Thesis for the Degree of Master of Arts

An Empirical Analysis on the Impact of Foreign Direct Investment on Economic Growth of Kyrgyzstan

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Advisor: Prof. Hae Jo Chung

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Abstract

This study investigates the effect of foreign direct investment (fdi) on the Kyrgyzstan economy from 1990 to 2017 using annual data with foreign direct investment inflows and per capita gross domestic product (GPC) as the main focus. Quantitative method of research using Auto-Regressive Distributed Lag (ARDL) model executed with E-views analytical software has been used in the analysis process. Correlation method was carried out see the relationship between foreign direct investment and economic growth. The results in this study indicate that FDI has a positive yet insignificant impact on economic growth of Kyrgyzstan. The findings of this study request that the Kyrgyzstan government need to adopt policies that focus on enhancing the impact of fdi in the economy. Policies such as bilateral and multilateral trade agreements, channeling adequate resources in infrastructural development, curbing the negative climate of doing business for foreign companies which has been perpetuated by the Kyrgyz people and eradicating corruption and bureaucracy will help boost many sectors of the economy most especially the agricultural and mining industry. These policies will help influence and promote the impact of foreign direct investment in the country and hence invariably increase economic growth of Kyrgyzstan.

Keywords: Kyrgyzstan, GPC, Economic growth, FDI, Auto-Regressive Distributed Lag (ARDL) Model,

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국문 초록

본 연구는 해외직접투자가 키르기스스탄 국가의 경제에 미치는 영향을 살펴보기 위해 1990 년부터 2017 년까지 해외직접 투자 유입과 일인당 국내 총생산(GPC)이 주요 초점인 연간 데이터를 사용했다. 해외직접 투자와 경제 성장의 관계를 알아보기 위해 상관관계 분석이 시행되었다. E-views 분석 소프트웨어로 실행된 ARDL(Auto-Regressive Distributed Lag) 모델을 사용한 정량적 연구 방법이 분석 프로세스에 사용되었다. 연구 결과는 FDI 가 키르기스스탄의 경제 성장에 긍정적인 영향을 미친다는 것을 기대했지만, 통계적으로 미미한 영향을 미친다는 것으로 나타났다. 이 연구의 결과는 앞으로 키르기스스탄 정부가 경제에 대한 해외직접 투자의 영향을 강화하는 데 토점을 맞춘 정책을 채택 할 필요가 있음을 시사한다. 그리고 양자 간 및 다자간 무역 협정, 인프라 개발에 적절한 자원을 제공하기, 키르기스 인에 의해 영속된 외국 기업을 위한 사업의 부정적인 기후 억제, 부패 및 관료제 근절과 같은 정책은 특히 경제의 많은 부문을 부양하는 데 도움이 될 것이다. 농업 및 광업 이러한 정책은 국가에 대한 해외직접 투자의 긍정적의 영향을 미치고 그에 따라 키르기스스탄의 경제 성장을 늘릴 것이다.

주제어: 키르기스스탄, GPC, 경제성장, FDI, 자동 회귀 분산 지연 (ARDL) 모델

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Chapter 1

Introduction

1.1 Background of the Study

Kyrgyzstan, also known as Republic of Kyrgyzstan, is a small country in Central Asia. It is bordered by various countries like Kazakhstan, China Tajikistan and Uzbekistan. Bishkek is the capital city and the largest city in Kyrgyzstan. The second largest city is Osh located near the border with Uzbekistan. It is estimated that the city has 937,400 inhabitants as of 2015. Kyrgyzstan is a landlocked country with significant amount mineral deposits of metals which includes gold and crude oil. Kyrgyzstan has a population of approximately 6 million people with its landscape comprising of mountainous terrain and rich valleys. It is estimated that around 8% of its land is cultivated. Agriculture is the main economic activity which accounts for 35.6% of the total GDP and the largest number of Kyrgyzstan's are employed in this sector.

According to Statistics, private agricultural sector consisted of half of the harvest in early 1990s. This has made agriculture to be the most important sector of the economy. The major product produced in the agriculture sector includes, potatoes, wheat, sugar beets, tobacco, vegetables, and fruits. Kyrgyzstan landscape is mountainous which provides an environment for livestock keeping

which results to production of dairy products, beef and wool. Kyrgyzstan has abundant mineral wealth which includes crude oil, coal, gold, uranium and other rich metal. Its petroleum and natural reserves have not well been utilized and this makes Kyrgyzstan to import petroleum and gas from neighboring countries like Russia and Kazakhstan.

Due to the substantial amount of mineral deposits, the government of Kyrgyzstan is aimed at attracting foreign investors in extracting and processing of the valuable minerals for the benefits of the people of Kyrgyzstan. The Kumtor Gold Mine is an example of the Kyrgyz government's efforts in attracting foreign investors for the export of gold to other countries. Kyrgyzstan plentiful water resources and mountainous landscape has enabled the country to produce and export a large amount of hydroelectric energy.

Foreign Direct Investment can play a important role in the economic development of a nation without a substantial amount of natural resources. This can be done so by modernizing industries and increase in industrialized products. Unlike other central Asian countries, Kyrgyzstan is a developing and newly independent country of Former Soviet Union (FSU) and has been keen on luring foreign direct investment. One of the key advantages of FDI is that it provides local firms with opportunity to earn from experience and potential skillfulness from international firms. Kyrgyzstan is the one of the region in central Asian

countries where foreign direct investment has been flowing. According to Choe (2003), foreign direct investment is characterized by the flow of mostly foreign direct investment in regions that portfolio investment is scarce such as Kyrgyzstan. In the last decade FDI has been active in Kyrgyzstan due to its motive and investment multitudes.

In the last few decades, just for pursuing economic growth and development, many Less Developed nations in Africa, Asia, America and pacific regions are now giving preference to attracting foreign direct investment. In most of these nations, FDI has proven to be the catalyst for supplementary amount of external resources that have contributed to success of their economy. According to many scholars, FDI is vital in the sense that it provides capacity building through technology transfer. FDI provides sharing of knowledge and expertise as external firms train local personnel on how to perform specific duties in relation to their production fields. This sometimes helps in promoting production capacity and improving market competitiveness of host country goods and services in the foreign market on local industries. FDI is considered as special tool in closing the technological gap by provision of direct and indirect transfer of cost effective technology to the Less developed countries (LDCs) (World Bank 2002).

In most of the LDCs, increase in commodity prices and high rise in cooperate profits has led to increase in FDI inflows due to increase effective

demand. According to World Development Report, (2011), Owing to the reduced limitation on foreign privatization and ownership in the banking and telecommunication sectors, FDI to the developing nation increased to US$281 billion from US$ 235 in 2005. However, Central Asia countries only acquired 4 percent of the total global FDI. This can be considered to be much lower than early in 1970s and 1980s, however in the last four years it had once surpassed the region share in the world GDP and Exports. Many scholars argue that rapid change in the technology in any economy is highly determined by the social and innovative aptitude of the host country in connection with in cooperation capability and magnitude of other enterprises.

1.2 Research Problem

The relationship between FDI and economic growth is a key factor as host nations evaluate benefits associated with foreign entry into the economy. According to many scholars, an idea gap that impedes growth can be stimulated by use of foreign direct investment. Romer (1986) argues that in the context of long-term performance, the idea gap has hindered growth in some emerging market and this could be reduced by introduction of FDI into the economy.

There is phenomenon significant evidence on FDI and economic growth in many research conducted in developing countries. For instance, Inward investments to Kazakhstan, Mongolia, Uzbekistan, Kenya, Vietnam, and

Philippines show a significant positive effect to their economies growth. Foreign associates and domestic investors compete with each other and through FDI inflows, the spillovers and growth outcomes are expected to be the strongest. This has been proven using reliable industry-level data in these economies and growth spillovers among many industries likely rely on the industries into which FDI flows.

According to Ozturk, (2007), a vibrant investment strategy is essential for economic growth of the nation and such policies ought to support FDI polices such as promotions and entrenchments. These policies aim at facilitating Multinational Corporation (MNC) in different sectors and are advantageous to the countries' industrialization efforts. There are many debates surrounding the impact of FDI on economic growth of a nation particularly in central Asia. Indeed, many investment promotion agencies do not even have clear answer on whether FDI stimulates economic growth of a nation and why investors choose to make these investment choices (William, 2005).

This paper seeks to make a noble contribution to the relevant studies by exploring and pointing out the factors behind both FDI inwards and outwards, paying particular attention to government and institutional efforts including privatization on policy measures in Kyrgyzstan. Previously, studies have only focused exclusively on the determinants on inward FDI. Secondly, this research

seeks to increase sample years compared to other studies conducted on the effect of FDI in Kyrgyzstan's economy. In this manner, this research is distinctive from other relevant studies and investigates the relationship between FDI inflows and economic growth of Kyrgyzstan. This will aid in addressing Kyrgyzstan various ways to FDI-growth debate. Additionally, this research touches on the impact of vital factors of FDI n economic growth hence offering ways to point out the distinctive impact of FDI's on Kyrgyzstan economic growth.

Numerous studies conducted on the impact of FDI on the economic growth in central Asia include; Sayek, (2004) who carried out the study about gains and losses of FDI investment in Kazakhstan, Neuhaus (2005) on foreign direct investment on economic growth in Uzbekistan, Ozturk, (2007) discusses the effect of FDI on economic growth and development of Kyrgyzstan. Majority of these studies found out that foreign direct investment positively affects the economy through increase in balance of payment by injection a lot of capital needed in the economy. This clearly highlights that this studies focus on economic development of the whole country. There is a clear literature disconnection as far as the relationship between FDI and balance of payment is concerned therefore there is need for further studies.

In other studies, FDI impact on economic growth is very weak, for instance, Alfaro et al (2004), argues that despite the impact of FDI on economic

growth, is only limited to countries with an advanced financial markets only that is developed countries. It is for this reason that this research tries to answer to following question; what is the impact of foreign direct inflows on the economic growth of Kyrgyzstan?

1.3 Value of the Study

Foreign direct investments do not only add additional resources but also comes with other factors such as effective technological transfers which encourages local inventions and innovations and also provides market accessibility to foreign market. Therefore, the importance of this study is attributed for positive contribution of foreign direct investment on economic growth of the own nation. In that respect, this study will aim at establishing the relationship between FDI and economic growth and propose the way forward to the debate. Economic policies of the nation, minimal government interference, human capital, absorptive capacity of the nation are the determinants of effective transfer of technology to the host nation. To promote FDI, the government should ensure that there is provision of necessary information on investment opportunities available to the foreign investors

The prime goal of this research is to empirically determine the impact of FDI and another control variable which is government expenditure, while human

capital and private investments (proxy for capital investment) serve as constant variables that can influence the economic growth of Kyrgyzstan.

1.4 Objective of the study

The objective of this research is to determine the impact of foreign direct investments on economic growth in Kyrgyzstan,

1.5 Research questions

What is the relationship between FDI and economic growth of Kyrgyzstan?

1.6 Hypothesis

Foreign direct investment has positive relationship with economic growth of Kyrgyzstan.

Chapter 2

Overview of FDI in Kyrgyzstan

According to World Bank, (2013) definition of Foreign Direct investment commonly known as FDI is the net inflows of investment to get a lasting control interest (10% or more of vote stock) in an enterprise operat in a country else than that of the investor. Foreign Direct investment is different from portfolio investment. Portfolio investment involves investing in the financial assets of a foreign country, such as stocks or bonds available on an exchange. Portfolio investment is sometimes seen as a short-term attempt to make money quickly, rather than a long-term investment process in the economy and can be sold out quickly hence it is viewed as a less favorable as foreign direct investment.

