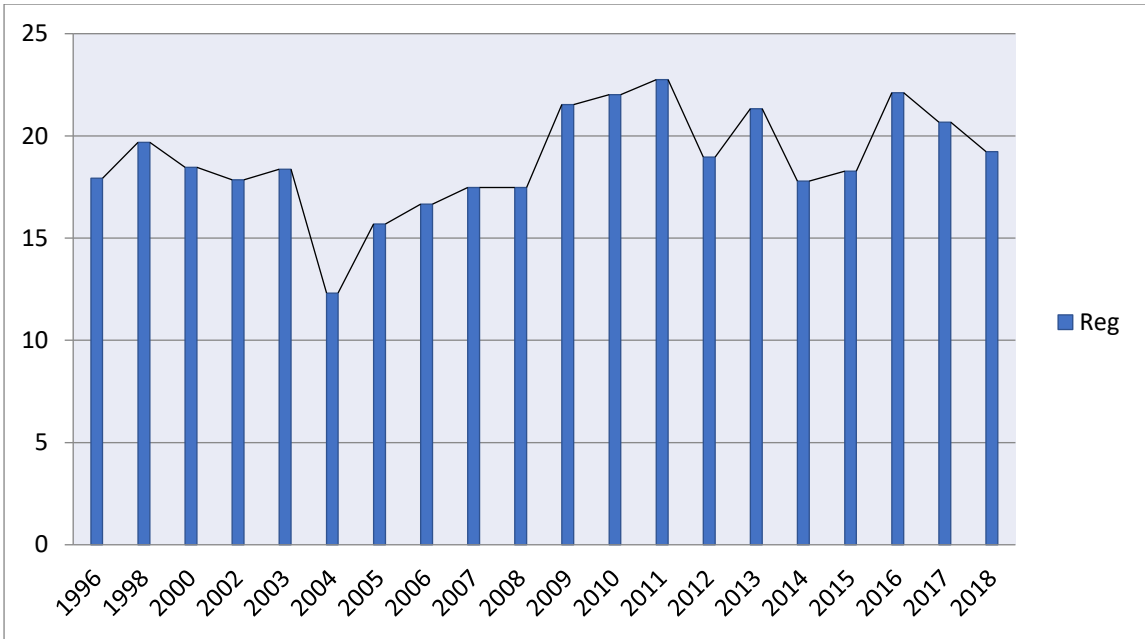


Figure 9: Regulatory Quality (1996-2018)

5.1.2.5 Voice and Accountability (VA)

The voice and accountability are connected with the political system of the country. In a developing country like Bangladesh, which has a democracy VA, is the most significant element of its governance. Figure 10 shows the trend in voice & accountability for the period 1996 to 2018. The index decreases during 1996 - 2004 (50 to 27.88). However, it started moving downward since 2008 with a slight increase in 2009 and then reached the lowest point in 2018(27.58).

