

DIASPORA REMITTANCES AND ECONOMIC GROWTH IN KENYA

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DECLARATION

This project is my original work and has not been presented for a degree in any other University or any other award.

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DEDICATION

I dedicate this research project to my late mother Christine Chelang'at Lang'at.

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ABBREVIATIONS AND ACRONYMS

ADF	Augmented Dickey Fuller
AIC	Akaike Information Criterion
ARDL	Autoregressive Distributed Lag
CBK	Central Bank of Kenya
DR	Diaspora Remittances
ECIS	Europe and the Commonwealth of Independent States
ECOWAS	Economic Community of West African States
FDI	Foreign Direct Investments
FPE	Final Predictor Error
GDP	Gross Domestic Product
GNP	Gross National Product
HQIC	Hannan Quinn Information Criterion
IMF	International Monetary Funds
MENA	Middle East and North Africa
MICs	Middle-Income Countries
OLS	Ordinary Least Squares
SBIC	Schwartz Bayesian Information Criterion
SAPs	Structural Adjustment Programs
SSA	Sub-Saharan Africa
USD	United States Dollar
VAR	Vector Auto Regression
VECM	Vector Error Correction Model

OPERATIONAL DEFINITION OF TERMS

- Gross Domestic Product(GDP):** This refers to a macroeconomic measure of the value of economic outputs adjusted for price changes within a given time period usually a year.
- Diaspora Remittance :** Amount of money remitted or sent to economy /domestic/country of origin by the immigrants working abroad.
- Financial Deepening :** This refers to a rise in financial services penetration in an economy. This is measured as a ratio of money supply to Gross Domestic Product (GDP).
- Domestic Savings :** This refers to the excess of a nation's current Gross Domestic Product (GDP) over current consumption expenditure.
- Foreign Direct Investment:** This refers to the amount of money that have been invested in the local economy by foreign nationals.
- Inflation :** This refers to a constant increase in general prices of goods and services in an economy over a certain period of time usually a year.
- Causality :** This refers to the capacity of one variable to influence another.

ABSTRACT

Diaspora remittances have become an imperative source of capital flows for different countries worldwide. Even though developing countries such as Kenya do not have a significant share of this capital flow, diaspora remittances is noted to be useful in promoting household income, stimulating and enhancing investment and economic growth in the country. There are few studies that have focused on the nexus between diaspora remittances and economic growth. These studies however do not capture the dynamics affecting diaspora remittances such as changes in the domestic savings and financial deepening of a country. Empirical studies on nexus between diaspora remittances and economic growth in Kenya have not used domestic savings and financial deepening variables exhaustively in exploring the subject under study. This study estimated short-run and long-run effects of diaspora remittances on growth of economy in Kenya and took into considerations the two factors of domestic savings and financial deepening as independent variables. The data was sourced from the World Bank, Central Bank of Kenya, Kenya National Bureau of Statistics and the National Treasury. The study used time series data for the period 1970 to 2017. Empirical studies carried in Kenya have not considered the period from 1970 to 2017. STATA software was used for the analysis and Granger causality test was used to test the direction of causality between diaspora remittances and economic growth. The Granger causality tests showed that there was unidirectional causality between Diaspora remittances and economic growth in Kenya for the period under study (1970-2017). This means that diaspora remittances accelerates economic growth in Kenya and that economic growth does not lead to increase in diaspora remittances in Kenya. Based on the maximum rank two of the cointegration, GDP and diaspora remittances were cointegrated. The study used ordinary least squares estimation to determine both the short-run and long-run effects of diaspora remittances on economic growth in Kenya. It was found that there was a short run and long-run relationship between GDP and diaspora remittance at 10 percent level of significance and similarly between GDP and domestic savings. The explanatory variables chosen in the ordinary least squares model explained 48.81 percent of the variation in GDP. Regression results showed that diaspora remittances has a positive impact on economic growth both in the short-run and long-run at 10 level of significance leading to a 0.45 percent increase in GDP. It is recommended that policy makers should develop policies which will increase Diaspora remittances, financial deepening, foreign direct investment and trade openness for economic growth in the country. This can be achieved through balanced improvement of all the other key macroeconomic variables like national income, employment, money supply and price levels to attain a sustainable economic growth and development.

CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Many developing countries have experienced enormous increase in the inflow of remittances in the past two decades. Developing countries export manpower to generate remittances which are the main sources of growing investment and consumption in recipient countries. The growing in investment and consumption is the sign of economic growth is manifested by the growing in investment and consumption (Ahmad, Ahmad & Hayat, 2013).

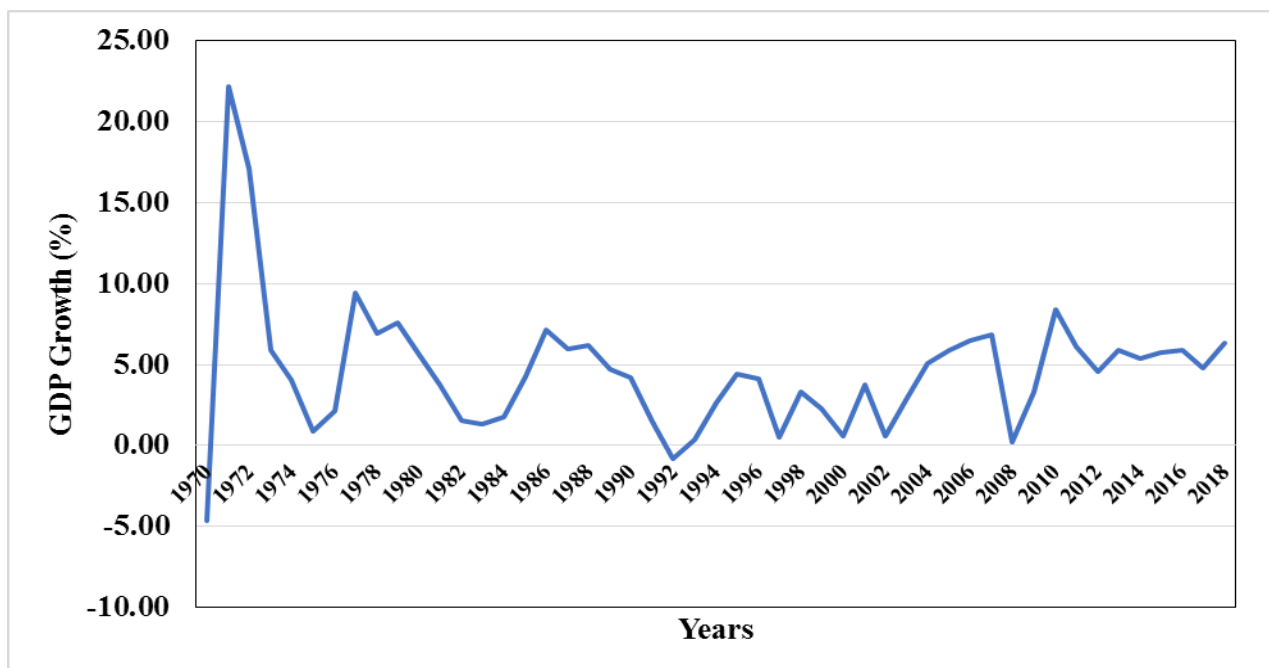
Migration patterns over time and different characteristics for different countries are significant elements that determine the association of the influence how the remittances affect the economic growth. Reduction in or limited inflow of remittances would be experienced by a given country if there is a limited or low numbers of the country's people living abroad. In most case the migrants are able to get welfare gains from the incidence of migration. The positive implication for the migrants cannot be acquired while in the developing country's due to the increased cases of excessive downsizing of organizations, poverty, refugee movements, ethno-religious conflicts, rapid urbanization and increased unemployment (Kuptsch & Martin, 2004). Even though the search for employment and better opportunity have aggravated the incidence of migration from the African continent the same stated long ago. There are different types of immigrations which includes regional migration, sub-regional, global and intra/inter-continental migrations. In the event that people have migrated due to conditions that are beyond their control or they are force to move then it if referred to as forced or involuntary migration. On the other hand, voluntary migration is a situation where people are moved from and the same is referred to as voluntary migration. Forced migrations are caused by factors that are not favorable to the existence of the people and

those that do not support their lives like incidences of war, catastrophes and conflicts (Kapur, 2004).

According to Okoth (2003), by way accumulation of human capital economic growth enhancement can be attributed to the remittances or increasing remittances. Stratan & Chistruga (2012) also noted that the incidence of remittances by the diaspora population of a given country are elastic to different dynamics that are as a result of the parent country which includes political temperature/climate in the domestic Country, insurance consideration, public policy, altruism and mostly the investment climate and opportunities in the domestic country.

1.1.1 Kenya's Economic Performance

In the last four and a half decades, Kenya's economic performance have been far below its potential and capacity and has not been steady since 1970 as shown in Figure 1.1. The poverty rates in Kenya have also been made worse by the persistent poor economic performance in Kenya. Kenya's economic growth have declined since 1970s.



Source: World Bank Open Source Data

Kenya had a GDP growth decline of -4.7 percent and -0.8 percent in 1970 and 1992 respectively. Average GDP growth in the period 1972-1981, 1982-1991, 1992-2001, 2002-2011 and 2012-2017 was 6.34 percent, 3.8 percent, 2.1 percent, 4.59% and 5.38 percent respectively. Mean GDP growth of Kenya for the period 1970-2017 was 4.65 percent. GDP growth was above 10 percent in 1971 and 1972 and ever since it has been growing below 10 percent. Internal and external factors explain the changes in economic performance. In Kenya it is manufacturing sector was affected by high global oil prices and import substitution policy which was pursued by the government in the period 1974-1990. The implementation of structural adjustment programs (SAPs) which started in 1980s and the government's failure to sustain prudent macroeconomic policies slowed down economic growth. There was partial suspension of funds to Kenya in 1991 by different donors due to poor performance some of which includes the; International Monetary Fund (IFM), multilateral and bilateral donors. In 1993-1996 there was improved economic performance because of economic reforms initiated by the government on macroeconomic and structural policies. The revival of and economic stimulation or stabilization of the economy was achieved through the efforts of the government by way of tightening fiscal and monetary policies since mid-1993. Expansion in money supply and inflation was reduced substantially. The application of new reforms on tax policy were aimed at reducing the tax base while effecting a water tight control on the budget. The government removed restrictions on the inward portfolio investments, regulation of exchange and trade regulations with an aim to strengthen the financial systems and implemented a major civil service reform programme and embarked on privatization to improve on the issues that limit economic growth that is efficiency and low investment. In 2002-2008 economic performance improved significantly because Kenya implemented economic reforms for economic recovery. Government invested heavily in productive sector (agriculture and fishing, tourism, trade and industry, forestry and mining), infrastructure,

governance and security sectors. Economic performance in Kenya is generally affected negatively by general elections and this is depicted by decline in growth during election periods.