It's considered to be a sensational effect coming from globalization. FDI integrates the national economic system with international markets. In many countries, it is attained through creating a breakthrough for the domestic economic sectors as well as foreign capital to create investment within the country. From the past, technological progress established proper methods of transport and communication and as a result of this, it resulted to the development of venture capitalist across political boundaries, particularly during the post-colonial era (Neuhaus, 2006),**).**

According to Greenway (2002), globalization continues to impact trade between local investors and foreign countries even after gaining independence as developing countries continue to acquire essentials to draw out and employ the available natural resources for economic success. However, these advanced facilities required adequate knowledge and skills for the developing countries to fully utilize them to the outmost potential. Majority of the developing countries attained economic growth, exchange of good and services advanced and trade volume increased. Developed countries began to establish industries in the developing nation as foreign direct investment became inevitable for developing nations possessing a lot of natural resources for industries abroad (Choe, 2003).

Foreign Direct investment can also be defined as cross border investment in which a resident in one country (foreign investor) acquires a lasting managerial interest in an enterprise in another country (foreign nation) (Ikira, 2002). Long time managerial interest refers to long term relationship between an enterprise and foreign investor in which the foreign investor has control of at least 10 percent ordinary shares or voting power of the enterprise and is in control of decision making of the enterprise (Greenaway, 2002). This might include establishment of new investment commonly known as Greenfield investment, joint ventures, mergers and acquisitions. FDI can be incorporated into by convention, land and buildings ownership by individuals (William, 2005)

It is argued that direct investment comprises of all subsequent transactions involving direct investor and the direct investment enterprise but also the first transactions creating the FDI relationship between them and among associated enterprises. Direct investment also includes foreign subsidiaries and affiliates of the direct investment **(**World Bank, 2002).

Foreign direct investment may come in different forms such as injection of supplement equity capital, reinvestment of the earnings not given as dividends, branch profits, extension of credits or loans which represents Foreign invested capital. It is considered that this is one way of financial availability to direct investment business and can also enlarge their operation through borrowing money in both international capital market and local market as well (Greenaway, 2002).

Foreign Direct investment has also faced a lot of criticism with some arguing that there is inclination towards over utilization of available natural resources terming it as the companies' effort competing to minimize cost and maximize profit in their venture. The negative aspect is whereby many companies strive to fully utilize these resources leads to environmental degradation and pollution which have been termed as the causes of climate change (William, 2005). Other negative critic of foreign direct investment may include importation of capital intensive goods, outdated technology, exploitation of local labor laws,

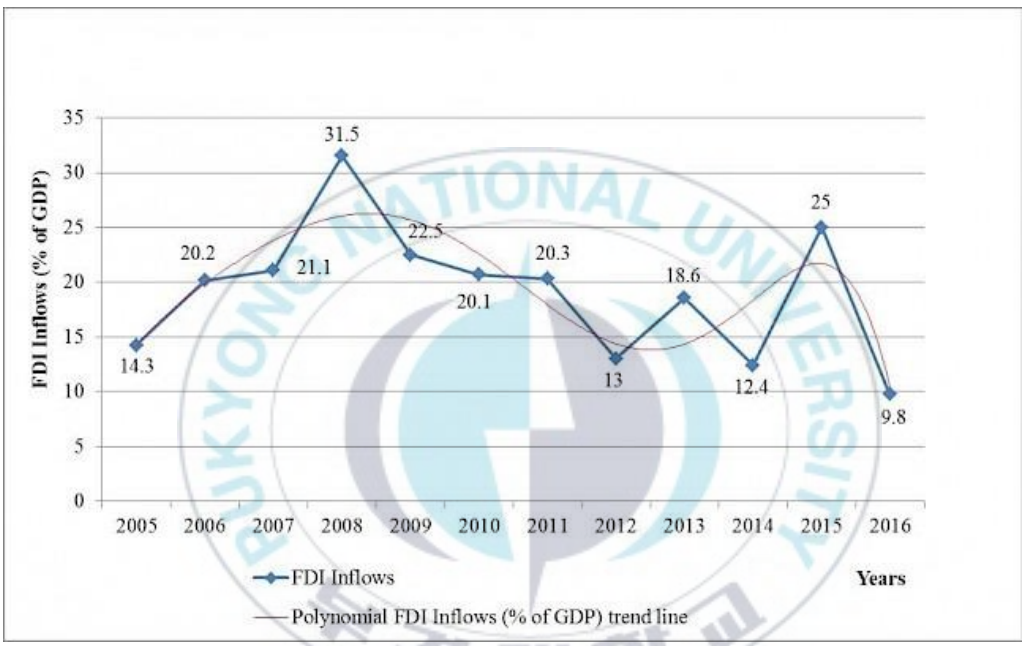
increase in poor wages to the locals, evasion of paying taxes, deterioration of balance of payments through preference of foreign inputs over the local ones. Lack of integration with the local communities, imbalance completion in the local market, Lack of profit declaration, corruption, and social problems associated with accelerated commercialization and establishment of taste for high cost for foreign consumer, political reliance syndrome of FDI economies leading to loss of sovereignty and impoverishing countries through foreign aid.

2.1 Foreign direct investment in Kyrgyzstan

According to the information provided by the National Statistical Committee of the Kyrgyz Republic in Figure 1 below shows that Kyrgyzstan has depicted good results in attempt to lure foreign investment relative to its Gross Domestic Product (GDP). According to figure 1, republic of Kyrgyzstan attracted FDI inflow of 660.9 million USD and the FDI outflow of -471.5 million USD in 2009. Therefore, total new FDI inflow was estimated to be 189.4 million USD or 28.7 percent of the FDI inflows in 2009. This has been caused by the tremendous efforts from the government just to attract foreign investors into the country and curbing flow of money to foreign countries. The government of Kyrgyzstan has been offering several incentives such as reduction of corporate taxes to the foreign investors and other policy measures so as to provide investors with a conducive environment for their ventures. This has led to the sharp increase in the

FDI inflows in every sector of the economy but more so in the mining industries where there is need for advanced skills and knowledge for higher productions.

<Figure 1> Dynamics of FDI inflows (% of GDP) in the Kyrgyz Republic in 2005-2016

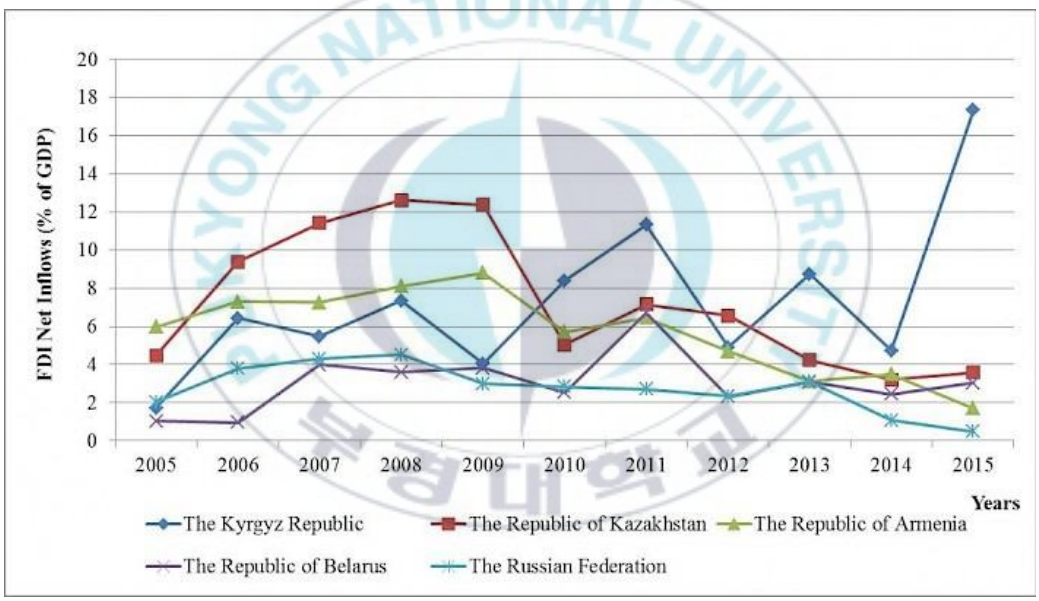


Source: National statistical committee of the Kyrgyzstan Republic.

According to the World Bank report 2002, there has been a sharp increase in the net foreign direct investment inflows in the Republic of Kyrgyzstan. Figure 2 below explains the Kyrgyzstan as a member of Eurasian Economic Union and how the membership into the union has affected the economy. Kyrgyzstan as a member of EAEU has benefited a lot and one of its key benefits is on the

investment. Foreign Direct investment has grown tremendously since Kyrgyzstan became a member of EAEU. It is of important to consider and compare its economic indicator within the union and also to see the merits and demerit to its investment agendas. Comparing this indicator as net FDI inflows as percentage of GDP among EAEU gives us the light to its benefits to the economic sector.

<Figure 2> Dynamics of FDI Net inflows (% of GDP) in the EAEU in 2005-2015



Source: National statistical committee of the Kyrgyzstan Republic.

Figure 2 above explains the increase in net FDI inflows as the percentage of GDP for the period of 2005 to 2015 amounting to 7.3 percent. According to the World Bank as reported in figure 2, Kyrgyzstan has the most volatile indicator as

compared to the rest of EAEU countries such as Belarus, Kazakhstan, Russia and Armenia. Looking at the period of 2005 to 2015, the Republic of Kazakhstan has tremendous been leading in net FDI inflows in 2005 to 2009 but its net FDI inflow as percentage to its GDP tends to shrink. The republic of Kyrgyzstan net FDI inflows as percentage to GDP dominated from 2010-2015 and has been on the rise surpassing any other EAEU country and has made Kyrgyzstan an important investment hub among the EAEU countries.

According to the National Statistical Committee of the republic of Kyrgyzstan (2017), foreign direct investment consists of joint stock, Financial Leasing, Reinvented Stock Trade Credits and received credits from foreign joint owners. Kyrgyzstan has tremendous attracted FDI in the form of the received credits from foreign joint ventures, and a small amount of FDI inflow in the form of Financial Leasing within a decade. Most of its FDI inflows as of 2018 comes from; Russia (25 percent), The republic of China (21 percent), The United States of America (19 percent) Canada (17 percent), The United Kingdom (9.8 percent), the Republic of Turkey (3.8 percent) and The Federal Republic of Germany (3.5 percent) and the rest from the rest of the world (2 percent).

The foreign direct investment inflows from these countries are predominantly concentrated on natural resources. FDI from the People's Republic of China is mainly concentrated in the geological extraction and manufacturing

ventures, The United States of America and United Kingdom both focusing on geological exploration while Canada has concentrated in the Manufacturing sector. Russian Federation has predominantly invested in the geological exploration, financial and manufacturing sector of the Kyrgyzstan economy.