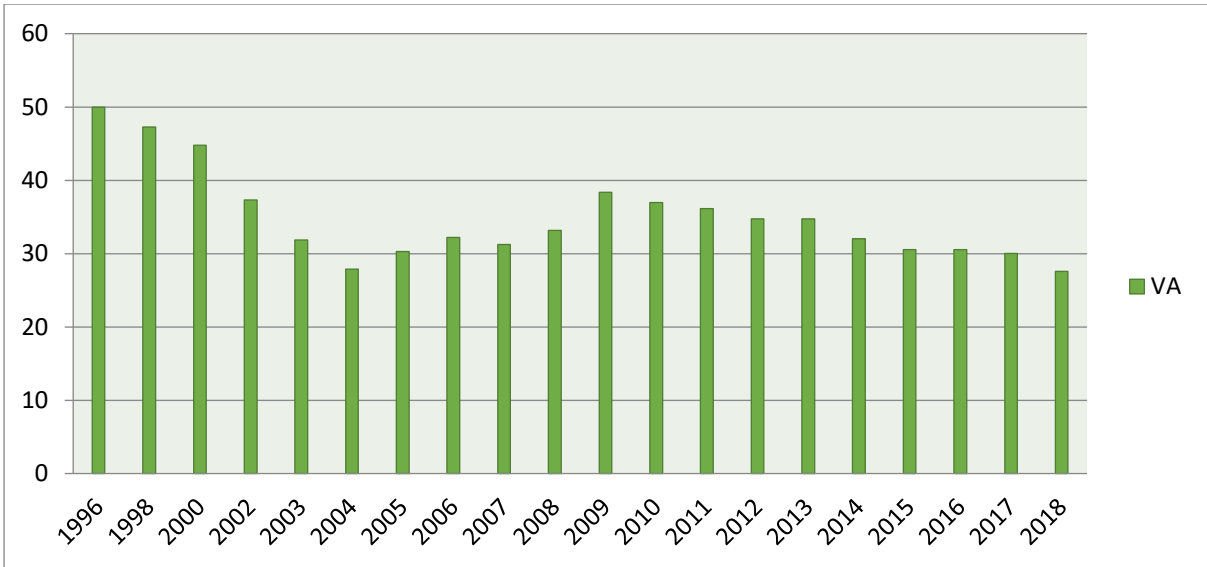


Figure 10: Voice & Accountability (1996-2018)

5.1.2.6 Rule of Law (RL)

Figure 11 demonstrates the condition of rule of law in Bangladesh for the period 1996 - 2018. The index was 20.1 in 1996 and reached the point 28.36 in 2018 with some fluctuations during the sample period.

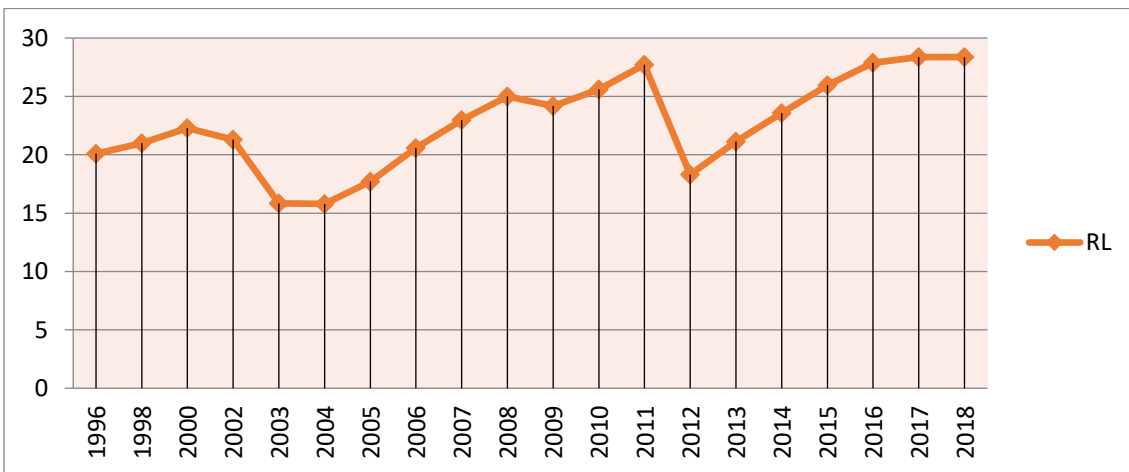


Figure 11: Rule of Law (1996-2018)

5.1.3 Other Indicators

Bangladesh's score in the Transparency International's global Corruption Perception Index (CPI) has remained unchanged. Bangladesh was ranked 143rd among the 180 countries in the Berlin-based Transparency International's Corruption Perception (CPI) in 2017 (Appendix I) (<https://www.thedailystar.net/opinion/governance/news/bangladesh-descends-corruption-ranking-1694551>). Table 2 demonstrates an overview of some corruption cases.

Timeline	Types of Corruption
2008- 2010	Extrajudicial executions, custodial torture, Impunity for members of the security forces
2010 – 2012	Embezzlement of money or assets, higher income groups experience corruption
2012- 2014	Financial scams (Padma Bridge Project, Hall Mark, Destiny), ineffective parliament: Sonali Bank's involvement in granting scam loan to the disputed Hallmark issue, Zia Charitable Trust Corruption, Feni a corruption scandal involving the acquisition of the \$750 million Tengratila and Feni gas fields, etc.
2014- 2016	Money laundering, Public procurement (Nepotism), Public services (Bribery)
2016 – 2018	Public Sector (health, transportation, administration), Rent-seeking, Inappropriate use of government funds

Table 2: Types of Corruption in Bangladesh (2008-2018)

Source: "Annual Report - Transparency International Bangladesh (TIB)", (2021)

Website: <https://www.ti-bangladesh.org/beta3/index.php/en/communications/publications/annual-report>

Kauffman (2011) demonstrates the state of governance in Bangladesh indicating Bangladesh's percentile ranking on good governance criteria. We have compared these

observations with our recent ranking of Bangladesh among 213 countries by governance indicators.