Adverse weather conditions like drought and floods have had negative effect on the economic performance in Kenya. Kenya experienced droughts in the periods 1975-1980, 1983-1984, 1990-1995, 2000-2015 and 2016-2017 Floods were experienced in 1982-1985, 1997-1998, 2002-2010 and 2016. The regular occurrence of floods and droughts has continually undermined economic growth.

The economic performance of Kenya was also negatively affected by many other factors over the period including terrorism and governance problems like corruption and implementation of new government system. Travel advisories by the Western countries to their citizens in the period 2013-2015 after the terrorist attacks in Kenya affected Kenya's tourism industry which is one of the major foreign exchange earner.

1.1.2 Trends in Diaspora Remittances

There are several developing states which have continued to benefit from accruing financial remittances from the migrants. In consideration to the other sources of financial flows the economic remittances is made up of a relatively significant sources of income. Approximately, USD 334 billion was the remittance amount that was able to reach the developing countries in 2012 (World Bank, 2013). The World Bank also on a report stated that even though there have been different dynamics that affect financial status of most countries including the financial crisis. The World Bank (2010) projected that there would be an 8% increase or growth in the diaspora remittances among the developing countries in the year 2011. Thus, the flow of remittances have remained resilient regardless of the global economic crisis that affects the flow of private capital.

Over the years the remittances to the developing countries have continued to increase over the years standing at approximately USD 404 billion in the year 2013. The diaspora remittances have also at some point exceeded the official amount which are sent to these countries mean for projects and development or assistance (Koyame-Marsh, 2012). The trend for the remittances have been on the rise since the years 1995 when the remittances submitted to the developing countries stood at USD 65 billion. This was not the case 15 years later in the year 2010 when the same was estimated to be USD 334 billion.

The information on the diagram on 1.2 display the general changes towards different directions trend and the disparities that identified economies that from developed economies and developing economies. The private capital flow have also been displayed as being positively associated to remittances which means an increase in remittances since the same is an important element to the capital flows.

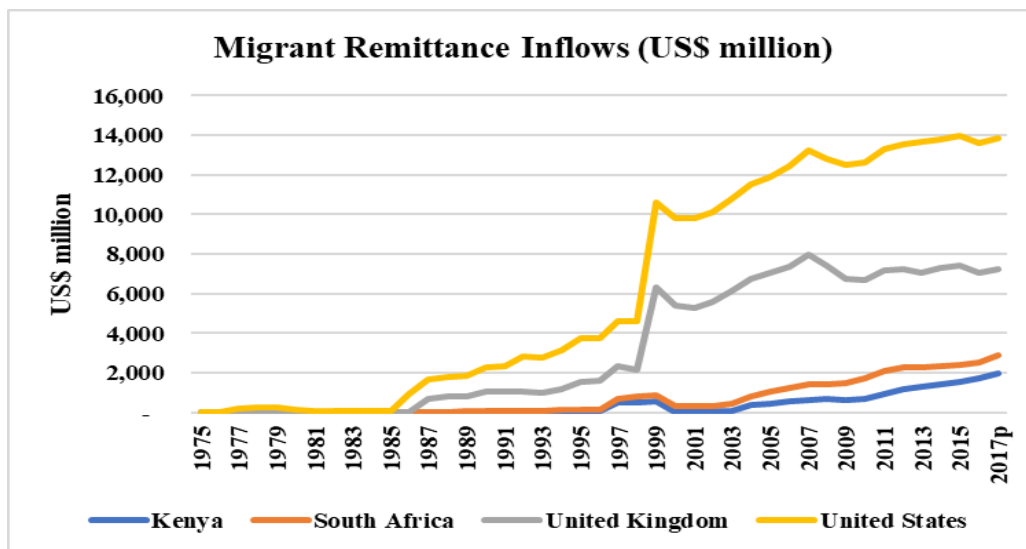


Figure 1.2: Remittances Received by Developing and Developed Countries (1975–2017)

Source: World Bank 2018

Developing countries receive relatively low steady remittances over the years. The developed countries receive huge amount of Diaspora remittances than the developing countries since the emigrants from the more developed economies are deployed to relatively technical areas

which require high skilled experts they are able to make more income from the host countries which makes the difference between from the two economies that is the developed and the developing nations/states (World Bank, 2013).

In addition, there are multinational companies that are formally incorporated in the developed countries and have their branches across different countries.

1.1.3 Economic Significance of Remittances

Page and Plaza, (2015), the size of the economy is not the only positive/significant aspect of the increased diaspora remittances to the different economies that is the developing and the developed but the same is also a source of private capital flow. Even though remittances have been growing annually for the various regions and states, the remittances submitted to Africa have seen the most significance growth in comparison or ratio of the GDP. Various countries in African have a ratio of gross domestic product to the remittances being reported to grow from a low of 0.9 percent 14 years ago in 1995 to 2 percent in 2009 (World Bank, 2010). During this period the Arab emirates were found to have relatively highest ratio of the gross domestic products to remittances for the 14 years period. In Latin America and Caribbean it was reported that 1 percent of the GDP was explained by the changes in the remittances (World Bank, 2014). This was however not the case for the other regions which includes Arab States which reported a ratio of 3.1 percent that is the remittances to GDP for the period of 14 years (1995-2009). Further, remittances in the European and Commonwealth of Independent States had a 1 percent remittances to gross domestic product that is the remittances submitted there in represented or contributed 1 percent to the GDP while 1.4 percent of the GDP is attributed to the remittances in pacific, both Asia and Africa saw the remittances contribute to about 2 percent on GDP of different African states.

Diaspora remittances was also found to have a linear relationship with the development status for most of the countries. In group of developing countries those with relatively low income had remittances representing 2.2 percent change in the GDP. Those countries identified as being middle and higher income groups had 1.5 percent and 0.8 percent respectively as the contribution of the remittances to the GDP and finally the transition economies saw a 1.7 percent remittances contribution to the GDP (Page & Plaza, 2015; World Bank, 2010).

The development assistance which includes the foreign direct investments have in the past been exceeded by the funds submitted by the citizens living abroad in form of diaspora remittances (excluding China). To some extent the remittances have been able to rival the impact brought about by the portfolio equity and the private debt. The same was echoed by the sentiments of the World Bank (2015) which showed that the official aid flow is not more volatile than the diaspora remittances submitted by the different foreign nationals to their mother country. Further, in many small countries with relatively small economies the foreign exchange researcher is not greater that the remittances that are submitted annually to those countries. In India a country that is categorized as one of the large emerging markets the remittances submitted annually are almost 50 percent of the foreign exchange reserves (World Bank, 2015). In Sub-Saharan Africa (SSA) there as a record 11.4 percent increase in the remittances to actual USD 38 billion for the year 2017 (World Bank, 2018).

1.1.4 Diaspora Remittances in Kenya

Following independence, emigration from Kenya was largely minimal. While many people of Asian and European descent emigrated from Kenya for socio-political reasons, Kenyan ethnic groups largely avoided emigrating from the country. This desire to shun emigration was largely driven by opportunities arising out of the strong economic performance witnessed in the country in the first two decades. However, in the recent years Kenya have continued to

witness an increase in the emigrants in search of green pasture and economic opportunities. Some of the factors that have also contributed to the pressure on the locals include population growth (influx) political instability and the leadership wrangles which in most cases leads to destructions of property and deaths (Ocharo, 2015). Other previous studies suggests that the largest number of migrants from Kenya are resident in the United Kingdom reflecting not only the colonial heritage of the United Kingdom with Kenya but also the economic opportunities existent in the United Kingdom given its status as a first world country. However, the largest contingent of migrants comes from Africa. The scenario is even made worse by the laws and regulation which include integration and elimination of boundaries to form an east African community have escalated the same to new heights. Figures 1.3 and 1.4 show the remittances of emigrants from Kenya by region and country in which they reside.

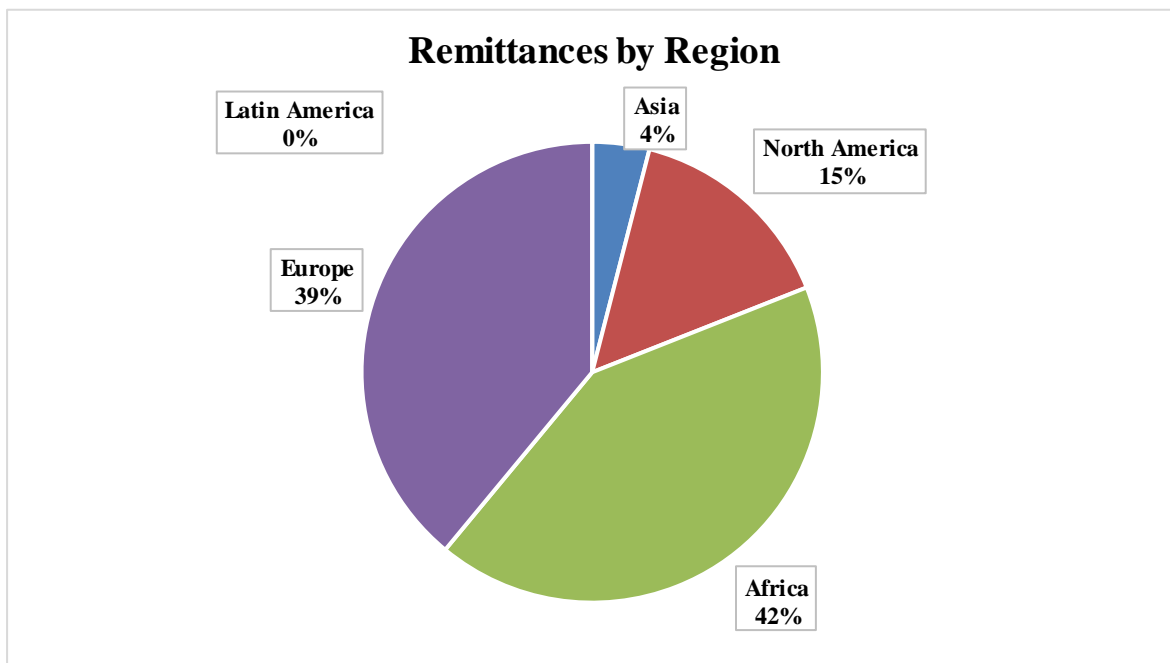


Figure 1.3: Remittances to Kenya by Emigrants from Kenya by Region

Source: Cheronno (2013)