According to the National Statistical Committee of the Republic of Kyrgyzstan (2018), the most luring economic activities in the country for foreign direct investment include manufacturing which received 38.9 percent of the total net FDI inflows by 2018, renting and consumer services gunning 25.1 percent, Financial activities gaining 18.3 percent, Trade, repair of automobile, household products and goods for personal use made 7.4 percent. The least attractive economic sectors include public administration (0.006 percent), health and social services (0.003 percent), education (0.1 percent), Utilities, social and personal services (0.005 percent), agriculture and forestry (0.2 percent).

Many scholars and statistical reviews conducted on current state of the FDI inflows in the Republic of Kyrgyzstan show that FDI by type of economic activity and region is disproportional in the country. This has caused a lot of argument with many debating that in turn may cause negative effect for the economy.

2.2 Economic growth

World Bank (2002) defines economic growth as rise in the production of goods and services in a specific economy in a given period of time. Different scholars argue that economic growth literary refers to a nation that is becoming larger but not essentially one that is becoming better. According to Shearer (1996), it can be seen by growth in per capita and increase in GDP. Economic Growth is closely linked to Economic development. According to World Bank (2002), economic development is a process whereby a country's real national income together with per capita income increases over a long period of time. This can be accrued through impact of certain forces in economic sector and operates over a long period of time. It involves changes in resources supplies, capital formation, technological changes, and institutional changes, structures of demand for goods, demographic patterns, living standards, income distribution and social interrelationships.

Economic growth also involves a lot of human. Social and political factors, historical evidences, supply of natural resources, and advancement of scientific and technological knowhow. In other words, economic development is a process that consists of a long thread of interrelated changes in vital factors of structure of demand and supply in an economy leading to the increase in the net national product of an economy over a period of time for process of economic growth.

Economic growth is considered to be a very complex aspect in the country and mainly involves several and varied factors such as political, social, cultural and economic factors.

2.3 Foreign direct investment and economic growth in Kyrgyzstan

Over the years, there has been a mixed reactions and evidence on the empirical literature on the effects of foreign direct investment has on economic growth of a host nation. Many scholars argue that foreign direct investment promotes growth of the economy in many aspects. This is attained through various mechanisms in the production in the economy. In an open economy production of good and services are carried out by both local and foreign firms. An increase in share of foreign direct investment inflows increases productivity of local firms leading to economic growth.

Central Asian countries have seen a drastic fall of FDI inflows in the last decades as compared to other sub regions such as South East Asia, Sub Saharan Africa and South America. In Kyrgyzstan, a Survey by World Bank (2002) cited that the low economic growth and market size are the key contributing factors to the low investment in the region. Considering the GDP growth level and investment rates, Kyrgyzstan has performed badly in terms of economic growth despite major positive predictions by scholars in last decade. The rate of GDP growth is higher in Uzbekistan and Kazakhstan than Kyrgyzstan. This is because

Kyrgyz Republic business environment has been very slow and uneven. Political instability, weak rule of law which fosters corruption, ownership insecurity has been hampering economic development. Political rivalries and leadership personal interests have been holding back implementation of deeper structural reforms.

Kyrgyzstan economy still lacks institutional foundations of greater economic freedom due to the remnants of communist's system. In her bid to attempt to increase economic growth, and development, Kyrgyzstan has attracted foreign direct investment through introduction of investment policy and creating more openness to trade with other economies. This is seen as an opportunity that would therefore act as break-through to its market due its population size. Considering its market size, Kyrgyzstan has a larger market and GDP per capita which would mean that the purchasing power is higher in Kyrgyzstan.

According to William (2005), Foreign direct investment generates technology spillovers, elicits a more competitive business environment, creates employment opportunities, provides better managerial skills and technology transfers all of which contributes to economic growth and development.

Chapter 3

Literature review

This chapter highlights different theories surrounding FDI which includes the Solow growth model, Endogenous growth model and other related models like the Vernon Product Life Cycle Theory, the industrialization theory, neoclassical theory etc. Empirical review framework is also discussed in this chapter. Both are essential in the analysis of this research.

3.1 Theoretical review

Theoretical review framework analyses theories that explain the impact of FDI on economic growth. It is believed that FDI inflow is very crucial in solving developing economies problems. William (2005), argues that foreign direct investment inflows are a vital source of capital formation especially in local developing countries where the capital is weak. In addition to that, Kokko (1994), argues that FDI is a vital source of financial advancement in developing nation so as to achieve economic growth. The two further states that technology diffused by spillover effects into local production process should be adopted by the local enterprises.

3.1.1 Solow growth model

The basic understanding of the Solow Growth Model is that it is an exogenous model that explains economic growth where a change in the economy's output over a period of time is a function of the resultant changes in the rate of population growth, savings, and technological progress. It is an extension of the Harrod-Domar growth model. This model believed that a functional economic rate of the gross domestic product of any country depends directly on its national savings rate and inversely on its national capital-output ratio. For Harrod-Domar, savings and capital accumulation contributes a lot to the growth of an economy.

The Solow model invented by Robert Solow who also won the Nobel prize for economics in 1987, set out to extend and improve this basis economic concept employed by Harrod-Domar. Firstly, Solow considered labor as another important factor of production. He secondly introduced a third independent variable which he classified as the exogenous variable of his growth model. This third model Solow called technology. For Solow, adding both capital and labor inputs as well as inputs from ideas and new technology forms the important factors that represent the growth of any economy. This economic growth model is represented as follows below,

$$\mathbf{Y = A.\ (K, L)}$$

In this model, Y, A, K, L represents the economy's output product in order words the gross domestic product, the exogenous variable technology, capital investment and labor respectively. The Solow model believes that a sustained rise in capital investment temporarily increases the growth rate. This for him is because of a rise in the capital to labor ratio. One of the main concept of the Solow model is the assumption that the growth of the per-capita output is the result of capital accumulation and technological progress. Solow believed that there would be diminishing returns in the marginal product of addition units of capital. This in turn moves the economy back to a long-term growth path, thereby having the real GDP of the economy to grow at the same speed as the growth of the workforce (labor).

To achieve a state of steady growth, the economic output, capital and labor must all grow at the same rate in such a way that the output per worker and the capital per worker are constant. The rate of technological change is therefore seen as the reason for the difference in the variation of growth rate between countries. Solow in his model suggests that there would always be a reason why poorer underdeveloped and developing countries would always play catch-up with richer countries because richer countries due to the function and influence of a better technological growth rate, have a higher marginal rate of return on capital investment.

Some of the contradictions with the Solow model is the introduction of the technological variable. Solow implies in his model that this variable is exogenous but does not implicitly state what generates this technological variable. Certain questions would come to mind as to where this technological input in an economy would come

from and how much influence it would actually have in a growing economy. Another implication is that his model suggests a conditional convergence where countries with similar situations and one is richer than the other and the poorer country tends to grow faster than the richer country. What he failed is to predict what happens when countries have different situations.

3.1.2 Endogenous growth model

The Endogenous growth theory was invented to correct the flaws of the Solow model. One basic assumption of the Solow model is the introduction of technological input as a factor that impacts the growth of an economy. The variable is exogenous in nature meaning that it is externally gotten from outside. This place however is unknown and this raises a lot of concern to economists at large.

The endogenous growth model otherwise known as the new growth model asserts that economic growth is significantly a result of endogenous (internal) and not external forces as supposed by Solow in his model. The Endogenous growth theory therefore holds that investment in human capital, research and innovation, and knowledge can be considered as significant contributors to economic growth. This theory of economic growth focuses on positive externalities and spillover effects of an economy that is knowledge-based which for this theory leads to economic development. For a long run growth rate of any economy, the

endogenous economic growth model suggests it depends a lot on the policy measures employed by the economy in review. This is explained in the fact that with increased and constant supply of subsidies for research and development, health and education, the economy would experience an increase in the growth rate if such economy employs the endogenous growth models by increasing the incentive for innovation.

One of the basic representation of the endogenous growth model is the **AK model**. This model represents the production function of an economy using a special case of the Cobb-Douglas production function represented below:

$$\mathbf{Y = F (A, K, L)}$$

Unlike the Solow model, this model represents Y, A, K, L as the economy's total output product in order words the gross domestic product, the endogenous variable technology which is also regarded as the total factor productivity, capital investment and labor respectively. Technology is no longer seen as an external but an internal variable necessary for growth. The new growth theory discarded the underlying assumption of Solow's model that there exists a diminishing marginal returns to capital investment and employs the assumption of an increasing returns to scale in aggregate production. To promote an increase in human capital, there's need for some sort of government intervention through funding in education, health care and creating more knowledge-based industries.

3.1.3 Other related theoretical models

There are other theories that this study looked at. This was done in a bid to generate a necessary understanding of the subject in review which is FDI and how it relates to economic growth. These theories are: The Neo-classical theory of investment, and the internalization theory.

3.1.3.1 Neoclassical theory of investment

Neoclassical investment theory explains investment behavior with regard to a fixed business venture. Fixed business ventures or investments includes; construction of new firms, purchase of machinery, warehousing, office building by investors. It is characterized by capital accumulation which is determined by relative price of factors productions such as capital and labor. Neoclassical theory of investment sheds light on reasons for fluctuation in investment which is responsible for business cycle emergence in a free market economy. According to this theory, the rate of investment is characterized by the urgency by which the companies adjust their capital stock towards a desired level.

According to scholars, FDI stimulates income growth through raising substantial amount of capital per person. This is accomplished by technology transfer and human capital from international company to their affiliates in the host nation which spurs technological spillovers to unassociated industries in the

host nation. Agrawal (2011), states that Multinational enterprises can hasten development of brand new intermediate goods varieties, increase product quality, ease foreign collaboration on R&D and initiate new form of capital investment

According to Bengoa and Sanchez (2003), states that Multinational Corporation (MNE) production based on neoclassical theories of capital movement and trade are biased. They denounce this theory based on the assumption of perfect factor and good markets where not able provide adequate explanation on the ways of foreign direct investment. They stated that in the absence of market imperfection, foreign direct investment will not take place.

Under neoclassical growth theory, accumulation of capital is perceived as a vital factor towards steady state level of economic growth. This theory further states that technological advancement, labor and capital productivity are the main forces behind economic growth. Effective utilization of these factors raises total production capability through higher investment.

This theory explains that FDI came in support of the idea of positive relationship between foreign direct investment inflows and economic growth. It's argued that transfer of capital is not only determined by marginal productivity but technological gap and that FDI rises from low technology to more advanced and sophisticated.

3.1.3.2 Internationalization theory

Internationalization theorem was initiated by Buckley and Casson (1976), Rugman (1981), and Hennart (1982). This theory explains that at firm's level, multinational corporations take control over knowledge based firm's specific advantages and firm's ownership. This means that multinational organizations organize their internal activities to develop specific advantage. This part of theory was developed by Buckley and Casson (1976). It was later developed by Hennart (1982) who suggested that all firm's specific advantages are efficiently based.

In respect to foreign direct investment, this theory argues that the trend of an industry and industries to invest in another nation is depends on the cost benefits analysis of specific factors of production in both host nation and the recipient nation. Internationalization theory explains that the key to invest in a host economy is not only depended on specific returns but also the country's specific factors such as political stability, capital accumulation and production, barrier to entry, economies of scale and demand for products.

Carbaugh (2000), finds many industries may invest in economies where the source of raw materials and labor is somehow cheaper in a bid to reduce cost and maximize profit. This fairly explains the shift of FDI to Central Asian countries such as Kazakhstan and Uzbekistan where the labor cost is relatively cheaper than the developed economies.