Governance Indicators	Ranking of Bangladesh in percentile rank in 2000	Ranking of Bangladesh in percentile rank in 2010	Ranking of Bangladesh in percentile rank in 2018
Voice and Accountability	Lowest 41.5	Lowest 31.4	Lowest 22.16
Political Stability	Lowest 26.9	Lowest 6.6	Lowest 8.09
Regulatory Quality	Lowest 39.4	Lowest 14.9	Lowest 10.57
Government Effectiveness	Lowest 38.3	Lowest 21.1	Lowest 12.0
Rule of Law	Lowest 26.4	Lowest 19.8	Lowest 17.7
Corruption Control	Lowest 40.2	Lowest 7.9	Lowest 11.5

Table 3: Ranking of Bangladesh among 213 countries by governance indicators

Source: Daniel Kaufman, and associates, Governance Matters: Aggregate and individual indicators for 2000-2010, World Bank, Washington D.C, September, (2011)

Website: <http://info.worldbank.org/governance/wgi/>

A report entitled ‘The State of Governance in Bangladesh 2006’ published by the Brac University Center for Governance Studies interpret four significant issues of governance in Bangladesh. These are: the partisan politics exist in all the parts of public affairs and exercises. There also exist several partisan public organizations interferences and the absence of proper system. Due to this informality, the formal accountability mechanisms are worsening day by day and becoming weak gradually in Bangladesh. They also conclude that the demand for rebuild and restructure mainly comes from development partners. Moreover, the people of Bangladesh do not have proper knowledge about governance.

Present state of governance is evaluated through the criteria of good governance. Bangladesh exhibits all the symbols of an underdeveloped polity. Its democracy has not been satisfactory. As a result, all the indicators for a good governance and economic growth are in downward trend.

Chapter 6

Empirical Design: Methodology, Model Specification and Estimation

6.1 Empirical Design: Methodology and Data

This thesis applies statistical methods of correlation, autocorrelation test and multiple regression models. The study uses secondary data on GDP growth and other macroeconomic variables for the period 1996-2018. In the regression model, GDP growth is considered as dependent variable. The World Governance Indices (WGI) has been considered as independent variables.

The details of the data set are presented in Appendix II.

6.1.1 Construction of Variables

6.1.1.1 Dependent Variable

GDP Growth

The dependent variable is GDP growth; Gross Domestic Product reflects the level of economic development. “Bangladesh Bureau of Statistics” (BBS) measures GDP growth of Bangladesh. The expenditure method is applied to GDP growth calculation. Therefore,

$$\text{GDP} = \text{consumption} + \text{investment} + \text{government expenditure} + \text{exports} - \text{imports}.$$

6.1.1.2 Independent Variables

World Governance Indices (WGI)

The WGI variable is constructed with six aggregate indicators such as control of corruption, rule of law, voice and accountability, regulatory quality, governance effectiveness and political stability. The aggregate indicators are the combination of different perspectives of

numerous organizations, citizen and expert observations respondents in both developed and under-developed countries. They are based on over 30 individual data sources produced by variety of survey institute, think tanks, private, national and international organizations and few private firms. The WGI have been developed by Daniel Kaufmann (Natural resource governance institute (NRGI) and Brookings) and Aart Kraay (World Bank, Development Economics) in 1999.

The data sources are rescaled and merged together to reform a statistical methodology. This methodology is known as “an un-observed components model (UCM)”. It has been used to construct a weighted average of the six individual indicators. This model can generate margin of error for every single variable. These margins of error need to be taken into account while making comparison among the countries and over time.

The indicators are reported in two ways: (1) standard normal units, ranging from approximately -2.5 to 2.5, and (2) in percentile rank from 0 to 100, with higher values corresponding to better outcomes. A key feature of the WGI is that all country scores are accompanied by standard errors.

- 1. Control of Corruption:** Good governance should have a strong control over its corruption system. Misusing of any power for private gain is known as corruption. It refers to the bureaucratic regulation which is exercised for private gain by creating corruption. Control of corruption focuses where public power is used for personal benefits, including both lower and higher forms of corruption, as well as capturing the state by its advantage (Kaufmann, 2010).
- 2. Rule of Law:** Rule of law cannot be created by individual citizen, general public or by act of will. Every state has their specific rules and regulations. It varies from countries to countries, nations to nations. None can go beyond these laws. The main

concept of rule of law is that every citizen, contract authorizations, the police, and the courts should believe in and abide by the rule of society (Kaufmann, 2010).