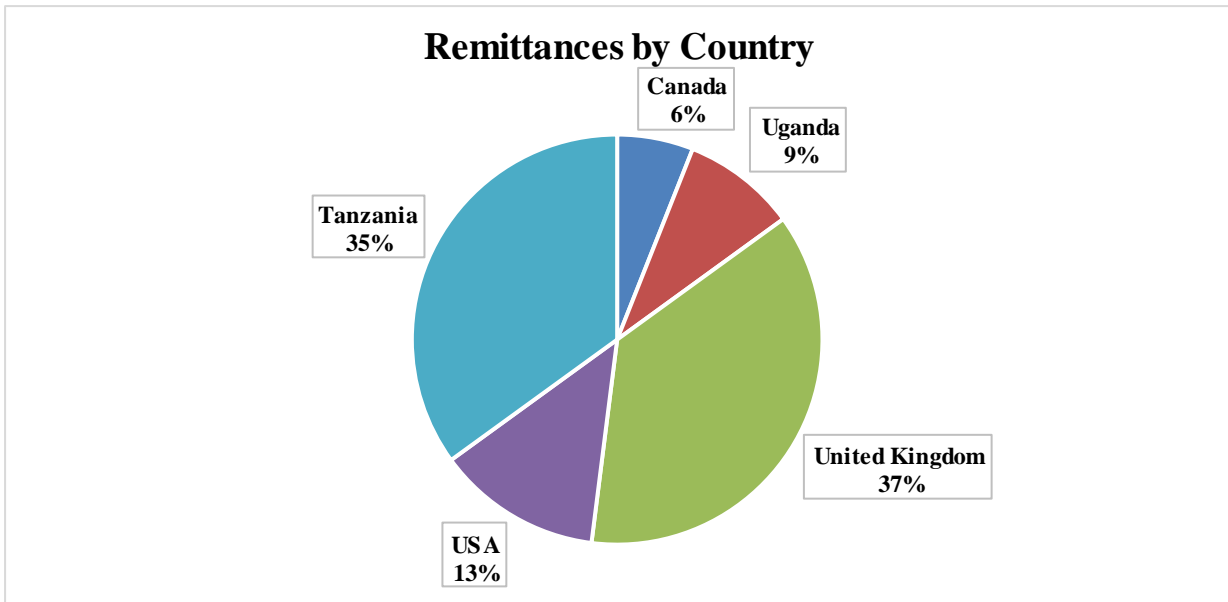


Figure 1.4: Remittances of Emigrants from Kenya by Country

Source: Cheron (2013)

Remittances from these emigrant workers have been on an upward trend in Kenya. From 2017, the remittances increased by 39 percent from Ksh 194 Billion to Ksh 280 Billion in 2018. North America and Europe remain the primary sources of these remittances reflecting the number of Kenyans resident there with gainful employment. Between 2013 and 2018, North America contributed an average of 51 percent in total remittance while Europe contributed 28 percent. Among the highest recipients or beneficiaries of the remittances in Sub-Saharan Africa is Kenya and now ranks highest (Koyame-Marsh, 2012). Figure 1.4 indicate that the United Kingdom contributes 37 percent, Tanzania 35 percent, USA 13 percent, Uganda 9 percent, and Canada 6 percent. Remittances by region indicate that Africa contributes the highest with 42 percent. It is followed by Europe 39 percent, North America 15 percent, and Asia is the least with 4 percent. Latin America does not contribute anything to Diaspora remittance in Kenya.

1.1.5 Remittances received by Kenya

Diaspora remittances is one of the Kenya's leading source of foreign exchange, ahead of tourism and agricultural exports such as tea, coffee and horticulture (Central Bank of Kenya,

2018). Kenya’s Diaspora remittances have been increasing since 1970s and there was notable increase from 2003 to 2017. Remittances were estimated at 2.5 percent of Kenya’s GDP in 2017. Thus, there was changes in the remittances due to structural breaks and different dynamics the remittances rose from USD 7.26 million in 1970 to USD 137.30 million in 1994 and declined to USD 65.85 million in 2004. Diaspora remittances grew from USD 1,290.6 million in 2013 to USD 1,724.3 million in 2016 and by 2017, remittances were USD 1,946.93 million (Central Bank of Kenya, 2018). Available figures from the Central Bank of Kenya puts the total diaspora remittances to Kenya in 2019 at USD 2,796.6 million compared with USD 2,697.5 million in 2018. The figures provided by CBK are regarded as estimates due to the fact that remittances through other unofficial channels are usually not captured.

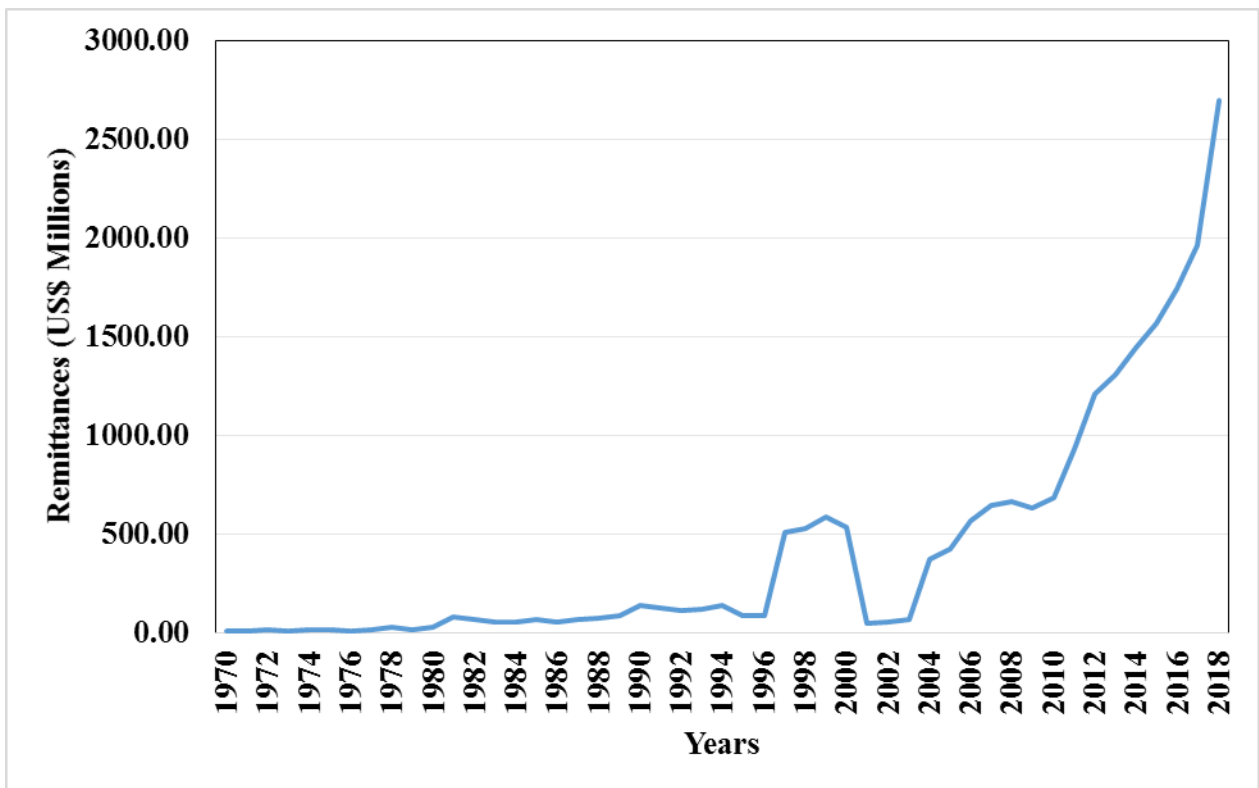


Figure 1.5: Diaspora remittances (1970-2018)

Source: World Bank Open Source Data

According to Ocharo (2015) noted that the increase in the number of Kenyan in the Diaspora might have contribute to the increase in the remittances over the years, while the decrease in the same can also be attributed to the different financial phenomena in the economy which might include the global financial crisis in 2008-2009. Passing of new constitution-2010 which allowed dual citizenship made Kenyans in the Diaspora diversify their investment portfolios in the country of domicile and their mother land. The Kenya shilling saw a decline in value in 2011 which discouraged most Kenyans living abroad from submitting or sending money to Kenya which also created a temporary surge in remittances inflow to Kenya. Inflow of remittances to Kenya also increased when the purchasing power of the foreign currency increased since the same induced the emigrants to spend the amount of remittances to Kenya. Increase in remittance inflows can also been attributed to global economic outlook and aggressive government efforts to draw Kenyans living in the Diaspora to invest in government securities and enactment of the tax amnesty on remittance. The government is increasingly becoming aware of the contribution remittance inflows are playing in promoting development of the economy in Kenya. As such, the Kenyan government has enhanced the deepening of the financial sector by creating innovative investment instruments targeted at the Diaspora including: - Infrastructure bonds, Diaspora investment funds and bonds. There has also been an attempt by the government to improve the overall macroeconomic policy and business environment (World Bank, 2011). In terms of the institutional quality and policy reforms, Kenya have been placed in the fourth position among the Sub-Saharan Countries on by the World Bank on the rating which is known as the Country Policies and Institutional Assessment.

Further, Kenya is among those countries in Africa that are enacting commercial laws which improve corporate governance. The World Bank (2018) stated that Kenya's Diaspora remittances stood at USD 269 million in 2018. This was a 39% growth from 2017's figure

that stood at USD 194 million. Among the largest contributors of the foreign exchange revenue in Kenya is the Tea, Horticulture, Tourism and Kenya's diaspora is one of them as at the year 2014. The highest contributions came from North America, followed by Europe and the rest was from other areas of the world.

According to the Central Bank of Kenya (CBK), remittances have led to higher savings, investments, and consumption. There is an increasing trend in remittances by the Kenyans living abroad to the Kenyan economy shown by the upward growth in remittances reported over the recent past and the renewed vigor by the government and financial institutions to develop financial products targeted at the Diaspora citizens (Kiiru, 2010).

1.2 Statement of the Problem

Growth of the economy of any country is influenced by many factors including diaspora remittances by way of compensation to emigrant workers, transfer payments and savings. Despite an upward growth of diaspora remittances in Kenya over the years, Kenya has not registered a significant economic growth in equal measure. Empirical studies on remittances and economic growth have been carried out in Kenya but the relationship between remittances by the diaspora and the growth in the economy has not been explored in depth by the policy makers and academia. There are divergent views regarding the effect of diaspora remittances and economic growth in developed and developing countries. There are policy makers and researchers who hold the view that remittances have a positive effect on economic growth whereas others have a contrary view that diaspora remittances negatively affect economic growth (Haas, 2007). In the available empirical literature or studies there is scanty research on how diaspora remittances influence economic growth in Kenya. Elsewhere in the world, various studies have established a direct relationship between remittances and economic growth (Acosta, Calderon, Fajnzylber & Lopez, 2008; Koyame-Marsh, 2012;

Balde, 2010). Other studies have established an inverse correlation between the diaspora remittances and economic growth in specific countries (Mim & AJi, 2012; Karagoz, 2009).

The impact of diaspora remittances on economic growth in Kenya have not been adequately addressed. On the investigation of effects of diaspora remittances on economic growth in Kenya, Ocharo (2015) incorporated the private capital inflows. It sourced data from statistical abstract and economic surveys which do not contain the raw data, which would have significant effect on the outcome of the study in case the data was incorrect. Kiiru (2010) explored the relationship and effects of the remittances on poverty eradication. The per capita of the household was considered as the dependent variable by the researcher as opposed to the economic growth which was used by other studies. Aboulezz (2015) investigated how the international remittances affect the economic growth of selected countries. The author adopted similar variables that were similar to those used by Ocharo (2015), although in the analysis population growth was an added variable.