3.2 Empirical review

3.2.1 General evidence

Empirical analysis highlights the evidence from difference research investigating the effects of FDI on economic growth. Many researches have been studied around the global to ascertain the impact of foreign direct investment on economic growth. This has caused a lot of debate with those who perceive that FDI has a positive effect while other argue that FDI has negative effect on economic growth. Some scholars do not see whether FDI has any impact on the economic growth. Majorly FDI has a significant positive effect on economic growth of developing country but the degree of effect depends on procedures and determined by home country.

There are few research studies conducted on the stimulus of foreign direct investment in Kyrgyzstan. Lee (1998), using times series data finds that FDI in Kyrgyzstan is influenced by openness to the economy, inflation, human capital, real exchange rate, and FDI in the previous periods. Choe (2003) using panel data for Central Asia countries found out that determinants of foreign direct investment in Kyrgyzstan included market potential, infrastructure, urbanization, rate of returns on investments, openness to trade. All this not only affects Kyrgyzstan but also all central Asian countries. Government consumption, natural resources, financial development and other variables were found to be

insignificant. William (2005) found out that FDI is influenced by growth rates, terms of trade shocks, quality of institution and external debt ratio by using panel data of 43 nations. They found that Kyrgyzstan is not exceptional from these nations too.

Survey conducted by Pradhan (2009) on theories of foreign direct investment identified the implied explanatory variables as well as variables that cannot be associated with theories of FDI which may be ranked as models on other factors. These theories include wages, size of the market, trade barriers ad trade deficit. According to World Bank the determinants of inward FDI differs from country to country and within economic sectors. Many scholars however concur that specific general factors consistently incline which country attracts most FDI

Originally, economic theory at least in the short run states that human capital accumulation is the strongest source of economic growth with technological advancement being the long run incline of growth. Technological advancement has restricted the explanation capability of neo classical model and its empirical verification in the long term economic growth due to diminishing returns to physical capital.

According to endogenous growth model on human capital theory, propose that people and society obtain economic gains from investments in individuals. In

this theory, Education is considered to appear as the main human capital but other scholars argue that expenditure on health and nutrition are the prime part of the human capital investment. Education is only seen to generate health and nutritional improvement but all this including water and sanitation correlate with each other thereby contributing to better outcome. According to economic growth model, human capital in the form of education has been awarded a key place while health has is still an issue. This might be as a result of lack of health related data to study them on the mainstream of macro- growth economics.

For a developing nation to get away from the poverty, economic growth must be sustained. Most of the economies usually follow fiscal policy in order to attain high speed economic growth. According to Moosa (2007) fiscal policy involves the use of fiscal inputs such as taxation and government spending. This influences the flow of economic systems in a bid to boost economic welfare with a goal of encouraging long term economic growth.

Levine (2005) argues that large government expenditure is not good for economic performance. She observes the size and nature of the government and its effects on economic growth. According to Sornarajah (2004), key fiscal control issues facing nations in economic adjustments are vulnerable to external shocks and volatility of finances and later hinder stabilization programs.

According to Blomstrom et al (1998), Foreign Direct Investment (FDI) brings a positive impact on economic growth of a nation but there seem to some income level which FDI has more impact on economic growth. He explained that nations that have attained specific income level can absorb technologies and advantages from technology diffusion.

According to De Mello (1999) and Borensztein (1998), the two scholars found out that the relationship between FDI and human capital have crucial impact on economic growth and this creates technological absorptive ability.

De Gregorio (2003) states that FDI inflow allows a country to bring technological knowhow that is not really available in the country thereby increasing productivity in the economy. FDI contributes to the economic growth by bringing expertise that a nation does not have making foreign investors to have benefit from the global market. He found that 1 percent increase in aggregate investment on GDP led to 0.1 to 0.2 percent increase on economic growth of Latin America. He later states that increasing FDI by same amount increased economic growth by 0.6 percent a year. In a similar study, Levine (2002) conducted a study using panel data and found out that Foreign direct investment promotes economic growth in developing economies and not in the developed economy.

In a survey conducted by Ilhan (2007) of over 50 empirical studies on the investigations on the relationship between FDI and economic growth, majority of such studies that is 40 have showed a positive relationship with 2 depicting negative effect and the rest showing no impact. According to Lucas (1988), empirically examines whether foreign direct investment influence the economic growth of the host nation. The paper employed data from 84 countries over the period 1970 to 1999 by using simultaneous equation techniques so as to test the relationship between the foreign direct investment and economic growth. Endogeneity test was carried using a Durbin-Wu-Hausman (DWH) test and result show that there was no endogeneity evidence hence this period of study shows significant relationship between FDI and Gross Domestic Product. They also conducted the test for stationary on FDI and GDP and found out that variables were stationary. This study depicts a strong clear connection between FDI and economic growth.

Nyaga (2013) examined whether FDI has general effect on economic growth and results generated statistical significance. The results showed that 10 percent increase in FDI inflow leads to 0.34 percent increase in economic growth. In a similar study, Ikiara (2007) using Granger causality and Vector Auto Regression (VAR) conducted a study on the relationship between FDI and economic growth for a period of 1976 to 2002 in Singapore and found out that there was unidirectional causation from FDI to economic growth.

Ozturk (2005) examined the effect of foreign direct investment on economic growth in Sub Saharan Africa using panel data and found out that market potential, openness to trade, infrastructure, urbanization and rate of return on investments positively influence foreign direct investment in Sub Saharan Africa with other variables such as financial development, natural resources, government consumption, wages and political rights were found to be insignificant.

Pradhan (2009) using panel data examined the relationship between foreign direct investment and economic growth in ASEAN countries (Indonesia, Vietnam, Philippines, Singapore, Malaysia and Thailand. The results positively show the evidence of relationship between foreign direct investment and economic growth. This study tested both panel and individual test on causality test and the results shows evidence of causality both as individual and panel level except for Malaysia.

According to the study conducted by Agrawal and Khan (2011) on the impact of foreign direct investment on economic growth of Kazakhstan, the results shows that one dollar adds about 7 dollars to the GDP in the economy. Additionally, Pradhan (2009) investigated FDI growth on 8 developing countries (Bangladesh, Pakistan, Nepal, Indonesia, Iran, Malaysia, Nigeria, Pakistan, and

Turkey and the results shows foreign direct investment positively affected all the 8 developing nations.

3.2.2 Kyrgyzstan evidence

According to UNCTAD (2005), foreign direct investment inflow has been flowing to many sectors of the Kyrgyzstan economy since 1990s. Most notably, FDI inflows played a key role in the mining and manufacturing sector with close to 80 percent of the mining firms controlled by foreign affiliates. In manufacturing sectors, foreign direct investment has concentrated on the consumers' good s such as food and beverages. Additionally, this has been changing in the last five years with rise in FDI inflows in the garment sector. The government has created an export processing zone which has attracted foreign investors. However foreign direct investment has been distributed in many other sectors but majorly FDI inflows is concentrated in Bishkek more than other cities. The main form of foreign direct investment is Kyrgyzstan is Greenfield investment which has a total of over 100 multinational corporation. Kyrgyzstan's main traditional sources of FDI are commonly from Russia, China, Japan, USA, Germany, Canada, and Britain.

Neuhaus (2006), investigated the impact of FDI on Kyrgyzstan economic growth using time series data and found out that openness to trade, human capital, real exchange rate, inflation, ad FDI from the previous years are the major

determinant of FDI. Other variables such as natural resources, government consumption, financial development, and wages do not have any significance. In his conclusion, FDI would affect economic growth positively if there is a positive increase in the FDI inflows.

Khan (2008) pointed out that Kyrgyzstan government stopped foreign firms from buying more land and the effect was foreign ownership in agriculture was greatly reduced. He noted that 50 percent increase in agricultural output was from foreign owned farms. There was a fraction of capital transfer in the annual investments in agriculture especially in the change of agricultural investment policies. After sometimes there was a sharp increase in the inflows of foreign direct investment which led to diversification into other sectors of the economy.

Lee (2011), with a key purpose of identifying and determining the influence of foreign direct investment decision conducted an empirical study on the relationship between FDI and economic growth of Kyrgyzstan. His study revealed that the main stimulus of foreign direct investment in Kyrgyzstan include market size, GFP, taxation, stable economy and level of human capital that is favorable to the investors. The study also pointed out that there is no significant relationship of human capital to overall economic growth which suggest that there is shortage of skilled labor in the Kyrgyzstan.

Choe (2003), analyzed the impact of FDI on economic growth of Kyrgyzstan with the intention of identifying the relationship between FDI and economic growth of Kyrgyzstan. He concluded that there was a positive impact on economic growth of Kyrgyzstan with a constant and positive growth in the FDI in Kyrgyzstan economy.

3.3 Summary of the literature review

From the empirical analysis above on the impact of FDI on the economic growth, most of the studies have shown an undetermined relationship between FDI and economic growth. Most of the results from the study have showed both positive and negative impact. Unfortunately, these studies might have been carried out in a different environment which may not be assumed to Kyrgyzstan specifically. Therefore, there is also a gap in literature on whether foreign direct investments actually positively affect the economic growth.

Some of the limitations encountered in our literature review was the availability of materials as there are not enough empirical studies on the impact of FDI on the economy of Kyrgyzstan. Also since Kyrgyzstan is a landlocked country and not too open to international aids and funding, a lot of the capital generation comes from the government. Our literature review found that a lot of empirical studies didn't put into account the impact of government expenditure as an important variable for economic growth.

Due to numerous theoretical models explaining the wide range of determinants that can be experimented empirically so as to find the impact of foreign direct investment on economic growth, this research sought to contribute to the ongoing research on the subject made as seen in the previous studies. By inputting government expenditure as a likely variable for economic growth of Kyrgyzstan, this research continues to tow the line of other research and add as an additional much needed empirical literature on the subject matter at hand. This is because the way of judging the effects of FDI on economic growth by the host nation have changed over the period of time enabling cooperation between host nations and foreign investors. According to World Bank (2012), most Multinational cooperation have changed from direct contribution of foreign associates to upgrading the competitiveness of the host nation potential and promotion of effective comparative advantages.

It is perhaps not surprising that most determinants of foreign direct investment in a host country being fairly fragile statistically. In respect to the above literature review, the empirical analysis determinants of foreign direct investment on economic growth is still young enough for most hypotheses to grab.

Chapter 4

Research methodology

This is a very crucial chapter on methodology on how to conduct the study. It specifies the research design, how data was gathered and the methods of analyzing the data.

Harrison (1999), states that quantitative research analysis is a scientific process that involves computing, watching and declare the behavior of a subject without influencing it any way. Many scientific fields of studies such as social sciences use these methods to acquire the general overview of the subject.

This research employs the use descriptive study method. The main reason is that this method describes the traits of a phenomenon being studied. Clearly it does not answer questions on ‘why, how, when’ the characteristic happened but rather it highlights the ‘what’ question. Therefore, the characteristic used to describe this phenomenon is usually known as descriptive categories.

4.1 Theoretical framework

In this section, we described and explicated the theoretical framework, which would be used to derive the methodology and model specification that would be used for this study. Also, the data used would be explained. The

theoretical foundation of this research centers around the basic concept of the Endogenous Growth model that stems out of the Augmented Cobb Douglas Production Function. The underlying assumption is that the inflow of foreign direct investment can affect the productivity level of the economy, thereby making the economy of Kyrgyzstan to increase in its effectiveness in using FDI to generate growth. What this means is that, FDI increases the growth variable which is the term A (technology) in the endogenous growth model derived from the Cobb Douglas production function.