- 3. Voice and Accountability:** Accountability refers to the word responsibility which means that every actor is responsible for their actions. According to a certain standard, all the people and organizations (public, private and civil) are responsible for their activities. It covers a wide range of thoughts which helps to understand citizens thinking, complaints and decisions as well as securing their rights for the betterment (Kaufmann, 2010).
- 4. Regulatory Quality:** Regulatory quality measures the government capability to plan, formulate and implement essential policies and regulations which helps in promoting the development of private sectors (Kaufmann, 2010).
- 5. Government Effectiveness:** Government effectiveness is the measured by the quality of public and civil services, policy formation and implementation. It refers to the quality of public service provision, nature of administration, competence of civil service from political factors, credibility of government's commitment to strategies (Kaufmann, 2010).
- 6. Political Stability:** Good governance should maintain a stable political situation of a country. Political stability is the balance and stabilization of regulation of the political situation between citizen and government. In developing country like Bangladesh political stability plays a vital role on economic growth (World Bank, 2010).

6.1.2 Possible Relationship between the Dependent and Independent Variables

The indicators extracted from the data sources are tabulated and compared against GDP growth.

Sl.	Indicators	Relation with GDP Growth (GDPG)
1	Control of Corruption (CC)	GDPG \propto CC
2	Government Effectiveness (GE)	GDPG \propto GE
3	Political Stability (PS)	GDPG \propto PS
4	Regulation (Reg.)	GDPG \propto Reg.
5	Rule of Law (RL)	GDPG \propto RL
6	Voice and Accountability (VA)	GDPG \propto VA

Table 4: Possible relationship between the dependent and independent variables

Note: “ \propto ” refers to proportionate relationship

It can be assumed that control of corruption, government effectiveness, political stability, regulatory quality, rule of law, voice and accountability would have a proportionate relation with GDP growth. If the independent variables increase the GDPG will also increase.

6.2 Summary Statistics

Variables	Mean	Standard Deviation	Maximum	Minimum
GDPG	5.97	1.03	7.86	3.83
CC	14.07	8.05	30.92	1.40
GE	25.18	4.23	38.86	19.11
PS	13.80	7.39	33.51	4.36
Reg	18.82	2.49	22.74	12.31

Variables	Mean	Standard Deviation	Maximum	Minimum
RL	22.67	3.98	28.36	15.78
VA	34.88	6.14	50	27.58

Table 5: Summary Statistics

Table 5 demonstrates the summary statistics (mean, standard deviation, maximum and minimum) of the sample data extracted from the BBS and Worldwide Governance Indicators for 23 years (1996-2018). The time period is selected for the convenience of comparison as most of the other indicators used in this study are available within this sample period. The table demonstrates that the two indicators of governance CC and PS show unusual data where there is a huge difference between their minimum and maximum values. Moreover, the standard deviations of CC and PS are also very high 8.05 & 7.39 respectively. The VA also shows a higher standard deviation (6.14). However, the other variables GDPG, Reg, GE and RL show quite usual values.

6.3 Model specification

The study employs multiple regression analysis to estimate the relationship between GDP growth and other independent variables. The model uses time series data for the period 1996-2018.

Model:

$$Y = \alpha + \beta_i x_i + \varepsilon$$

Where,

Y is GDP growth.

x_i (i= GE , CC, Reg, PS, RL and VA) independent variables

Where,

CC= Control of Corruption

GE= Government Effectiveness

PS=Political Stability

Reg= Regulatory Quality

RL= Rule of Law

VA= Voice and Accountability

β_i is the regression coefficients and

ε is the error term.

6.4 Empirical Result

6.4.1 Correlation Results

	<i>GDPG</i>	<i>GE</i>	<i>CC</i>	<i>PS</i>	<i>Reg</i>	<i>RL</i>	<i>VA</i>
<i>GDPG</i>	1						
<i>GE</i>	-0.47653	1					
<i>CC</i>	0.284581	0.432452	1				
<i>PS</i>	-0.63679	0.789562	0.280563	1			
<i>Reg</i>	0.238519	0.254604	0.533998	-0.01522	1		
<i>RL</i>	0.580896	0.013132	0.472093	-0.14456	0.650217	1	
<i>VA</i>	-0.67416	0.756793	0.303125	0.763879	0.223291	0.13762	1

Table 6: Correlation of the variables

Table 6 shows that, there is a positive correlation between GDPG and control of corruption, regulatory quality and rule of law, but negative relationship with the voice and accountability, government effectiveness and political stability.