In addition, various studies have not captured imperative variables that influence Diaspora remittances such as domestic savings and financial deepening. This study incorporated the financial deepening and domestic savings as independent variables and employed time series secondary data from government and international organization for the period 1970 to 2017 in the investigation of nexus between diaspora remittances and economic growth in Kenya and finding the direction of causality between diaspora remittance and economic growth in Kenya.

1.3 Research Questions

This study was guided by the following research questions;

- i. What is the effect of Diaspora remittances on economic growth in Kenya?
- ii. What is the direction of causality between Diaspora remittance and economic growth in Kenya?

1.4 Objectives of the Study

The main objective of this study was to determine the effect of Diaspora remittances on economic growth in Kenya. The study had the following specific objectives:

- i. To investigate the effect of Diaspora remittances on economic growth in Kenya.
- ii. To determine the direction of causality between Diaspora remittance and economic growth in Kenya.

1.5 Significance of the Study

Contributions of diaspora remittances to domestic economy are important for the sustained economic growth. Results from the study will be applicable to the private sector, public sectors and academicians. Further, the results will be adopted by the policy makers in the future. Therefore, it will enable the government to come up with the model or a framework and an administrative structure which is applicable to the management of the diaspora remittances so as to tap into the same and utilize it in the right way.

The study will also help the members of the Kenyan diaspora get more in touch with the Kenya's investment and business environment hence getting understanding of the local economy.

1.6 Scope of the Study

The study was conducted in Kenya and secondary data from Central Bank of Kenya (CBK), World Bank (WB), Kenya National Bureau of Statistics (KNBS) and the National Treasury and Planning was used to address the study objectives. Time series data from the period 1970 to 2017 for gross domestic product, diaspora remittances, foreign direct investments, domestic Savings, financial deepening, trade openness and inflation was used in the study. To address the first study objective, ordinary least squares estimation was used to determine the short-run and long-run effects of diaspora remittances on economic growth in Kenya. Further,

the study used granger causality test to test the direction of causality between diaspora remittances and economic growth in Kenya.

1.7 Organization of the Study

The study is organized in five chapters. Chapter one provides background of the study, problem statement, research questions, objectives, significance, scope and organization of the study. Chapter two highlights the theoretical, empirical literature and overview of the literature in the study. Chapter three explores the methodology and theoretical framework required to address the study objectives. Data analysis and diagnostic tests is also highlighted in chapter three. Chapter four provides empirical results and interpretation whereas chapter five comprises of summary, conclusion, policy implications and areas of further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter entails a review of appropriate literature on effects of Diaspora remittances on economic growth, theoretical literature relevant in understanding the nexus between the remittances and economic growth of a country, an empirical review and an overview of the literature.

2.2 Theoretical Literature

There are two school of thoughts created in the discussion of nexus between remittances and economic growth; the optimist and pessimist thoughts. The optimists are of the view that remittances have a positive effect on the economic growth. However, according to the pessimists view, remittances negatively affects economic growth of receiving countries (Englama, 2009). The two school of thoughts support the theory of remittances and lead the economic concept of remittance to be linked to the theory of migration (Tolcha & Rao, 2016).

Some of the migration theories related to economic growth that were identified and which influenced the current study includes; neo-Marxist, classical approach and structural and dependency theories. Other economic theories used in the study is multiplier-accelerator model and a neoclassical growth model. This research study has assumed that diaspora remittances is linked to migration hence they are intertwined.

2.2.1. Neo-Marxist Theory

Neo-Marxist theory sees remittance and migration as reinforcement to the capitalist system which aggravates a country's economic growth. According to this theory, migration and remittance is destructive since it exposes the migrants' families to prosperity and this causes high demand of imported products (Docquier & Rapoport, 2005). Migration is a behavior that

shares risk among the household. Individuals and households have the capacity to make diversification of the resources they have including labour which lead to the minimization of risk (Chami, Hakura & Montiel, 2009). The members of the family start engaging in a consensus where the families allow their members to migrate but in return they hold expectations of getting returns from the migrants, perhaps through financial assistance. Therefore, the remittances from the migrant family members become a vital source of investment capital. This is vital especially where the country has lower capital and high-risk markets especially in least developed countries (Ajayi, Giuliano, Faini, & Ruiz-Arranz, 2009). A study by Guilano and Arranz (2014) established that economic growth is enhanced by remittances and improves financial development.

2.2.2 Classical Theory

The classical theory of 1950s and 1960s argues that the growth of inflow of capital and improved industrialization brings about modernization and increased economic growth (Lucas & Stark, 1985). In the developing nations, migrants are viewed as change agents. In most cases the remittances are applied to needs and requirements of the migrants and component of compensation. Developing countries therefore promote migrations with a view of enhancing investments back in their country hence accelerating economic growth. To this theory migration also exposes the migrants to modern technology, better education, new rationale and effective democratic ideologies (Lucas & Stark, 1985).

2.2.3 Structural and Dependency Theories

The structural and dependency theories have the view that migration often leads to reliance on the economic system of global politics which by far are dominated by prominent western countries (Sives & Morgan, 2006). Therefore, these approaches saw migration as ruining the conventional peasant societies through declining their economies and at the same time reducing the less developed countries' population. To these theories, migration is harmful to

the less developed nations' economies. The proponents of these theories see migration as the cause to the underdevelopment in those nations, but also the very cause of the "development of underdevelopment" (Karagoz, 2009).

2.2.4 Multiplier- Accelerator Model

This is a model that builds on the Keynesian multiplier model. The model sought to combine both the multiplier and accelerator hypotheses. It was put forward by Paul Samuelson (1982). Keynesian multiplier model assumes that the intention to consume depends on the activities level in an economy. The accelerate investment theory on the other hand, assumes that intentions to make investments depends on the speed of growth in those economic activities. Multiplier-accelerator model as an integrating model therefore becomes critical since multiplier and accelerator can be combined to generate income. Thus, a country would have enhanced consumption and demands in the investments and this would be reflected in the business cycle dynamics (Balde, 2010). The theory is important in indicating how investments in form of remittance to the country can be an accelerator to economic growth. Stating the model for a closed economy, the level of market clearing in economic activity is defined as the level of production that matches the total government expenditure, household expenditures and firms' intension to invest

$$Y_t = G_t + C_t + I_t \dots\dots\dots 2.1$$

Then an equation that indicates how households' consumptions intentions rely on the measures of economic activities with a lag is indicated as;

$$C_t = \alpha Y_{t-1} \dots\dots\dots 2.2$$

It follows that firms make investment intentions as a reaction to changes in the economic activities;

$$I_t = \beta [C_t - C_{t-1}] \dots\dots\dots 2.3$$

And then the government intentions are not in any way influenced by other variables in the model. For instance, government spending level being used as a unit of account;

$$G_t = 1$$

Where Y_t is the National income, G_t is government spending, I is induced investment by the private sectors and t signifies time. The second-order equation is:

$$Y_t = 1 + \alpha(1 + \beta)Y_{t-1} - \alpha\beta Y_{t-2} \dots\dots\dots 2.4$$

The theory indicates that there are various kinds of national income solution paths derived from the second order linear difference equation.

2.2.5 Neoclassical Model of Growth

Solow and Swan developed the neoclassical model of growth and they proposed a long term economic growth model in response to the unsatisfactory results derived from the model of the Harrod-Domar (Solow, 1956). The model emphasized on capital accumulation and savings as important determinants of growth. The neoclassical model applied the aggregate production function approach and considered two inputs, that is, capital and labour as determinants of output. In addition, it considers technology exogenously as an input. The model postulates that in the long run growth in per capita GDP is driven by change in technology. Further, capital accumulation affects economic growth in proportion to capital's share of national output and that growth of output is achieved in the short run through increased rates of capital formation and savings.

The role of capital stock through investment in a neoclassical growth model is given by the following equations:

Equation 2.5 show the association between total production function (Y), total capital stock (K), labour (L) and technological improvement in the economy (A):

$$Y = A * f(K, L) \dots\dots\dots 2.5$$

Equation 2.2 show how capital within an economy changes over time and can be represented by:

$$\Delta K_t = I_t - \alpha K_{t-1} \dots \dots \dots 2.6$$

Where, ΔK represents a discrete change in capital stock, α represents depreciation amount, and I_t is the gross investment at time t .

The gross investment term is given endogenously by profit maximizing firms or assumed to be a given proportion of output, that is, sY_t (Solow, 1956). This model assumes competitive factor markets and constant returns to scale where all inputs are paid their marginal products.

When production function is made linear it yields the following equation

$$\ln Y = \beta \Delta \ln K + \beta \Delta \ln L + \Delta \ln A \dots \dots \dots 2.7$$

In the model, A , is assumed to be exogenous and changes according to equation 2.8

$$A = A_0 e^{g t} \dots \dots \dots 2.8$$

Where g grows exponentially and A is the technical efficiency in the economy.

Equation 2.5 and 2.7 show the direct connection between economic growth and investment in tangible assets in the economy.

2.3 Empirical Literature

Researchers around the world have carried out empirical studies on the phenomena affecting remittances and economic growth. Appleton, Sives and Morgan (2006) investigated the association or how the diaspora remittances influenced per capita growth. A total of 83 countries were considered and a period of 28 years that is ranging from 1970-1998. The researcher estimated a regression model by use of different variables which includes; ration of net capital flows to GDP, Inflation rate, regional dummy, investment to GDP, income Per capita, remittance to GDP and real GDP per capita on workers. In order to incorporate dynamic nature of transfer payments a change in the ration of repressors was effected lately

and so as to substitute the remittances to GDP of workers with a change in the ratio as a regressor. It was established that the workers remittances was neither negatively related to growth nor was it significant.

Ziesemer (2006) considered a sample of 68 countries to investigate the cross-sectional growth regressions. In the list of regressors the researcher did not include investments, the aggregate measure of remittances acquired data from the World Bank in 2006. It was established that there was a correlation between remittances on growth and investments. The same was left out of the regression as a measure of controlling for spurious results and regulating severe multicollinearity yet the variable investments still captures the effects. Along with remittances to GDP ratio, the control variables used were initial per capita GDP, secondary school enrolment as a measure of human capital, the number of telephone lines per 1000 inhabitants as an indicator of physical capital and the International Country Risk Guide index as an indicator of institutional quality. The estimated coefficient on the remittances to GDP ratio was found to be positive and significant in the OLS regressions of the study. Further, foreign aid to GDP ratio was included as additional control variable in the study and remittance was still found to be positively affecting growth. In order to encounter the endogeneity problem, the study also used an instrumental variable estimation procedure. Remittances to GDP ratio were instrumented by distance from the home country to the main destination country. The result was still in support of a positive impact of remittances on per capita GDP growth but the estimated coefficient in remittances to GDP became insignificant. In order to see how the impact of remittances interacts in differential policy environment, the study added two additional regressors of black market exchange premium and inflation. These variables measured the overall stability of the macroeconomic system. Higher values of these variables implied weak macro policy environment. To test this hypothesis, the study included two interacting terms as regressors. Remittances to GDP interacted with black

market exchange premium and with inflation rate. The estimated coefficient on the interacting terms was found to be negative and significant meaning that the positive impact of remittances on growth gets diluted when the macroeconomic policy environment was unstable and unsound.