The model used in this study is derived the macroeconomic theory of economic growth developed by Solow (1957) that states that technology, capital and labor and viable factors that determine the growth of any economy. This Neoclassical theory of economic growth is described as:

$$Y = A\,K^{\propto}L^{(1-\propto)} \qquad (1)$$

Where Y is the output of the economy, A, K, and L represent the technological input, capital stock and labor force. This above production function of the study assumes that the total production and output of the economy of Kyrgyzstan is a function of the stated variables. But Romer (1986, 1990) and Lucas (1988) stated that technological input (A) can be determined from a various other factors. Also, this technological input is gotten endogenously and not

exogenously. This assumption improves our foundational model from an exogenous to an endogenous model as expressed in equation (2) below.

$$Y = A\,K^{\alpha} H^{\beta} L^{1-\alpha-\beta} \tag{2}$$

Here the term H, represents human capital. Since the assumption of Romer and Lucas is that technological input, term A, can be gotten from various factors, this study based on empirical research assumes the factors that influences technological input can be expressed in equation (3) below.

$$A = FDI^{\delta}\, GE^{\varphi} \tag{3}$$

This study's basic assumption is that A (technological input) is a function of FDI (foreign direct investment) and GE (government expenditure). By inputting term "A" into equation (2), assuming that both capital and labor remain constant, we divide both sides of the equation by labor. Then, we take logs of the variables involved, and substitute the upper cases of the variables for the log form of the variables. This means that we represented every $x_t = \ln X_t$. Our equation for this study further thus becomes represented in equation (4) as,

$$gpc = \beta_0 + \beta_1 fdi_t + \beta_2 ge_t + \beta_3 hc_t + \beta_4 pi_t + \varepsilon_t \quad (4)$$

where,

gpc = Per capita of Kyrgyzstan

fdi = Foreign direct investment

hc = Human capital

ge = Government expenditure

pi = Private investment as proxy for capital investment

ε = error term

where β_0 is the intercept and $\beta_1, \beta_2, \beta_3, \beta_4,$ are expected to be positive.

4.2 Model specification

Based on the theoretical and model framework presented in equation (4), this study aimed to offer a proper empirical model to investigate the relationship between economic growth of Kyrgyzstan and FDI. An autoregressive distributed lag (ARDL) model was conducted in our study as well as other tests already listed before.

Given the limited number of observations in our study, the ARDL methodology offers reliability for the co-integration relationship between the studied variables that were tested. By exploiting the co-integration technique of Pesaran et. al. (2001), this model was capable to check for co-integration and run the empirical estimation simultaneously no matter if the variables involved are a mixture of both I(0) and I(1). The conditional ARDL-error correction model involved in the ARDL technique used in this study is presented as follows:

$$\Delta gpc_t = \alpha + \sum_{i=1}^{a} \beta_i \Delta gpc_{t-i} + \sum_{i=1}^{b} \gamma_i \Delta fdi_{t-i} + \sum_{i=1}^{c} \delta_i \Delta ge_{t-i} + \sum_{i=1}^{d} \varsigma_i \Delta hc_{t-i} + \sum_{i=1}^{e} \kappa_i \Delta pi_{t-i} + \lambda gpc_{t-1} + \theta fdi_{t-1} + \mu ge_{t-1} + \psi hc_{t-1} + \omega pi_{t-1} + \varepsilon_t \quad (5)$$

Where $\lambda, \theta, \mu, \psi, and\ \omega$ are long run multipliers and Δ indicates the first difference operator. Additionally, *a,b,c,d,e* are the optimal lag lengths selected based on the minimum Akaike Information Criterion. With F-test, we detected if the long-run relationships exist among the variables and then examined the joint significance of the lagged levels of the regressors. The null hypothesis H_0: $\lambda = \theta = \mu = \psi = \omega = 0$ is tested against the alternative hypothesis H_1: $\lambda \neq 0\ or\ \theta \neq 0\ or\ \mu \neq 0\ or\ \psi \neq 0\ or\ \omega \neq 0$.

4.3 Long run regression

Equation (5) was formed because after confirming the presence of long run relationship, we can find the size of the relationship between economic growth of Kyrgyzstan and FDI. Therefore, the conditional long run version can be gained from the reduced structure of the solution of equation (6), when the variables in the form of first difference are all equal to zero ($\Delta gpc = \Delta fdi = \Delta ge = \Delta hc = \Delta pi = 0$). Thus,

$$gpc_t = \Omega_0 + \Omega_1 fdi_t + \Omega_2 ge_t + \Omega_3 hc_t + \Omega_4 pi_t + \upsilon_t \quad (6)$$

Where,

$$\Omega_0 = -\alpha/\lambda, \Omega_1 = -\theta/\lambda, \Omega_2 = -\mu/\lambda, \Omega_3 = -\psi/\lambda, \Omega_4 = -\omega/\lambda$$

and υ_t represents an error term.

4.4 Short run regression

The short run dynamic coefficients and the error correction term (speed of adjustment) can be gained by estimating an error correction model relating to the long run estimations of equation (6). It is stated as:

$$\Delta gpc_t = \alpha + \sum_{i=1}^{a} \beta_i \Delta gpc_{t-i} + \sum_{i=1}^{b} \gamma_i \Delta fdi_{t-i} + \sum_{i=1}^{c} \delta_i \Delta ge_{t-i} + \sum_{i=1}^{d} \varsigma_i \Delta hc_{t-i} + \sum_{i=1}^{e} \kappa_i \Delta pi_{t-i} + \psi ecm_{t-1} + \varepsilon_t \quad (7)$$

Where ecm_{t-1} represents a one-period lagged error correction term, acquired from equation (7). The $\beta_i, \gamma_i, \delta_i, \varsigma_i, \kappa_i$, are the short run dynamic parameters of the model and indicates the speed of adjustment converging to the long run equilibrium.

4.5 The Toda-Yamamoto test for granger causality

To effectively complete our research of study, one more test has to be conducted to check for causality among the variables. The Toda-Yamamoto approach (1995) is that test and in it both the maximal integration order also known as (d_{max}), and the optimal lag represented as "*k"* need to be tested for causality.

Following the procedure of Lutkepohl (2007, Chap. 7), we connected the lag length and number of endogenous variables in the VAR to the sample size. Granger Causality test is simply assuming that two variables (X and Y) in a time series are said to Granger-cause each other. For example, "*X"* can be said to Granger-cause "*Y"*, if "*Y"* can be said to be predicted better using the historical data provided for both the variables of "*X"* and "*Y* ", far better than when you are using only historical data of the "*Y"* variable alone."

For us to undertake the Toda-Yamamoto model of the Granger non causality test, we constitute our empirical model as following in the Vector Autoregressive (VAR) system:

$$gpc_t = \alpha_0 + \sum_{i=1}^{k} \alpha_{1i}\, gpc_{t-i} + \sum_{j=k+1}^{dmax} \alpha_{2i}\, gpc_{t-j} + \sum_{i=1}^{k} \beta_{1i}\, fdi_{t-i} + \sum_{j=k+1}^{dmax} \beta_{2i}\, fdi_{t-j} + \sum_{i=1}^{k} \gamma_{1i}\, ge_{t-i} + \sum_{j=k+1}^{dmax} \gamma_{2i}\, ge_{t-j} + \sum_{i=1}^{k} \delta_{1i}\, hc_{t-i} + \sum_{j=k+1}^{dmax} \delta_{2i}\, hc_{t-j} + \sum_{i=1}^{k} \varepsilon_{1i}\, pi_{t-i} + \sum_{j=k+1}^{dmax} \varepsilon_{2i}\, pi_{t-j} u_{1t} \quad (8)$$

$$fdi_t = \mu_0 + \sum_{i=1}^{k} \mu_{1i}\, fdi_{t-i} + \sum_{j=k+1}^{dmax} \mu_{2i}\, fdi_{t-j} + \sum_{i=1}^{k} k_{1i}\, gpc_{t-i} + \sum_{j=k+1}^{dmax} k_{2i}\, gpc_{t-j} + \sum_{i=1}^{k} \theta_{1i}\, ge_{t-i} + \sum_{j=k+1}^{dmax} \theta_{2i}\, ge_{t-j} + \sum_{i=1}^{k} \rho_{1i}\, hc_{t-i} + \sum_{j=k+1}^{dmax} \rho_{2i}\, hc_{t-j} + \sum_{i=1}^{k} \sigma_{1i}\, pi_{t-i} + \sum_{j=k+1}^{dmax} \sigma_{2i}\, pi_{t-j} u_{2t} \quad (9)$$

$$ge_t = \omega_0 + \sum_{i=1}^{k} \omega_{1i}\, ge_{t-i} + \sum_{j=k+1}^{dmax} \omega_{2i}\, ge_{t-j} + \sum_{i=1}^{k} \varphi_{1i}\, gpc_{t-i} \quad (10)$$

$$+ \sum_{j=k+1}^{dmax} \varphi_{2i}\, gpc_{t-j} + \sum_{i=1}^{k} \vartheta_{1i}\, fdi_{t-i} + \sum_{j=k+1}^{dmax} \vartheta_{2i}\, fdi_{t-j}$$

$$+ \sum_{i=1}^{k} \tau_{1i}\, hc_{t-i} + \sum_{j=k+1}^{dmax} \tau_{2i}\, hc_{t-j} + \sum_{i=1}^{k} \pi_{1i}\, pi_{t-i}$$

$$+ \sum_{j=k+1}^{dmax} \pi_{2i}\, pi_{t-j} u_{3t}$$

$$hc_t = \epsilon_0 + \sum_{i=1}^{k} \epsilon_{1i}\, hc_{t-i} + \sum_{j=k+1}^{dmax} \epsilon_{2i}\, hc_{t-j} + \sum_{i=1}^{k} \eta_{1i}\, gpc_{t-i} \quad (11)$$

$$+ \sum_{j=k+1}^{dmax} \eta_{2i}\, gpc_{t-j} + \sum_{i=1}^{k} \iota_{1i}\, fdi_{t-i} + \sum_{j=k+1}^{dmax} \iota_{2i}\, fdi_{t-j}$$

$$+ \sum_{i=1}^{k} \nu_{1i}\, ge_{t-i} + \sum_{j=k+1}^{dmax} \nu_{2i}\, ge_{t-j} + \sum_{i=1}^{k} \lambda_{1i}\, pi_{t-i}$$

$$+ \sum_{j=k+1}^{dmax} \lambda_{2i}\, pi_{t-j} u_{4t}$$

$$pi_t = \chi_0 + \sum_{i=1}^{k} \chi_{1i}\, pi_{t-i} + \sum_{j=k+1}^{dmax} \chi_{2i}\, pi_{t-j} + \sum_{i=1}^{k} \varrho_{1i}\, gpc_{t-i} + \sum_{j=k+1}^{dmax} \varrho_{2i}\, gpc_{t-j} + \sum_{i=1}^{k} \phi_{1i}\, fdi_{t-i} + \sum_{j=k+1}^{dmax} \phi_{2i}\, fdi_{t-j} + \sum_{i=1}^{k} \psi_{1i}\, ge_{t-i} + \sum_{j=k+1}^{dmax} \psi_{2i}\, ge_{t-j} + \sum_{i=1}^{k} o_{1i}\, hc_{t-i} + \sum_{j=k+1}^{dmax} o_{2i}\, hc_{t-j} u_{5t} \quad (12)$$

According to equation (8), Granger causality from $gpc_t, fdi_t, ge_t, hc_t, to\ pi_t$ implies $\alpha_{1i} \neq 0\ or\ \beta_{1i} \neq 0\ or\ \gamma_{1i} \neq 0\ or\ \delta_{1i} \neq 0\ or\ \varepsilon_{1i} \neq 0$ respectively. Equation (9) presents Granger Causality from $fdi_t, gpc_t, ge_t, hc_t, to\ pi_t$ if $\mu_{1i} \neq 0\ or\ \kappa_{1i} \neq 0\ or\ \theta_{1i} \neq 0\ or\ \rho_{1i} \neq 0\ or\ \sigma_{1i} \neq 0$. Equation (10) present Granger Causality from $ge_t,\ gpc_t, fdi_t, hc_t, to\ pi_t$ if $\omega_{1i} \neq 0\ or\ \varphi_{1i} \neq 0\ or\ \vartheta_{1i} \neq 0\ or\ \tau_{1i} \neq 0\ or\ \pi_{1i} \neq 0$ respectively. With the same idea, equation (11) and (12) show the Granger Causality from $hc_t, gpc_t, fdi_t, ge_t,\ to\ pi_t$ and $pi_t, gpc_t, fdi_t, ge_t, to\ hc_t$ respectively.