6.4.2 Autocorrelation Test Results

```
. gen lagres = res[_n-1]
(1 missing value generated)
```

```
. estat bgodfrey
```

```
Number of gaps in sample: 3
```

```
Breusch-Godfrey LM test for autocorrelation
```

lags (<i>p</i>)	chi2	df	Prob > chi2
1	2.085	1	0.1487

```
H0: no serial correlation
```

Table 7: Autocorrelation of the variables

Since no auto correlation is found, null hypothesis cannot be rejected.

In the presence of serial correlation, OLS standard errors overstate statistical significance because there is less independent variation than when there is no serial correlation. Thus, the usual standard errors and tests will be invalid and OLS estimates will no longer be efficient.

In this paper, we have carried out tests to determine the presence of serial correlation. The results show no presence of serial correlation.

6.4.3 Regression results

```
. tsset Year
      time variable: Year, 1996 to 2018, but with gaps
              delta: 1 unit

. reg GDP CC reg RL PS GE VA
```

Source	SS	df	MS	Number of obs	=	20
Model	27.3631717	6	4.56052861	F(6, 13)	=	10.39
Residual	5.70514834	13	.438857564	Prob > F	=	0.0003
				R-squared	=	0.8275
				Adj R-squared	=	0.7478
Total	33.06832	19	1.74043789	Root MSE	=	.66246

GDP	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]
CC	.0698369	.025164	2.78	0.016	.0154733 .1242005
reg	-.0568924	.0997399	-0.57	0.578	-.2723675 .1585826
RL	.1118946	.0578632	1.93	0.075	-.0131112 .2369005
PS	-.0618821	.0414437	-1.49	0.159	-.1514159 .0276516
GE	-.0072953	.0688327	-0.11	0.917	-.1559993 .1414088
VA	-.0959115	.0460179	-2.08	0.057	-.1953271 .0035041
_cons	6.435102	1.716684	3.75	0.002	2.726432 10.14377

Table 8: Regression of the variables

R-squared or goodness of fit measure is 0.82 which means the strength of the relationship, i.e., the model has been 82% explained by its independent variables. Here R-squared and adjusted R squared are very close to each other which indicate a good model.

In ANOVA, the P-value for significance F is 0.0003 which is < 0.1 which indicates that there is at least one variable which has significant contribution to the model. Thus, this value is statistically significant.

The estimated positive and statistically significant coefficient (0.069) for control of corruption (CC) indicates that corruption control i.e., lower corruption has a positive impact on GDP growth. Similarly, the estimated significant positive coefficient (0.111) for rule of law (RL) indicates that execution of rule of law will increase the economic growth of the

country. Although the estimated coefficient for voice and accountability (VA) is statistically significant, the negative magnitude of the coefficient does not really reflect the expected impact on GDP growth, perhaps due to small sample size of the study. Similarly, no statistically significant result has been found for other governance variables such as government effectiveness (GE), regulatory quality (Reg) and political stability (PS).

Regression Equation

$$\text{GDP Growth} = 6.435 + 0.069 * \text{CC} - 0.007 * \text{GE} - 0.061 * \text{PS} - 0.056 * \text{Reg} + 0.111 * \text{RL} - 0.095 * \text{VA}$$

However, as we know that sometimes when voice and accountability is low, political stability can be surprisingly high such as the case of China (Nadeem, Jiao, Nawaz, & Younis, 2020). China is a single part authorized regime which has exhibited better governance system than many other democratic countries. This finding indicates that some properties of good governance may be compatible with non-democratic practices. Although China has demonstrated well in terms of government effectiveness, rule of law, regulatory quality and other indicators; lack of voice and accountability is a much talked about issue in the global arena. Despite its lack of voice and accountability, China has achieved enviable GDP growth for a good part of the last two decades. This finding indicates that a country with quality of governance or GDP growth does not necessarily improve as it becomes more democratic. The negative relationship between VA and GDP growth for Bangladesh can have similar implications.

Chapter 7

Conclusion & Policy Recommendations

This thesis investigates the governance in Bangladesh and its role in improving economic growth for the period, 1996-2018. The study establishes the relationship between economic growth and governance in Bangladesh using GDP growth as a dependent variable and World Governance Indicators (WGI) as independent variables related to governance and political economy.