A study undertaken by Pradhan, Upadhyay and Upadhyaya (2008) established that economic growth of the Economic Community of West African States (ECOWAS) was not affected by remittances. The study considered the ECOWAS states and also found that there was a negative effects brought about by remittances on the output of labour in Benin.

Ajayi, Giuliano and Ruiz-Arranz (2009) investigated association between growth and remittances in Philippine for a period of 16 years that is from 1988-2004. In their study the researcher adopted the ordinary least square regression model. Karagoz (2009) on a study on how remittances influences the motivation of workers based on moral hazard found that the economic growth was negatively affected by incidence of remittances by the citizens of the domestic country living abroad.

Balde (2010) analyzed how output, imports, investments and consumption are influenced or affected by remittances. The short run and short run multipliers of remittances were considered by researcher where a sample of five countries was considered. It was found that remittances are flexible and the impact of increasing remittances would not affect the economy significantly as opposed to the effect of reducing them which would lead to more significant effects. In another study, Siddique and Selvanathan (2010) three countries were considered that is Sri Lanka, Bangladesh and India and how the growth in the economy and incidences of remittances affect the economic growth of these states. Vector Auto Regression framework was used to check for Granger Causality test. Remittances in Bangladesh was found to have no effect on growth in the economy, there was no presence of causal association in India between growth in the economy and remittances. Brown (2014) made a

proposition of how one can be able to relate economic growth with remittances by use of a savings channel. In the low income countries with an income per capita of USD 1200, researcher established that in case there is an increase in the savings culture and savings rate the economic growth was positively influenced by the remittances.

Fayissa and Nsiah (2010) considered four African Countries that is Cape Verde, Senegal, Nigeria and Cameroon and how their economic growth is affected by remittances. The linear regression model addressed time series for the period 2000-2010. Among these four countries some were affected positively by remittances like Nigeria and Senegal. On the other hand, the effect on Cameroon and Cape Verde economies (GDP) was not positive but negative. However, among in this group of countries the study found that the only country that acquired the most benefits for the period was Nigeria while the country that accrued the least benefit was Cameroon.

Das and Serieux (2010) explored the association that existed between growth of the economy and remittances for 29 years from 1980-2009 for Asian and Pacific states. The economic growth was found to be negatively affected but volatility of workers remittances, while the economic growth was also found to have had a positive relationship with the workers remittances. Poverty was found to have a negative association with the remittances by workers such that poverty was reduced with an increase remittances.

Fayissa and Nsiah (2010) investigated remittances by workers and growth of the economy for African countries that are located in Africa's Sub-Saharan region. Mainly the target was South Africa, Ghana and Nigeria. To explore effects of remittances by the workers on growth of the economy the study adopted thirty years data covering the period 1980-2010. Granger causality was used to check for the causality direction in the series adopted by the researcher. It was established that the three countries that is Ghana, Nigeria and South Africa

experienced a positive economic growth due to increase in remittances by the workers. Remittances by workers was found to be granger caused by economic growth in Nigeria.

Aji and Min (2012) took a sample of more than eight countries from the MENA region that is Djibouti, Egypt, Algeria, Iran, Jordan, West Bank, Gaza and Yemen and how remittances there in affect the growth of those countries. It was found that in the MENA countries remittances significantly influenced the economic growth which means that they had a positive coefficient. The researcher adopted the GMM method by adoption of the panel data for a specific period of twenty nine years covering the period 1980-2009.

Koyame-Marsh (2012) investigated the impact of workers' remittances on economic growth for ECOWAS countries and found out that growth, export and remittances had positive relationship with each other. The Johansen Co-Integration was adopted by the researcher who explored connection between the remittances, export, aid and growth.

There are limited or scanty studies that have been done on correlation between the two variables of growth in the economy and remittances in Kenya. An investigation was done on determinants of remittances and the effects of the same on remittances by Kiiru in 2010. The investigation of how the economic growth is affected by the workers remittances has been inadequately addressed in Kenya. A study by Kiiru (2010) investigated the determinants of remittances at the household level and how poverty is affected by remittances. Kiiru found that the consumption of the household is affected positively by the remittances by one of the members. The researcher adopted by the data for the period 2005/2006 for household budget. The researcher also established that a significant migration of professionals from Kenya to work in other countries have also reduced the national income.

Aboulez (2015) investigated how the economic growth is affected by the international remittances. A time series data was adopted for twenty one years that is 1993-2014, Granger

causality was adopted to test time series. The findings from the study indicated that growth in the economy in Kenya is significantly influenced by the international remittances indicators. Ojiambo and Ocharo (2016) explored the nexus between capital inflow in Kenya and the growth in the economy by use of granger causality and ARDL procedures. Their study revealed presence of direct interconnection that existed within FDI and growth in the economy, public policy, labour and foreign aid. It was also established that growth in the economy was negatively affected by remittances in the short-run, however they had a positive effect after a year. Further, due to low levels of inflows and volatility of the foreign direct investments the relationship between the two was found to have been inversely related.

2.4 Overview of Literature

Previous studies have not adequately addressed the association existing within growth in the economy and diaspora remittances (Mim & AJi, 2012). Most researchers investigated the association between economic growth and diaspora remittances and growth with consideration of consumption, investments and imports (Zieseemer, 2006; Fayissa & Nsiah, 2010). There are studies that have focused on the remittance on financial development whereas others focused on output of labour. Previous cross-countries studies from Sub-Saharan Africa countries only focused on the more enhanced or improved economies which includes; South Africa, Ghana and Nigeria. The current study focused on Kenya and the period under consideration will be forty seven years covering the period 1970-2017.

There are only few studies such as Kiiru (2010) and Ocharo (2015) that have looked at how growth in the economy have been affected by the remittances in this country. Those that are available have not incorporated the domestic savings component and financial deepening. Similarly, like studies carried out globally have mostly addressed consumption capital and trade openness. A few others such as Kiiru (2010) have focused on how poverty is reduced or

eradicated by use of remittances from locals living abroad. The researcher focused on aspects such as investment on health, education and housing.

Kenya is one of the leading countries in Africa receiving significant portion of remittances from Diaspora and this study acknowledges this phenomena. In exploring the effects that Diaspora remittance had on economic growth, this study focused on the effects the remittance had through analyzing the capital inflow through remittances, domestic savings and the financial deepening to find out whether the two components increased economic growth as a result of increased Diaspora remittances. It is clear that remittances increase the flow of money in a country and this could have effects on a country's production. At the end, the study evaluated the Diaspora remittances and its effects on the economic growth both on the short and long-run in Kenya and the direction of causality between the Diaspora remittances and economic growth.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter outlines research methodology that was used in the study. The chapter includes theoretical framework, model specifications, estimation techniques, definition and measurement of variables, data types and sources, data analysis and diagnostic tests.

3.2 Theoretical Framework

Accelerator-multiplier model and the accelerator model were used to execute the current study. Roy Harrod an English economist proposed and formulated this model in the years 1939. This model is based on the capital factor as the key factor of economic growth. It dwells on the likelihood of steady growth through adjustment of supply of demand for capital. The Harrod-Domar models has general assumptions as follows: full-employment level of income already exists; there is no government interference in the functioning of the economy; the model is based on the assumption of “closed economy; there are no lags in adjustment of variables; the average propensity to save (APS) and marginal propensity to save (MPS) are equal to each other. $APS = MPS$; both propensity to save and “capital coefficient” (i.e., capital-output ratio) are given constant; Income, investment, savings are considered over and above the depreciation and; saving and investment are equal in ex-ante as well as in ex-post, that is, there is accounting as well as functional equality between saving and investment. The Harrod-Domar model is a linear production function with output given by a capital stock times a constant k . From the model, it is assumed that for a country to realize economic growth addition to the capital stock or new investments are necessary.

The model is presented as;

$$K = kY, k > 1 \dots\dots\dots 3.1$$

This study assumed that diaspora remittances is a source of capital. Accelerator-multiplier model is linked to equation 2.1 and it suggests that in order to support a specific level of economic output (Y) then there must be presence of capital (K) while capital stock changes is captured by (k);

$$I = k\Delta Y \dots\dots\dots 3.2$$

Where;

I = investment

$\Delta Y = \text{GDP}$

The determinants of income help explain the effects of remittances based of income variables as shown in the equation;

$$Y = I + C + G + NX \dots\dots\dots 3.3$$

Where;

NX, G, I, C; represents different items such as net exports, government expenditure, private investments and consumption respectively.

This study incorporates the Diaspora remittances (DR) in the autonomous expenditure such that;

$$A^* = G + NX + DR \dots\dots\dots 3.4$$

This leads to

$$Y = (A^* - kY) / (1 - (I - t) - k) \dots\dots\dots 3.5$$

$$Y = a (A^* - kY_t) \dots\dots\dots 3.6$$

Where 'a' is the multiplier shows how the equilibrium income is affected by the autonomous expenditure.

Equation 3.6 shows how an autonomous shock increases the national income. National income is affected positively by the Diaspora remittances. Growth in the economy is influenced by the diaspora remittances due to a change in “a” which influences A*. The current study borrows significantly from this model.

3.2.1 Model Specification

The specific objective of the current study is to find out how remittances submitted by domestic citizens working in foreign nations influences the Kenya economy in terms of growth. To execute or implement the same Autoregressive Distributed Lag (ARDL) testing methodology was used. Different variables were selected based on the information gathered on economic growth determinants from the literature. The variables include real GDP, ratio of Diaspora remittances to GDP, domestic savings level, ratio of gross domestic investments to GDP, ratio of financial deepening to GDP, ratio of foreign direct investment inflow to GDP, ratio of trade openness to GDP and inflation.

The study adopted a modified version of the model that was used by Karagöz (2009) while investigating how worker’s remittances affect economic growth. By the adoption of different variables and panel data, worker’s remittances, per capita GDP, exports, gross domestic investments and foreign direct investment Karagoz (2009) estimated the model below,

$$GDPPC_t = \beta_0 + \beta_1 GDPPC_{t-1} + \beta_2 RREM_t + \beta_3 REXPO_t + \beta_4 RINV_t + \beta_5 RFDI_t + \varepsilon_t \dots\dots\dots 3.7$$

where GDPPC_t is per capita GDP, GDPPC_{t-1} is one period lagged per capita GDP, RREM_t is ratio of workers’ remittances to GDP, REXPO_t is ratio of exports to GDP, RINV_t is ratio of gross domestic investments (include both private and public sectors fixed capital investments) to GDP, and RFDI_t is ratio of foreign direct investment inflow to GDP. ε_t is usual white noise/error term which includes the effects of omitted factors.