4.6 Variables explanations

Per capita gross domestic product (gpc)

Per capita gross domestic product refers to the gross output of all finished products and services in the whole economy divided by the amount of labor in the country. Mostly it is used as a good determinant of the success of a country. The data used in this study on gpc was gotten from World Bank Database for the period 1990 to 2017.

Human capital (hc)

This variable indicates the quality of the country's labor force and thus its attractiveness acts as a place to manufacture goods or provide sophisticated services. Human capital has its importance since its essential for increasing productivity which helps to bring competiveness of produced goods and services within the market. The data was collected from World Bank Indicator Database for the period of 1990 to 2017

Government expenditure (ge)

Government expenditure measures how much the government has consumed or spends within a given period of time. An increase in government expenditure means more social capital hence encourages economic growth.

Government expenditure is always expected to have a direct relationship with the economic growth. It is notably that government use funds for the infrastructure development which cut cost and promotes foreign direct investment. Infrastructural development increases productivity of the investments therefore promoting economic growth of a nation. Government also injects money in other areas which a key inputs to promote foreign direct investment in the country for the growth of the economy. This can be through educational and training institutions which promotes technology and skill development. In the long run, government expenditure the value added content of production. The data was collected from World Bank Indicators Database for period of 1990 to 2017.

Foreign direct investment (fdi)

This variable shows the net inflow of foreign investment in Kyrgyzstan. It is arguably noted that if fdi is put into the right productive use it can increase economic growth. It is a very crucial variable in this study since it's the main independent variable. The data was collected from World Bank Indicator for the period of 1990 to 2017.

Private investment (pi)

This variable shows the net amount of money invested in the country by local private investors. It shows the contribution of private investment in the

country's economic growth. Private investment is considered to positively affect the economic growth of the nation. The data was collected from World Bank Indicator Database for period 1990 to 2007.

4.7 Data

Data collection is gathered from studies and published materials and information on economic outputs sources such as World Bank, UNTAD and the National Statistical Committee of the Kyrgyzstan Republic. Some of these data have been tested by experienced researcher and they have concluded that are reliable. The key variables of this research are economic growth and foreign direct investment.

The real per capital gross domestic product (GPC) was using as the proxy for economic growth in Kyrgyzstan.

Data analysis of this study includes imputing raw data related to the operation of the software, running the software and drawing statistical inferences. This research used EVIEWS software 2016 to estimate the effect of FDI on the economic growth of Kyrgyzstan. This is analyzed using econometric model through carrying out regression analysis. By trying to understand the relationship between independent and dependent variables, regression analysis was carried out.

The data was put into tested for serial correlation, multi-collinearity and heteroscedasticity.

All variables are well and carefully presented into the software for better results. Annual data series on Gross Domestic Product and FDI inflows were entered into the software for period of 1990 to 2017 in current US dollar. Per Capita gross domestic product (GPC) acts as the dependent variable while FDI acts as the main independent variable. Other variables such as government expenditure, private investment and human capital annual data was presented for period of 1990 -2017

Chapter 5

Empirical result

The study used econometrics E-views software 2016 for data analysis on the impact of FDI on economic growth of Kyrgyzstan. The raw data collected from the secondary sources such as World Bank Indicators and National Statistical Committee of Kyrgyzstan Republic for the period of 1990 to 2017 was entered into the software. Different tests were carried out in relation to the model so as to acquire valid results. The software has several analyzing options which are critical in running out the results. All this has to be put under consideration to acquire best results. Understanding the model and entering the right variable and data is very crucial in the model to avoid undesired results. Everything entered into the software was carefully put into consideration.

5.1 The Augment Dickey-Fuller unit root test

As a serious precursor before conducting our co-integration test, we conducted the ADF-unit root test (Augmented Dickey-Fuller) which is a necessary requirement to check for stationarity of each variable used for our analysis. It is important to ensure that all the various variables used in our research must have no spurious regressions. If there exists any of these spurious

regressions, it would make our estimations and results to be invalid and not give the right and exact outlook of the impact of FDI in Kyrgyzstan.

The standard for a successful estimation is either I(0) or I(1) and from the unit root test, the results assures that no I(2) stationary variable exists which means that our variables avoid spurious regression and therefore the Auto-regressive distributed lag bounds test can be conducted.

The report for our unit root test analysis is in table (1) below:

<Table 1> Augmented Dickey-Fuller Unit Root test

Variable	Level Form		1-st Diff. Form		I(n)
	t.stat	prob.	t.stat	prob.	
gdp	0.831	0.885	-3.159	0.003	I(1)
fdi	-0.696	0.406	-6.501	0.000	I(1)
ge	0.724	0.865	-3.812	0.001	I(1)
pi	0.643	0.849	-3.945	0.000	I(1)
hc	0.738	0.868	-2.966	0.005	I(1)

We can see that the variables are co-integrated of order one or at the first difference form. So therefore, the ARDL-bounds test for co-integration can be applied in our model because of the non-existence of I(2).

5.2 The Auto-Regressive Distributed Lag (ARDL) Bounds test

Another important test that is required is the ARDL – Bounds Test, also known as the Auto-Regressive Distributed Lag Bounds Test. In this test, we present the co-integration bounds test of the variable based on the ARDL model. The joint significance of the lagged levels is tested by utilizing the F-test according to equation (5) in chapter (4).

The null hypothesis of equation (5) in chapter (4) is H_0: $\lambda = \theta = \mu = \psi = \omega = \chi = \varphi = 0$ which indicates that there is no co-integration relationship among variables, while the alternative hypothesis is specified as $H_1: \lambda \neq 0 \; or \; \theta \neq 0 \; or \; \mu \neq 0 \; or \; \psi \neq 0 \; or \; \omega \neq 0 \; or \; \chi \neq 0 \; or \; \varphi \neq 0$. There are two critical values: the upper bound and the lower bound values. If the calculated F-stats drops above the upper bound, we reject the null hypothesis of no co-integration. If otherwise, then we accept the null hypothesis.

<Table 2> The ARDL Bounds test

Calculated F-statistic	**5.675**	
Critical Value Bounds		
Level of Significance	**Upper bound**	**Lower Bound**
10%	1.9	3.01
5%	2.26	3.48
1%	3.07	4.44

From the table, the result gained from the bounds test proves that the calculated F-stats is equal to 5.675 which exceeds the upper bound critical value

of 4.44 at 1% significant level. Therefore, the null hypothesis is rejected, which reveals that a long run co-integration relationship exists among the variables.

5.3 The ARDL Long run estimates

Since our bounds test show that a long run co-integration relationship exists among the variables, equation (6) is regressed in order to get the long run estimates between economic growth of Kyrgyzstan and FDI inflow. The outcomes from the table below imply that a 1 per cent increase in FDI increases the economic growth by 0.003%. This outcome is in line with our general expectation as we assumed a positive impact of FDI on the economic growth of Kyrgyzstan, yet from the results this impact is insignificant to the growth of the Kyrgyzstan economy. This significantly means that more needs to be done by the government of Kyrgyzstan to influence more FDI inflows and utilize them to further increase the impact on the economy.

Also the outcome stipulates that 1% increase in gross expenditure increases the economic growth by 0.99% which a significant level of 1%, and a 1% increase in human capital increases the economic growth by 0.27% at a significant level of 5%. In contrast, a 1% increase in private investment reduces the economic growth by 0.19% at a significant level of 10%.

Below is the representation of the long-run co-efficient estimation in table (3)

<Table 3> The ARDL Long Run coefficients

Variable	Coefficient	t-Statistic	Prob.
fdi	**0.003**	**0.059**	**0.955**
ge	**0.991*** **	**17.555**	**0.000**
hc	**0.266** **	**2.806**	**0.021**
pi	**-0.189***	**-2.187**	**0.057**

Note: ***, **, and * denotes significant levels at 1%, 5%, and 10% respectively.

From the above table (3), fdi is showing no impact in Kyrgyzstan. The underlying arguments to support the above results in the long-run estimation rests on a few factors:

Firstly, Kyrgyzstan is a landlocked country and this in the eyes of investors may seem as a weakness. Landlocked countries that are also developing most times are seen as having less opportunity to attract FDI inflows because of what may be perceived as a lack of territorial easy access to the seaports which serve as an easy means for trade to occur and this can serve as a serious obstacle for foreign investors to invest in the economy (Lee, 2019). There is a lot of geographical disadvantage being a landlocked country because volumes of trade occur at the seaports. This can therefore make landlocked countries receptive to economic shocks.

Another possible explanation why FDI has less impact on the economic growth of Kyrgyzstan is because of lack of regional integration between Kyrgyzstan and other countries. Regional integration is seen as a very attractive way to entice foreign direct investment to any nation and a profitable way to expand the markets of any economy to other countries (Jenkins and Peprah, 2001). There is less regional integration between Kyrgyzstan and other neighboring countries.

Also, one reason why Kyrgyzstan has been unable to attract more foreign direct investment is because of poor infrastructure and this is very bad for business in the eyes of foreign investors. Lack of infrastructure affects development negatively, this is a well-known fact, and Kyrgyzstan is an example of this fact. With lots of problems in transportation, telecommunication, mining and energy sectors, this too can reduce the inflow of FDI into the economy (Lee and Maichinova, 2013).

In Kyrgyzstan, the legal systems are very poor and the protection of businesses most especially those of foreigners are worrisome. This is because of some not too clear procedures and regulations. There exist a lot of bureaucracies in the government bodies that regulate businesses and this can be a very bad competitive advantage in regards to what is obtainable in other countries. Many investors encounter a delay which slows down the establishment of new

investments and disrupts the business operations of these foreign companies. This very much can give a negative perception of doing business in the country. One key element for successfully doing business in any country is transparency and lack of corruption. This helps to invite more foreign investors into the country. Most foreign investors claim that the government of Kyrgyzstan is transparent on their commitments to signed contracts and obligations and this has negative implications for foreign direct investment (Abdynasyrov, 2015).