The analysis has been undertaken using statistical tools, correlation, autocorrelation test and multiple regressions utilizing secondary data. The data has been collected from World Bank (WB) and Bangladesh Bureau of Statistics (BBS). The correlations among the variables are found to be true as predicted in the conceptual framework with few exceptions. The regression results find that control of corruption (CC) is the most significant governance variable that influences positively on economic growth. Similarly, rule of law (RL) shows significant positive relationship to the economic growth. Although the estimated coefficient for voice and accountability (VA) is statistically significant, the negative magnitude of the coefficient does not really reflect the expected impact on GDP growth, perhaps due to small sample size of the study. However, the remaining three variables such as government effectiveness (GE), regulatory quality (Reg) and political stability (PS) are not found statistically significant and have not really impacted economic growth in Bangladesh. Therefore, if corruption can be curbed and ensure rule of law, we will able to attain a steady higher economic growth. The findings could be more accurate with a larger sample size.

As the sample size is small there are the issues of stationarity, causality, multicollinearity, endogeneity that may arise in time series model. Within the purview of this analysis, we refrain from carrying out further tests of perfect collinearity, heteroskedasticity, stationarity,

etc for the purpose of simplicity. Therefore, the next step of my research would be to correct these econometric problems through proper treatment like collinearity, heteroskedasticity, stationarity and then we can come up with a more reliable estimation. However, such tests are highly recommended for more reliable and robust results. Therefore, further research can be explored using a large data set consisting data on different countries using panel dataset.

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Appendix I: Bangladesh's ranking of CPI in 2017

138	Papua New Guinea	Asia Pacific	28	29	28	25
138	Russia	Eastern Europe & Central Asia	28	29	29	29
144	Comoros	Sub-Saharan Africa	27	27	24	26
144	Guatemala	Americas	27	28	28	28
144	Kenya	Sub-Saharan Africa	27	28	26	25
144	Mauritania	Sub-Saharan Africa	27	28	27	31
144	Nigeria	Sub-Saharan Africa	27	27	28	26
149	Bangladesh	Asia Pacific	26	28	26	25
149	Central African Republic	Sub-Saharan Africa	26	23	20	24
149	Uganda	Sub-Saharan Africa	26	26	25	25

Source: <https://www.tbangladesh.org/beta3/index.php/en/communications/publications/annual-reportData>

Appendix II: Data Analysis

Correlation of the variables in Excel:

	<i>GDPG</i>	<i>GE</i>	<i>CC</i>	<i>PS</i>	<i>Reg</i>	<i>RL</i>	<i>VA</i>
<i>GDPG</i>	1						
<i>GE</i>	-0.47653	1					
<i>CC</i>	0.284581	0.432452	1				
<i>PS</i>	-0.63679	0.789562	0.280563	1			
<i>Reg</i>	0.238519	0.254604	0.533998	-0.01522	1		
<i>RL</i>	0.580896	0.013132	0.472093	-0.14456	0.650217	1	
<i>VA</i>	-0.67416	0.756793	0.303125	0.763879	0.223291	-0.13762	1

Autocorrelation of the variables in STATA :

```
. gen lagres = res[_n-1]
(1 missing value generated)
```

```
. estat bgodfrey
```

Number of gaps in sample: 3

Breusch-Godfrey LM test for autocorrelation

lags (p)	chi2	df	Prob > chi2
1	2.085	1	0.1487

H0: no serial correlation

Regression of the variables in STATA :

```
. tsset Year
      time variable: Year, 1996 to 2018, but with gaps
              delta: 1 unit

. reg GDP CC reg RL PS GE VA
```

Source	SS	df	MS	Number of obs	=	20
Model	27.3631717	6	4.56052861	F(6, 13)	=	10.39
Residual	5.70514834	13	.438857564	Prob > F	=	0.0003
				R-squared	=	0.8275
				Adj R-squared	=	0.7478
Total	33.06832	19	1.74043789	Root MSE	=	.66246

GDP	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
CC	.0698369	.025164	2.78	0.016	.0154733	.1242005
reg	-.0568924	.0997399	-0.57	0.578	-.2723675	.1585826
RL	.1118946	.0578632	1.93	0.075	-.0131112	.2369005
PS	-.0618821	.0414437	-1.49	0.159	-.1514159	.0276516
GE	-.0072953	.0688327	-0.11	0.917	-.1559993	.1414088
VA	-.0959115	.0460179	-2.08	0.057	-.1953271	.0035041
_cons	6.435102	1.716684	3.75	0.002	2.726432	10.14377

Source: Author's Calculation