In the equation some variables like financial deepening, domestic savings and trade openness were added. Estimation of direction of causality was the first objective of the study, the

direction of causality assessed was between growth in the economy and the diaspora remittances. In order to establish if a specific time series was relevant and usable to predetermine another Granger Causality was adopted to conduct the said test (Granger, 1969). In the event that the different values of X are able to give some valuable information about the expected values of Y then it is prudent to conclude that the X granger causes Y. The level values of two or more variables is used if to conduct the test if time series is stationary. If a time series is stationary, then the test is performed using the level values of two (or more) variables. The log of the series is expected to be I (0), the equations adopted from the study done by Mwangi and Mwenda (2015) on the effect of international remittances on economic growth in Kenya will be estimated:

$$\mathbf{LnGDP}_t = \alpha_0 + \sum_1^n \alpha_i \mathbf{LnGDP}_{t-1} + \sum_1^n \beta_j \mathbf{LnDR}_{t-j} + e_t \dots\dots\dots 3.8$$

$$\mathbf{LnDR}_t = \lambda_0 + \sum_1^n \lambda_i \mathbf{LnDR}_{t-i} + \sum_1^n \delta_j \mathbf{LnGDP}_{t-j} + e_t \dots\dots\dots 3.9$$

Where n is the maximum number of lagged observations included in the model, α 's, β 's, λ 's and δ 's are parameters, and lnGDP is the log of economic growth, lnDR is the log of diaspora remittances as a ratio of GDP. Equation 3.8 forecasts that a current growth in the economy is associated to the previous values of itself and the values of diaspora remittances. It is also suggested by equation 3.9 remittances by Diaspora is closely associated with the values of growth in the economy and the remittances past values.

Given the OLS coefficients for the equations 3.8 and 3.9 four different hypotheses about the relationship between GDP and DR were formulated:

1. Unidirectional Granger-causality from DR to GDP. In this case Diaspora remittances increase the prediction of the economy but not vice versa. Thus

$$\sum_{j=1}^n \beta_j \neq 0 \text{ and } \sum_{j=1}^n \delta_j = 0.$$

2. Unidirectional Granger-causality from GDP to DR. In this case the growth rate of the economy increases the prediction of the Diaspora remittances but not vice versa. Thus

$$\sum_{j=1}^n \beta_j = 0 \text{ and } \sum_{j=1}^n \delta_j \neq 0.$$

3. Bidirectional (or feedback) causality. In this case $\sum_{j=1}^n \beta_j \neq 0$ and $\sum_{j=1}^n \delta_j \neq 0$, so in this case the growth rate of the economy increases the prediction of the Diaspora remittances and vice versa.

4. Independence between GDP and DR. In this case there is no Granger causality in any direction, thus $\sum_{j=1}^n \beta_j = 0$ and $\sum_{j=1}^n \delta_j = 0$.

Hence by obtaining one of these results it was possible to detect the causality relationship between Diaspora remittances and the economic growth of Kenya.

The second study objective was to explore effect of Diaspora remittances on economic growth in Kenyan, in order to achieve the objective OLS estimation was adopted. There are other variables that were included in the estimation from the information gathered in the available literature on the determinants of economic growth.

$$\text{GDP} = F(\text{DR}, \text{DS}, \text{FDI}, \text{FD}, \text{NX}, \text{INF}) \dots \dots \dots 3.10$$

Assuming that there were variables which were stationary and non-stationary, the following equation was estimated;

$$\begin{aligned} \text{LnGDP} = & \beta_0 + \beta_1 \text{LnDR}_t + \beta_2 \text{LnDS}_t + \beta_3 \text{LnFDI}_t + \beta_4 \text{LnFD} + \beta_5 \text{LnNX}_t + \beta_6 \text{LnINF} + \\ & \varepsilon_t \dots \dots \dots 3.11 \end{aligned}$$

Where, lnGDP is the log of real economic growth and is the dependent variable. β_0 is the constant, $\beta_1, \beta_2, \beta_3, \beta_4$ and β_5 are regression coefficients which determines the contribution of the independent variables. lnDR is the log of Diaspora remittances (used as a proxy of personal transfers and compensation of employees) as a ratio of GDP, lnDS is the log of

domestic savings as a ratio of GDP, $\ln FDI$ is the log of foreign direct investment inflow as a ratio GDP, $\ln FD$ is the log of financial deepening as a ratio of GDP, $\ln NX$ is the log of trade openness as a ratio of GDP and $\ln INF$ is the log of inflation. ϵ_t is error term (white noise) which includes the effects of omitted factors.

3.3 Definition and Measurement of Variables

Table 3.1: Definition of Variables and Measurement

Variables	Definition	Measurement
GDP Growth	This is a measure of value of the outputs of the economy over a specific period of time which have been adjusted for inflation.	It is measured in percentage
Diaspora Remittances	This is money value/amount remitted to the country from country's citizens working abroad as transfer payments.	It measured as a ratio of GDP.
Domestic Saving	Excess of a nation's current GDP over current consumption expenditure	It is measured as a percentage of gross domestic product
Foreign Direct Investment	An initiative by a foreign investor to have an equity in a local organization or company in Kenya.	It is measured as a percentage of GDP
Financial Deepening	This refer to a rise in financial services penetration in an economy	It is a ratio of money supply to GDP
Trade Openness	It is the trade volume allowed by the government of Kenya to take place between Kenya and the world	The percentage of gross domestic products in relation to the sum of exports and imports that took place at a specific period
Inflation	This is the general price increase in goods and services in Kenya.	The incidence of inflation is measured by use of consumer price index.

3.4 Data Analysis and Diagnostic Tests

3.4.1 Data Analysis

Descriptive statistic was meant to get the features and characteristics of the different variables that were used in the study, the secondary time series data that was used was for a period of 47 years for the period ranging from 1970 to 2017 gathered from the International Monetary Fund, World Bank, KNBS and Central Bank of Kenya. Data on real GDP, Diaspora remittances to GDP, ratio of trade openness to GDP, ratio of gross domestic savings to GDP, ratio of financial deepening to GDP, inflation and ratio of FDI inflow to GDP were obtained from the KNBS, CBK and the National Treasury of Kenya.

Data was captured and cleaned by use of Excel computer software. Then data was transferred or imported on STATA data analysis software in which empirical analysis was carried out.

3.4.2 Diagnostic Tests

3.4.2.1 Unit Root Testing

Granger and Newbold (1974) argued that non-stationary data cannot be modelled and generates spurious outcomes that are unreliable in drawing inferences in research. Non-stationary data is that set of data for which key statistical properties that is variance and mean change over time which means that they are not predictable. It is important for stationarity tests on time series data to determine the stationarity of variables. Stationarity tests also enables the researcher to identify model best suited estimation of variables of interest.

This unit root testing was achieved by use of two tests that is Phillip-Perron (PP) and the ADF test.

3.4.2.2 Augmented Dickey Fuller (ADF) Test

ADF is based on three different equations. For instance, taking this study's GDP variable to illustrate the underlying equations of the ADF and building on from equation 3.11:

$$GDP_t = \tau GDP_{t-1} + \sum_i^n \beta_i \Delta GDP_{t-i} + \varepsilon_t \dots \dots \dots 3.12$$

$$GDP_t = \alpha_0 + \tau GDP_{t-1} + \sum_{i=1}^n \beta_i \Delta GDP_{t-i} + \varepsilon_t \dots \dots \dots 3.13$$

$$GDP_t = \alpha_0 + \alpha_2 t + \tau GDP_{t-1} + \sum_{i=1}^n \beta_i \Delta GDP_{t-i} + \varepsilon_t \dots \dots \dots 3.14$$

Where equation 3.12 has no intercept and no trend. Equation 3.13 has an intercept but no trend, lastly, equation 3.14 has both intercept and trend. τ Represents the coefficient of lagged dependent variable. GDP_{t-1} and n lags of ΔGDP_{t-i} with a coefficient β_i are added to account for serial correlation in the residuals. α_0 represents the intercept in equation 3.13. $\alpha_2 t$ represents linear time trend in equation 3.14. Similarly, this study did the same for the rest of the variables (Diaspora remittances, domestic savings, foreign direct investment, financial deepening, trade openness, inflation).

The null hypothesis of a series based on the above equations is tested against the alternative hypothesis as follows:

$H_0 : \tau = 0$ which implies the series has a unit root, and

$H_1 : \tau < 0$ which implies the series is stationary (has no unit root).

Each ADF equations can be estimated using OLS and its t-statistic given by;

$$ADF_t = t_{\delta=1} = \frac{\hat{\tau}}{SE(\hat{\tau})}$$

$SE(\tau)$ represents the standard error for (τ) and denotes estimate. The null hypothesis of unit root is accepted if the t-statistics is greater than the critical values.

3.4.2.3 Philip-Perron (PP) test

It is prudent to note that the Phillips and Perron's test is an improvement of the ADF and the same is more robust to serial correlation due to the adoption of the Newey-West (1987) heteroscedasticity and autocorrelation-consistent covariance matrix estimator. Under the null hypothesis that $\rho = 0$, the PP Z_t and Z_π statistics have the same asymptotic distributions as the ADF t-statistic and normalized bias statistics.

3.4.2.4 Testing for Cointegration

Unit root tests were followed by the cointegration an analysis. Non-stationary time series variables exhibit cointegration if they are integrated of order one, that is I (1), and linear combination of the series is stationary, that is integrated of order zero, I (0).

Vector Error Correction Model (VECM) model can be estimated through the maximum likelihood estimation which calls for Johansen approach. The Johansen tests are undergirded by two tests statistics which are the trace statistic and the maximum eigenvalue statistic. These two tests are deployed for establishing the number of cointegrating vectors within the model.

Further, diagnostic tests for the common econometric problems of heteroscedasticity, serial correlation, multicollinearity and omitted variables were carried out to ascertain the validity of the results generated from OLS model. The summary statistics for GDP, Diaspora remittances to GDP, ratio of trade openness to GDP, ratio of financial deepening to GDP, ratio of gross domestic savings to GDP, inflation and ratio of FDI inflow to GDP were presented.

CHAPTER FOUR

EMPIRICAL FINDINGS

4.1 Introduction

The chapter presents the descriptive statistics, time series properties and post estimation diagnostic tests. It further provide the results of the study and discussion of the findings. The results of the study are analyzed by using OLS regression analysis and Granger causality test.

4.2 Descriptive Statistics

Descriptive statistics describes properties of variables used in this study. The results on table 4.1 shows summary statistics for different variables that is measures of dispersions and measures of central tendency.