Another further reason why foreign direct investment does flow into the economy of Kyrgyzstan is the because of the many political instabilities the country has experienced since 1991 when she gained her independence. There exists some sense of centralization of power and a lack of checks and balances on those in government. This leads to corruption and that's seen as bad for business for investors (Muzalevsky, 2013). Also, one point already said a few times is corruption. This remains a big problem in Kyrgyzstan and it impedes the business operations of foreign companies that want to do business in Kyrgyzstan.

Lastly, one chilling yet realistic reason for the less impact of foreign direct investment on the economy of Kyrgyzstan is the current hostility of the Kyrgyz people to foreign investment. This quiet surprising but rests on two probable factors: Firstly there is a wrong perception about foreign direct investment in the country by the people. Because of years of colonialism and oppression from

being ruled by Russia and other countries, the people of Kyrgyzstan have a natural attitude to resist whatever they seem to come from another country. This is why most do not accept foreign direct investment because of suspicion on the reasons being such aid and what functions such investments would play in their economy. Secondly another closely related factor is a misplaced idea of nationalism. Most parliament officials would make the people to riot against foreign companies that handle certain businesses awarded to them by the government. This can give a hostile perception to investors. This is very seen in the actions surrounding the hostility regarding the Kumtor gold mine in Kyrgyzstan. This greatly hurts the nation's image to the international community and poses grave threat to the growth of foreign direct investment to the country (Trilling, 2015).

For government expenditure, one compelling argument behind its impact to the economic growth of the country rests on the dependence of the country's budget on government budgets and fiscal policies. According to Abdieva et. al (2017), they studied the relationship between Government Expenditure (GE) and Economic Growth in Transition Countries using the case of Kyrgyzstan and Tajikistan in their research. Their study analyzed the long and the short-run causality relationships between government expenditure and economic growth in Kyrgyzstan and Tajikistan to reveal the results of such fiscal policies on real output. Employing the Engle-Granger cointegration and Granger causality test.

Result show that there is a long run relationship between GDP and government expenditure in both countries especially Kyrgyzstan. The Granger causality test also found a unidirectional causality from government expenditures to economic growth in Kyrgyzstan. Their model estimate for Kyrgyzstan stipulated that a one (1) percent increase in the government expenditure will cause 0.40 percent increasing in the GDP.

According to our long run analysis, it shows a negative impact of private investment on economic growth of Kyrgyzstan. A recent study published by the International Monetary Fund (IMF) supports this assertion in our estimation. In that study by IMF (2019), they investigated the relationship between private investment in Kyrgyzstan and economic growth. They also identified constraints to economic growth in the Kyrgyzstan, using the Hausmann-Velasco-Rodrik diagnostic approach. Their study found that large infrastructure gaps, weak governance and rule of law, and high cost of finance appear to be the most binding constraints to private investment and growth. Additional critical factors are the quality of education and onerous regulations.

5.4 The ARDL Short run estimates

The short run estimates connected to the long run relationship can be obtained from equation (7). The coefficients of the different terms ($\beta_i, \gamma_i, \delta_i, \varsigma_i, \kappa_i, \tau_i, \phi_i$) denote the parameters in the short run, while the parameter of the ECM

term (ψ) indicates the speed of adjustment running from the equilibrium among the variables from the short run to the long run. Our empirical results in table (4) show that the short run impacts of FDI on economic development of Kyrgyzstan are in line with the long run impact. The first period shows positive impact but later periods showed negative impacts.

<Table 4> The ARDL Short run coefficients

Variable	Coefficient	t-Statistic	Prob.
Δfdi_t	**-0.021**	**-1.532**	**0.160**
Δfdi_{t-1}	**0.019**	**1.658**	**0.132**
Δfdi_{t-2}	**-0.033***	**-2.128**	**0.062**
Δge_t	**0.707*****	**7.260**	**0.000**
Δge_{t-1}	**0.170**	**1.567**	**0.152**
Δge_{t-2}	**-0.210****	**-2.693**	**0.025**
Δhc_t	**0.206**	**1.113**	**0.295**
Δhc_{t-1}	**-0.828****	**-3.240**	**0.010**
Δpi_t	**-0.149****	**-2.520**	**0.033**
Δpi_{t-1}	**-0.060**	**-0.755**	**0.470**
Δpi_{t-2}	**0.157****	**2.925**	**0.017**
ECM_{t-1}	**-0.754****	**-3.122**	**0.012**

Note: ***, **, and * denotes the significant levels at 1%, 5%, and 10%, respectively.

However, the equilibrium correction coefficient (-0.75) is statistically significant and this is a correct sign. This means that speed of adjustment at which the economy adjusts to a shock running from the short term to the long term equilibrium is 75 percent.

5.5 The Toda-Yamamoto causality test

The table below presents the results obtained from Toda-Yamamoto Granger Causality conducted in our research. The below results illustrates the observed evidence of a causal relationship that is unidirectional between the variables involved in the research. As observed from our ARDL model estimation tests, the Granger causality test does not show any causality relationship between foreign direct investment and economic growth. Nevertheless, the causality tests show a unidirectional causal relationship between government expenditure, private investment and economic growth. Furthermore, it shows a unidirectional causal relationship between economic growth, government expenditure, human capital and foreign direct investment.

<Table 5> Toda-Yamamoto granger-causality tests

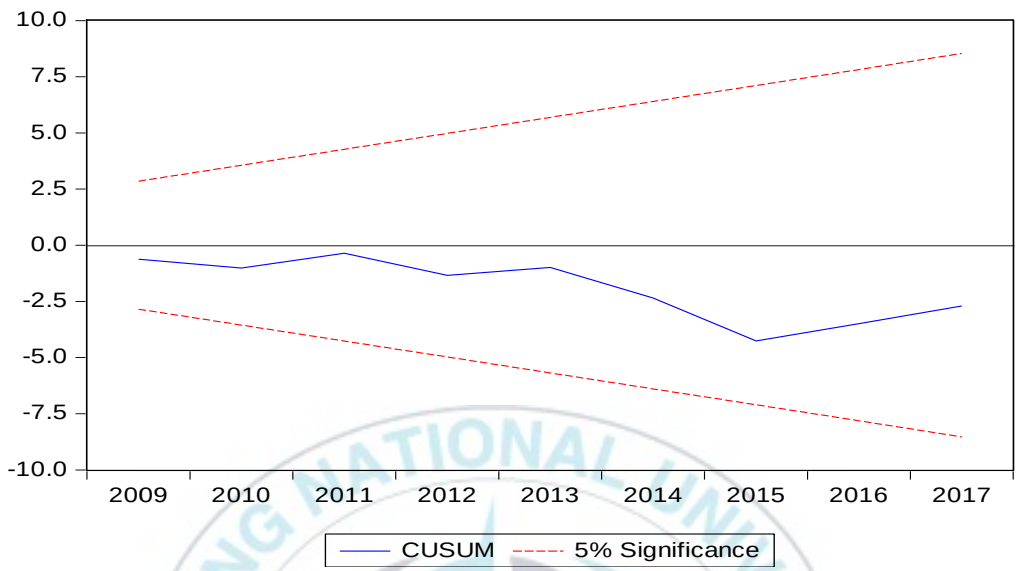
Variables	Chi-Stats	P.value	Causality direction
fdi ⟶ *gpc*	1.104	0.576	
ge ⟶ *gpc*	3.230*	0.091	unidirectional
hc ⟶ *gpc*	2.610**	0.071	bi-directional
pi ⟶ *gpc*	4.334**	0.015	unidirectional
gpc ⟶ *fdi*	9.313***	0.010	unidirectional
ge ⟶ *fdi*	11.421***	0.003	unidirectional
hc ⟶ *fdi*	8.447**	0.015	unidirectional
pi ⟶ *fdi*	0.514	0.774	
gpc ⟶ *ge*	0.786	0.675	
fdi ⟶ *ge*	1.179	0.555	
hc ⟶ *ge*	1.095	0.579	
pi ⟶ *ge*	1.170	0.557	
gpc ⟶ *hc*	1.942*	0.079	bi-directional
fdi ⟶ *hc*	3.201	0.202	
ge ⟶ *hc*	1.089	0.580	
pi ⟶ *hc*	0.723	0.697	
gpc ⟶ *pi*	2.781	0.249	
fdi ⟶ *pi*	1.837	0.400	
ge ⟶ *pi*	1.071	0.586	
hc ⟶ *pi*	1.818	0.403	

5.6 Diagnostic test of the model

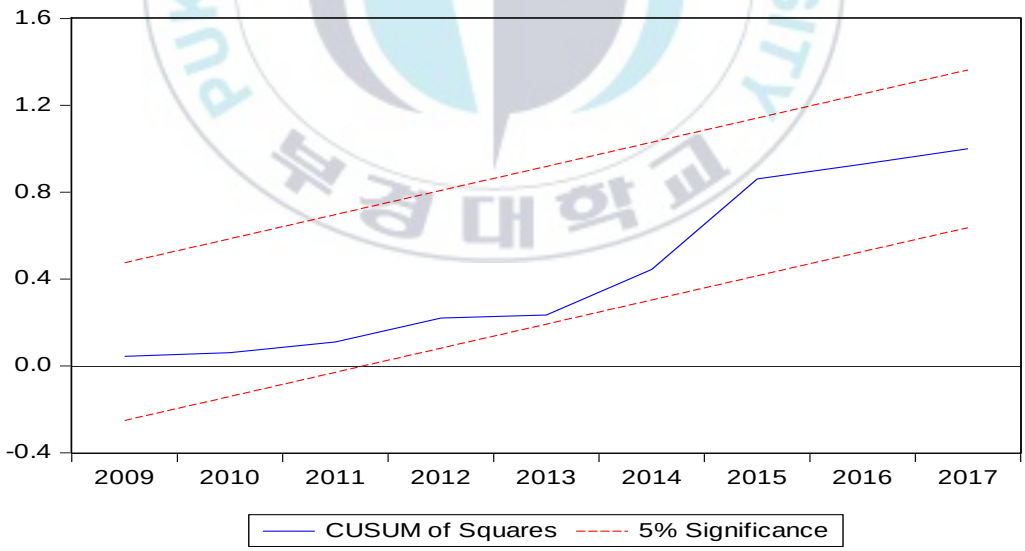
The varieties of diagnostic tests are performed so as to confirm the efficiency of the ARDL model. The Breuch-Godfrey serial correlation LM test indicates that the LM statistic (0.470) is insignificant in the ARDL model at one degree of freedom. This means our model is auto-correlation free. The chi-statistics (0.669) is also insignificant at (2,7) degree of freedom according to our Ramsey's RESET assessment. This indicates that our model is properly defied. The R^2 value is 0.998 of the estimated regression line and this shows the of goodness of fit overall measure of the said line.

The stability of the coefficients of the model in terms of both short run and long run are checked by the CUSUM or cumulative sum of recursive residuals and the CUSUM of Squares or cumulative sum of squares of recursive residual. The results shown in Figure (3) and (4) confirm that all estimates are stable at a 5% significance level over the sample period.