Table 4.1: Descriptive Statistics

Variable	Mean	Std. Dev	Min	Max	Kurtosis	Skewness
FDI	0.7	0.746053	0.0	3.5	6.3	1.9
Diaspora Remittances	377	513	7.26	1,960	4.66	1.61
Domestic Savings	13.9	6.92218	4.3	27.1	1.5	0.1
GDP	18,500	2,020	1,600	79,300	4.37	1.58
Inflation	11.9	8.091824	1.6	46.0	8.1	1.9
Trade openness	10.8	7.192519	2.2	22.9	1.4	0.1
Financial Deepening	34.2	4.895172	25.7	43.2	1.8	0.05

Source: Author's Computation

Means measures the concentration of the observation in the study. The minimum and maximum of a variable help in calculation of the range and helps in detection of outliers. The descriptive statistics indicate that the average GDP for Kenya was USD 18,500 million for the period between 1970 and 2017 with maximum (highest GDP recorded) of USD 79,300 million in 2017 and a minimum (lowest GDP recorded) of USD 1,600 million in 1970. Oil price shocks in 1970s affected economic performance negatively and in the years between 2002 and 2017, economic performance improved significantly because Kenya implemented economic reforms for economic recovery and government invested heavily in productive

sector (agriculture and fishing, tourism, trade and industry, forestry and mining), infrastructure, and governance and security sectors. Within the same period, personal remittances were on average USD 377 million Kenya shillings with maximum (Highest DR recorded) of USD 1,960 million in 2017 and a minimum (lowest DR recorded) of USD 7.26 million in 1970. Improved performance in Diaspora remittances over the year's shows the rate at which the partnerships between the different financial institutions and the international money remittance provides have continued to corroborate (CBK, 2018). Inflation averaged approximately 12% with maximum (highest inflation recorded) of 46% in 1993 and a minimum (lowest Inflation recorded) of 1.6% in 2002. High inflation in 1993 is attributed to devaluation of Kenya Shilling and excessive money supply caused by inflationary pressures.

4.3 Time Series Properties

4.3.1 Unit Roots Test

ADF test was adopted for assessing stationarity in the series that is different variables. Stationarity test was conducted for all the variables to check for unit root of the same. The unit root tests results of the series at level are presented in Table 4.2. The result indicated that some variables such as GDP, domestic savings, Diaspora remittances, trade openness and financial deepening were not stationary at level as indicated in Table 4.2.

Table 4.2: Augmented Dickey Fuller Test Results

	t statistics	Critical values at 5%	Unit roots
Diaspora Remittances	-0.256	-3.516	Presence of unit root
Domestic Savings	-3.423	-3.516	Presence of unit root
FDI	-4.140	-3.516	No unit roots
GDP	2.208	-3.516	Presence of unit root
Inflation	-3.970	-3.516	No unit roots
Trade Openness	-2.347	-3.516	Presence of unit root
Financial Deepening	-2.884	-3.516	Presence of unit root

Source: Author's computation

From Table 4.2, FDI and inflation data were stationary. It was necessary to carry the stationarity test for the first difference of the variables that had unit roots. The unit root tests results of the series at first differences are presented in Table 4.3. The results on table 4.3 shows that there was statistical significance at 0.05 critical value which means that the different variables had a unit root. The ADF results suggested that all the variables in the study are integrated of order one, I (1).

Table 4.3: Stationarity Test at First Difference

Variable	t statistics	P value at 5%	Unit roots
GDP	-3.783	-3.516	No unit roots
Diaspora Remittances	-4.165	-3.516	No unit roots
Domestic savings	-7.510	-3.516	No unit roots
Trade Openness	-5.094	-3.516	No unit roots
Financial Deepening	-4.205	-3.520	No unit roots

Source: Author's computation

The investigation of the relationship between the variables was warranted by the fact that the variables were found to be stationary and integrated of order one.

4.3.2 Cointegration

After testing for stationarity, Johansen cointegration test VECM was adopted to check for long-run relationship between the variables and the availability of short-run relationship between the variables as shown Table 4.4 below. Rejection criteria is at 5% level of significance

Table 4.4: Cointegration Results

Maximum Rank	Trace Statistics	5% critical Value
0	22.8872	15.41
1	1.0611*	3.76

Note. The asterisk * indicates rejection of the null hypothesis.

Source: Author's computation

The independent variables and the dependent variable did not have a long-run relationship in the estimated equation. The GDP and the diaspora remittances were found to have cointegration in the estimated equation.

On maximum rank one, the hypothesis is as follows:

H0: there exist cointegration between GDP and Diaspora remittances

H1: there is no cointegration between GDP and Diaspora remittances

Decision rule in this case is that when the trace statistic is greater than the 5 percent critical value we reject the null hypothesis and accept the alternative hypothesis that there is cointegration; where rank 0 and 1 represent the null hypothesis in the model. At maximum rank one, the values for trace statistics (1.0611) is not greater than the critical values (3.76) thus, we do not reject the null hypothesis. Therefore, based on the maximum rank two, GDP and Diaspora Remittances are cointegrated of one equation.

4.4 Optimal Lag Length Selection

It was important to ensure that there was lag selection to guide the analysis as indicated in table 4.5.

Table 4.5: Optimal Lag Length Selection

Lag	LL	LR	df	P	FPE	AIC	HQIC	SBIC
0	-2545.04				5.6e+41	116.002	116.107	116.286
1	-2316.29	457.49	49	0.000	1.6e+38	107.832	108.674	110.102*
2	-2265.89	100.81	49	0.000	1.8e+38	107.768	109.347	112.025
3	-2207.26	117.26	49	0.000	1.9e+38	107.33	109.646	113.575
4	-2119.67	175.18*	49	0.000	1.1e+38*	105.576*	108.629*	113.807

Source: Author's Computation

Four main parameters were identified to select the lags and the optimal lag lengths, these parameters include: Akaike Information Criterion (AIC), Final Predictor Error (FPE), Schwartz Bayesian Information Criterion (SBIC) and Hannan Quinn Information Criterion (HQIC) were adopted. Three parameters which are FPE, AIC, and HQIC gave 4 lags. SBIC gave 2 lags. The order that represented the optimal lag selected by the criterion and an '*' indicates the optimal lag. The number of observation were 44. An appropriate lag

specification is one that minimizes the AIC value. From table 4.5 the lag length that minimizes the AIC value is 4 and so an optimal lag length of 4 was selected.

4.5 Granger Causality Test

The second objective of the study was to determine the direction of causality between the diaspora remittances and economic growth. To achieve this objective, a Granger causality test was carried out as indicated in Table 4.6. Results in Table 4.6 shows that there is a unidirectional causality running from diaspora remittances to economic growth.

Equation; Lagged Values of Domestic savings, foreign direct investment, inflation, trade openness, and financial deepening do not granger cause GDP.

Table 4.6: Granger Causality Test

Equation	Excluded	Chi2	Prob>chi2
GDP	Diaspora remittances	5.0313	0.081
GDP	Domestic savings	2.5577	0.278
GDP	Trade openness	23.831	0.000
GDP	Foreign direct investment	27.986	0.000
GDP	Inflation	8.0922	0.017
GDP	Financial deepening	5.2019	0.074
GDP	All	77.686	0.000
Diaspora remittances	GDP	0.59821	0.741
Diaspora remittances	Domestic savings	0.045204	0.798
Diaspora remittances	Trade openness	0.28581	0.867
Diaspora remittances	Foreign direct investment	1.607	0.448
Diaspora remittances	Inflation	0.79545	0.672
Diaspora remittances	Financial deepening	2.8661	0.239
Diaspora remittances	All	17.56	0.130

Source: Author's computation

First row: it shows that the lagged values of the variables; FDI, Inflation and trade openness causes GDP at 1% significant level with p-values of 0.000, and 0.000 respectively. Inflation causes GDP at 5% significant level with p-values of 0.017. On the other hand, Diaspora remittances and financial deepening causes GDP at 10% significant with p-values of 0.081, and 0.074 respectively. Lagged values of domestic savings do not granger cause GDP. Therefore, the null hypothesis that diaspora remittances does not granger cause GDP cannot be accepted at 10% significance level; the corresponding p-value (0.08) is less than 0.10.

Nevertheless, domestic savings does not granger cause GDP. This implies that the direction of causality is from diaspora remittances to GDP. The Granger causality test shows that there is unidirectional causality between Diaspora remittances and economic growth in Kenya for the period under study (1970-2017). This means that Diaspora remittances accelerates economic growth in Kenya and economic growth does not lead to increase in Diaspora remittances.

Second row: it indicates that the lagged values of GDP, domestic savings, trade openness, foreign direct investments, inflation and financial deepening do not granger cause diaspora remittances.

Therefore, since diaspora remittances are often invested in the Kenyan economy, the results are in line with the theory that diaspora remittances lead to the growth of GDP.

4.6 Regression Results for GDP on Diaspora remittances

The OLS regression results give the model showing long run relationship between the independent variables and dependent variable. Table 4.7 shows summary of OLS regression results.

Table 4.7: Regression Results for GDP on Diaspora remittances

Equation	Coefficients	P>chi2
Diaspora Remittances	0.4881	0.000
Domestic Savings	-0.0158	0.208
FDI	0.1070	0.060
Financial Deepening	0.6670	0.197
Inflation	-0.0082	0.216
GDP is the dependent variable Prob > F =0.0000 R-squared = 0.9143 Adj R-squared = 0.9036 Constant = 12.0377 Trade openness omitted (perfectly correlated with financial deepening)		

Source: Author's Computation

The coefficient of the R-squared of the OLS model was 0.9143 units. It shows that the independent variables in the model explained 91 percent changes in the economic growth in

Kenya and the long run equilibrium. The p- value of the F statistic is 0.0000 which means the model is statistically significant at 5 percent level of significance. Only two variables were statistically significant; Diaspora remittances and foreign direct investment.

Diaspora remittances, FDI, FD and GDP were found to have a significant association in this study and had positive coefficients, suggesting that diaspora remittances, FDI and FD positively impact economic growth in Kenya. The adjusted R-squared is 0.9036, meaning that the explanatory variables chosen in the model explained 90.36 percent changes in the dependent variable-GDP, leaving about 9.64 percent of the changes to be explained by other factors not included in the model. The results in Table 4.7 indicate that the constant value is 12.0377, meaning that without any change in the variables, GDP should grow by 12.0377 or when all the variables of the study are held constant, GDP growth would be at 12.0377.

$$\text{LnGDP} = 12.0377 + 0.4881\text{LnDR}_t - 0.0158\text{DS} + 0.1070\text{LnFDI}_t + 0.6670\text{LnFD}_t - 0.0082\text{INF} \dots\dots\dots 4.1$$

The results indicates that one percentage change in Diaspora remittances will lead to 0.4881 percentage change in GDP growth. A one percentage change in FDI leads to 0.1070 percentage change in GDP growth. This implies that FDI is one of the variables which affects economic growth in a country. Nevertheless, a one percentage increase in domestic saving will cause 0.0158 percentage reduction in GDP growth. This contradicts the economic logic of the Harod-Domar theory of economic growth which states that in order for countries to grow, they must save and invest a certain proportion of the Gross National Product (GNP). There is a positive association between GDP growth and FD. An increase in financial deepening in the economy will increase GDP growth by 0.6670 percentage holding all other factors constant. Development of the financial sector, increased money supply and reduced

cost of credit facilities in the economy attracts investments and improves production activities in an economy of a country. This explains the positive relationship between financial deepening and GDP growth.

The p-value for diaspora remittances is 0.0000 which is less than 0.05, implying that diaspora remittances variable is significant indicator of economic growth. This indicates that Diaspora remittances have both short run and long run effect on the growth of the country.