<Figure 3>: The CUSAM Squares



<Figure 4>: The CUSAM Squares



Chapter 6

Conclusion and policy recommendation

6.1 Conclusion

The first chapter of this study on the impact of FDI on the economic growth of Kyrgyzstan explores the background of this research by explaining in detail both the positive and the negative aspect of FDI. The second chapter explains research problems, goals and objectives of the study, research questions, value of the study and hypotheses. The third chapter explains theories surrounding FDI and economic growth. It clearly elaborates views of other scholars on this topic. In chapter four, details of the research methods, variables definitions and model construction used in this research are explained. This study used quantitative research method which helps to identify the characteristics of the effect of FDI on economic growth. In fifth chapter, estimations and results analysis takes place. Econometrics instruments are well explained as well as validation and reliability checks for the finding. Estimation of results and checking for concrete evidence in support of the study is carefully considered. In chapter six, specific report of the findings in the study is offered. Findings of this study show a positive but insignificant relationship between FDI and economic growth in Kyrgyzstan.

In particular, the relationship between human capital and FDI show positive association between the two variables meaning that FDI leads to increase recruitment in tertiary institutions hence higher level of human capital.

To effective conduct an objective analysis of the available data, the auto-regressive distributed lag (ARDL) model was employed using the E-views software application. This served as our empirical technique in order for our research to obtain reliable results. The annual data used was from 1990 – 2017. The results from Augmented Dickey-Fuller Bounds test shows that there is a long run co-integration between foreign direct investment and economic growth in Kyrgyzstan. Furthermore, this outcome of the long run assessment shows a positive but insignificant impact or relationship between foreign direct investment and economic growth.

To further verify our empirical results, we tested for heteroskedacity and serial correlation of the model used in our analysis. We ran some coefficient, residual and stability diagnostics as well as employ the Toda Yamamoto Granger Causality test for co-integration. These tests revealed that our model is auto-correlation free and the Toda Yamamoto Granger Causality test shows that there exists no causal relationship between foreign direct investment and economic growth but there exists a unidirectional causal relationship between government expenditure and economic growth. Our short-run analysis also supports our long

run results. This stipulates that more needs to be done to ensure that foreign direct investment provides the right results to enforce growth of the economy.

The empirical results showed that no significance to the growth of the economy. This insignificant results rests on several factors that borders on the hostile attitude of Kyrgyz people to foreign investment, the high level of corruption in the country, high tax policies on foreign businesses, the landlocked nature of the geographical location of Kyrgyzstan as a country, because of this factors it make fdi flow is small (3.5%). Also amidst many other factors already explained in chapter (5) and (6) of this research.

6.1.1 Corruption

On a realistic and open volition, the Kyrgyz people are already fed up with the high level of corruption. Virtually everyone agrees to the fact that corruption is cankerworm in the society and its eating up all the good that can come to the country. The people collectively want to come together eradicate corruption in the society and in the business climate. Corruption is bad for social hegemony and economic growth. It can obstruct and restrict any form of scientific, social, economic and technological growth in any society. It will wither any form of progress aimed at elevating the growth of the economy and the living standards of the people. There must therefore be changes the climate of corruption in Kyrgyzstan.

One most probable solution to this is for the government to adopt a stern anti-corruption policy that aims to co-ordinate, regulate, and organize the activities in the public sectors, thereby preventing any activity that aims to slow down growth through the corrupt practices. Asset declarations should be enforced for all government officials and for those who hold high positions in business related to enforcing government duties. The country must declare a war on corruption and must be able to do also by employing the right and qualified civil service staff who hold the dignity of the nation in high esteem. These staff must be educated in anti-corruption education and must practice it in their daily activities. Also the citizens, schools and all public and private sector officials should be educated too on the implications, prevention and punishments for corruption.

6.1.2 Taxation

In Kyrgyzstan still no fair taxes and there is not focus on taxes. One of the ways to attract foreign direct investment is to have the right taxes, but in Kyrgyzstan the tax policy is not fixed correctly in connection with corruption. Tax regulations are not regulated and not properly controlled.

6.1.3 Hostility

As Kyrgyzstan is a developing and newly independent country of Former Soviet Union (FSU) there is still hostile to foreign direct investment due to the facts that the goverment has a nationwide issue related to problems with the Kumtor gold mine. The government doesn't make any efforts to stop this growing hostile attitude of the people and not trying to educate the people of the many benefits of foreign direct investment in the country.

6.2 Policy recommendation

One major element of fighting corruption that is closely related to it but yet can be distinct is the factor of transparency in almost and virtually every activity that is done. There should be transparency in all government contracts and operations. Bureaucracy must at all levels be eradicated. This can help foreign business owners and those operating under an agreement or contract with the government to function effectively and bring the right results needed for growth in the economy. This can be done through various ways.

6.2.1 Transparent operations

One is ensuring transparent operations and the right policy co-ordination for public officials and contracts. Also by improving the separation, designation and capacity of functions for anti-corruption law enforcement groups. The right

people should be investigated and witch-hunting of foreign companies and officials should be stopped except for officials found to be corrupt. The civil service should enforce professionalism, dignity and integrity in the sector. Conflict of interest should be resolved in the right way and financing of political parties and groups must be monitored and transparent. Lastly, actions must be taken quickly against corrupt people in order to maintain the integrity and dignity of the law enforcement bodies.

According to Greenway (2002), foreign direct investment contributes to the development of the nation in three main ways. Firstly, inflow of capital such as FDI into the host nation enables a country to import more than they export, which allows them to invest more and gain capital faster thereby enhancing labor productivity and wages. Foreign direct investment (FDI) has the potential to accommodate some of the surplus from literate labor in rural and urban sectors. Secondly, employment creation in firms with pleasant productivity growth prospects is a very crucial way to alleviate poverty in the country and which is good for the local entrepreneurs. Thirdly, Infant domestic owned firms can stimulate more productivity through FDI. FDI allows for transfer of technology and expertise form foreign country to the host nation thereby benefiting local firms. This can also start through trainings, completion and copying by doing within firms where foreign firms are present.

Policies that promote economic growth should be given adequate and accurate attention in order to increase economic growth. By so doing these factors will attract foreign direct investment because according to many scholars such factors that increase economic growth tend to increase FDI in the host nation. It is also observed in the literature that the trend of FDI is different. Some countries attract and receive a relative higher investment than others. Kyrgyzstan being an example of a country that receives lower level of FDI needs to improve its business environment by ensuring that all these factors influencing FDI are well put in place. The government should also strive to attract FDI but also put up strict rules and regulations regarding foreign investment to avoid exploitation of local industries and market exploitation.

On the other hand, foreign direct investment that is channeled into the country should be well utilized to its maximum potential. These funds ought to be put towards the projects for which they are targeted by investors considering unfortunate stories surrounding mismanagement and misappropriation of funds used to boost investments. In respect to this, relative agencies and authorities should firmly prosecute those who undermine investment process leading to poor economic growth of the country.

It has already noted the various possibilities for growth through the influence of more foreign direct investment into the country. These various

avenues can garner more support from foreign investors and grow the economy of Kyrgyzstan. Yet, even though it is quite evident that the Kyrgyz economy has and shows a lot of visible improvement in many industries and sectors, the country still has a lot of challenges and gray areas that needs to be worked on in order to attract more foreign direct investment to the country.

6.2.2 Taxation and customs duties

There should be fair taxes and focus on taxes that pose a threat to foreign companies. Tax regulations must be effectively regulated and monitored. One way to attract foreign direct investment is if there are the right taxes that do not affect the foreign companies negatively. The Kyrgyz government has identified the importance of foreign direct investment and to cap this is to legislate the right tax policies to keep the foreign companies flowing in. Tax exemptions can be given to foreign companies that have fulfilled certain payments or agreements for maybe 3 – 5 years and after that, a regulated tax value should be given that is attractive to foreign companies but still very much profitable to the Kyrgyz economy and create a win-win situation. This would create a profitable and favorable conditions foreign investors and companies.

Also to attract more FDI, the legislators can introduce special laws for custom duties to be exempted when stocks of materials both raw materials and capital equipment are imported and this could also include components that could

be used in the formation of capital stocks and deposits for special purposes. Market oriented policies must be implemented to govern foreign direct investments in the country.

6.2.3 Kyrgyz people hostility to FDI

More effort must be done to educate and sensitize the people of the great benefits of foreign direct investment in the economy. This hostile attitude towards foreign direct investment recently became more evident with the issues relating to the Kumtor gold mine as it became a national issue. People have become radical politically and nationalistically and this is bad for business to foreign investors. It is very evident that the Kyrgyz government and economy cannot adequately generate the benefits to be gotten from the gold mine and foreign assistance and funds can help a long way to produce right results.

With these growing hostility, it will be difficult to attract foreign direct investment into the country. The government must make more efforts to stop this growing hostile attitude of the people and educate the people of the many benefits of foreign direct investment in the country. The leaders must persuade the people most especially those in public sectors and even the average citizen to understand that foreign direct investment is necessary for growth in any developing country especially in the Kyrgyz economy.

6.2.4 Right and effective foreign policy

One most important and probable solution to attract more foreign direct investment to the country is to shape up a well written and prepared foreign investment policy. This policy should be made up in such a way that it clearly defines the extent of involvement of the government with foreign companies and their investment in the nation. It must also clearly explicate the way the Kyrgyz government would regulate this investment and their rights to ownership of properties both financial investment and landed properties.

Also the government must provide legal protection to these companies especially those that fulfill all needed documentation and requirements and ensure that they create a safe business environment for foreign investors that is centrally coordinated and regulated with well dedicated staff and database that is accessible to all parties involved in ensuring the productive capacity of any foreign direct investment.

6.3 Limitations of the study

Limitation in this case refers to problems encountered that limit the research scope and may reason hardship in the completion of the research. Firstly, collection of data for the research was problematic in the fact that the Central Bank of Kyrgyzstan (CBK) statistical bulletin and financial review was only

accessible for a few of the years under research for the various years. Secondly, the National Statistical Committee of the Kyrgyzstan Republic website also seems to experience perennial problems that make it inaccessible most of the time. Moreover, the data available in the National Statistical Committee of the Kyrgyzstan Republic is not in the mild form so a lot of time was utilized going through heaps of publications. In this study, a sample of 27 years was conducted and such may not be the correct delegate of the situation on the ground since a lot has been happening in the country during under the Russian rule. Biased results might occur when the researcher fails to factor in all possible variables thereby the finding of the study may also be subjected to research bias. For example, design and sampling bias might occur in the results of the study due to inherent bias into the study.

The present Kyrgyzstan investment policy was reviewed last year. In regard to this, further studies should focus on the effect of FDI on specific sectors and analyze the policy implications that arise from the findings. On the other hand, this research should employ more robust econometric models and as such the effect of FDI on the Kyrgyzstan economy might be made successful.

Natural resources are the backbone of the Kyrgyzstan economy. Although there are a lot of foreign direct investment funds channeled to the sector, much of it is through MNCs who have established subsidiaries in the country. More

research should be conducted on the feasibility of channeling FDI towards the small scale industrial sector with the aim to counter poverty and increase welfare systems. Due to increase production in the mining sector, where foreign affiliates with their superior knowledge and technical equipment are bound to explore the natural resources, studies should be conducted prior to the start of mining process so that appropriate measures are put in place to prevent hindrance to the domestic economy.

This study has employed macroeconomic variables in investigating the effects of foreign direct investment on economic growth of Kyrgyzstan. A close related study on investors' views should be carried out about the effects of different institutional variables to their ventures. This will provide great understanding about FDI from the Multinational corporations of foreign investors' perspective.

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