In relation to other studies reviewed there is general concurrence on the direct contribution of diaspora remittances to economic growth in the recipient countries. Cheronno (2013) argued that workers' remittances may help ease credit constraints, thus allowing individuals not only to increase their consumption but also to augment investments in physical capital, education, health care, and the creation or expansion of micro-enterprises all of which could eventually be reflected in higher economic growth.

The results from the study contradicts findings by Acosta et al. (2008), Appleton, Sives and Morgan (2006), Karagoz (2009) Pradhan, Upadhyay and Upadhyaya (2008) and Siddique et al. (2010) in the case of India and Bangladesh. However, the result supports the findings of Aboulezz (2015), Ajayi et al. (2009), Brown (2014), Fayissa and Nsiah (2010) for Latin America, Das and Serieux (2010), Min and Aji (2012), Ocharo (2015), Ojiambo and Ocharo (2016), and Siddique et al. (2010) for Sri Lanka and Zieseemer (2006).

4.7 Pre and Post Estimation Diagnostic Tests

4.7.1 Multicollinearity Test

After the regression result, the study conducted multicollinearity test to check for severe correlation among variables using Variance Inflation Factors (VIF) as shown on Table 4.8.

Table 4.8: Multicollinearity Test

Variable	VIF	1/VIF
nx	5.77	0.17327
gdp	5.01	0.19948
ds	3.54	0.28230
dr	2.21	0.45195
inf	1.57	0.63699
fdi	1.26	0.79125
Mean VIF	3.23	

Source: Author's Computation

The mean VIF was 3.23. Usually, if the value of VIF is less than 10 and value of Tolerance is greater than 0.1, then there is absence of multicollinearity. Tolerance (1/VIF) shows the extent of collinearity. From Table 4.8, Tolerance values ranged between 0.17327 and 0.79125 while VIF values ranged between 1.26 and 5.77. VIF maximum acceptance level is 10. From the results, there is no spurious results due to severe correlation or multicollinearity. This was informed by the coefficient for the greatest VIF that is 5.77 units which is less than 10.

4.7.2 Normality Test

Table 4.10 shows the results of pairwise correlation meant to check for serial correlation in the data used in this study.

Table 4.9: Normality Test

Variable	Kurtosis	Skewness
FDI	6.3	1.9
Diaspora		
Remittances	4.66	1.61
Domestic Savings	1.5	0.1
GDP	4.37	1.58
Inflation	8.1	1.9
Trade openness	1.4	0.1
Financial Deepening	1.8	0.05

Source: Author's Computation

The dataset for FDI, DR, GDP and inflation has heavier tails than normal distribution since its kurtosis is greater than 3. The Kurtosis of domestic savings, trade openness and financial deepening is less than 3 (1.5), (1.4) and (1.8) respectively. This implies that they are flatter than normal distribution with a wider peak. The dataset for domestic savings, trade openness

and financial deepening are symmetrical around the mean, thus is assumed normal distribution since their kurtosis is close to 0 and it has light tails. On the other hand, FDI, DR, GDP and I have skewness coefficients far greater than zero (1.9), (1.61), (1.58) and (1.9) respectively implying that they may not be symmetrical around the mean and therefore deviating from normal distribution.

4.7.3 Serial Correlation

To test for serial correlation, pairwise correlation was used and the results are represented in Table 4.10.

Table 4.10: Autocorrelation results

	GDP	Diaspora Remittances	Domestic savings	Trade Openness	Financial deepening	FDI	Inflation
GDP	1.0000						
Diaspora Remittances	0.4588*	1.0000					
Domestic Savings	0.0012		1.0000				
Trade Openness	-0.0656	0.1010		1.0000			
Financial deepening	0.6614	0.4994			1.0000		
FDI	-0.4948*	-0.0980	0.2988*	1.0000		1.0000	
Inflation	0.0004	0.5124	0.0413		0.0000		1.0000
	-0.4948*	-0.0980	0.2988*	1.0000*	1.0000		
	0.0004	0.5124	0.0413	0.0000			
	0.3015*	0.3404*	0.1281	0.2889*	0.2889*	1.0000	
	0.0394	0.0192	0.3907	0.0489	0.0489		
	-0.2730	-0.0191	0.1855	0.5621*	0.5621*	0.1276	1.0000
	0.0634	0.8987	0.2120	0.0000	0.0000	0.3876	

Source: Author's Computation

From the coefficients, the results show that there is positive correlation among the GDP, diaspora remittances and foreign direct investments. GDP and diaspora remittances indicators are each positively correlated moderately to FDI (0.3015 and 0.3404) and negatively correlated to trade openness (-0.4948 and -0.0980), financial deepening (-0.4948 and -0.0980) and Inflation (-0.2730 and -0.2730). The p-values for the association between GDP and FDI is 0.0394 whereas the p-value for the association between the diaspora remittances and FDI is 0.0192 and is less than 0.05, thus the association is significant. The positive association the diaspora remittances and FDI has with the GDP means that as the diaspora remittances and FDI increases, economic growth is achieved in a country. The highest bivariate correlation in the data is between financial deepening and trade openness with a perfect positive correlation

coefficient of 1. This means that the two variables move together by similar directions or percentage. This violates the assumption of instant independence of the variables. Inflation has a strong positive correlation coefficient of 0.5621 with both the trade openness and financial deepening. Their p-values are 0.0000 and less than 0.05, implying that the relationship is significant. The relationship between FDI and all variables in the model is consistently positive, suggesting a positive impact of FDI on all variables in the model. Further, the results show that domestic savings is positively correlated with all the variables, except with GDP, suggesting that domestic savings negatively impact GDP in the model. There was absence of autocorrelations between the diaspora remittances and the different independent variables which were used in the study.

4.7.4 Heteroscedasticity Test

The study carried out heteroscedasticity test using Breuch-Pegan test. The null hypothesis was the error term has constant variance. The alternative hypothesis was that the error variances were multiplicative function of various variables.

Breusch-Pagan / Cook-Weisberg test for heteroscedasticity

Ho: Constant variance

Variables: fitted values of GDP

chi2(1) = 12.36

Prob > chi2 = 0.0004

The results indicated that the chi-square probability value was lower than 0.05. This means that the null hypothesis of error term having constant variance was rejected. The presence of heteroscedasticity was to be corrected by checking for robustness during the regression.

4.5.5 Vector Error Correction (VEC)

The results and findings on table 4.11 shows that there was a cointegrating relationship between the GDP and DR, the study sought to estimate the bivariate cointegrating VECM parameters using Vector Error Correction.

Table 4.11: Vector Error Correction Results

Equation	chi2	P>chi2
GDP	27.4478	0.0006
Diaspora Remittances	13.9568	0.0829
Domestic savings	15.1495	0.0563
FDI	5.3480	0.7198
Trade Openness	4.4280	0.8166
Inflation	8.3672	0.3984
Financial Deepening	-	-

Source: Author's Computation

In the short-run, the coefficient of diaspora remittances has the positive sign. Based on the results, there is a short run association between GDP and Diaspora remittances at 10 percent level of significance. Similarly, there is a short run association between GDP and domestic savings at 10 percent level of significance. The results for financial deepening were absent since there was a perfect collinearity when it was included in the model.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND POLICY RECOMMENDATIONS

5.1 Introduction

This chapter provide the summary of study findings, conclusions and policy recommendations of the study. It further highlights the areas for further research.

5.2 Summary

In both the developing and the developed countries the Diaspora remittances are very critical in contributing to economic growth. Over the years, Diaspora remittances inflow in Kenya have continued in an increasing trend. This could be attributed to global economic outlook and aggressive government efforts to draw Kenyans living in the Diaspora to invest in government securities and enactment of the tax amnesty on remittances. The Kenyan government is increasingly becoming aware of the contribution remittance inflows are playing in promoting economic development in the country. Given the significant role of diaspora remittances in an economy of a country, it was therefore, important to determine the effects of diaspora remittances on economic growth.

The main objective of the study was to determine the effect of Diaspora remittances on economic growth in Kenya. Specifically, the study aimed to investigate the effect of Diaspora remittances on economic growth in Kenya. In addition, the study aimed to determine the direction of causality between Diaspora remittance and economic growth in Kenya.

Some of the variables selected were independent variables including Diaspora remittances, domestic savings, foreign direct investments, financial deepening, trade openness and inflation. The data for both dependent and independent variables was collected and sourced from the Central Bank of Kenya (CBK), Kenya National Bureau of Statistics (KNBS), the

National Treasury and the World Bank. The study used time series data for the period 1970 to 2017. Granger causality test was used to test the direction of causality between diaspora remittances and economic growth. The Granger causality tests showed that there was unidirectional causality between Diaspora remittances and economic growth in Kenya for the period under study (1970-2017). Post diagnostic tests of normality, multicollinearity, vector error correction, heteroscedasticity test using Breuch-Pegan test and serial correlation were subjected to the estimated model.

The first objective of the study was to investigate the effects of diaspora remittances on economic growth in Kenya. The study results show that there was a short-run cointegration relationship between the economic growth and the diaspora remittances in Kenya. Moreover, empirical findings show that economic growth and the diaspora remittances had a long run relationship. At 5% level of significance diaspora was found to be significant while the foreign direct investments was also found to be statistically significant at 10% significant level. The coefficients of financial deepening, trade openness and inflation were statistically insignificant.

Furthermore, the study results show that Diaspora remittances, FDI, FD and GDP have a significant association in the study and had positive coefficients, suggesting that diaspora remittances, FDI and FD positively impact economic growth in Kenya. The adjusted R-squared is 0.9036, meaning that the explanatory variables chosen in the model explained 90.36 percent changes in the dependent variable-GDP, leaving about 9.64 percent of the changes to be explained by other factors not included in the model. The p-value for diaspora remittances is 0.0000 which is less than 0.05, implying that diaspora remittances variable is significant indicator of economic growth.

The second objective was to determine the direction of causality between the diaspora remittances and economic growth in Kenya. The study established that there was a unidirectional causality from diaspora remittances to economic growth in Kenya.

5.3 Conclusions

From the study findings, the study concludes that there exists a short and long run relationship between diaspora remittances and economic growth in Kenya.

Secondly, the study concludes that economic growth in Kenya is not affected by the trade openness, financial deepening and inflation. Their coefficients were statistically insignificant in the study.

Furthermore, the study concludes that diaspora remittances, FDI and FD positively impact economic growth in Kenya.

Lastly, the study concludes that there is a unidirectional causality from diaspora remittances to economic growth in Kenya.

5.4 Policy Implications

The results and findings of this study are of importance for consideration in policy formulation and implication. Specifically, diaspora remittance which contributes substantially as a foreign exchange earner should be encouraged and attracted by the government by use of policies and programmes and full implementation of the Kenya Diaspora Policy. Policies that creates an enabling environment for increased remittances from Kenyans working abroad are crucial. For instance, the government should negotiate appropriate agreements by establishing a healthy link with other governments abroad to come up with modalities of protecting Kenyans who work abroad including giving them a good working environments. This would encourage more Kenyans to look for opportunities abroad. Government should encourage diaspora remittances to flow into productive physical and human capital investments to spur

economic growth. Similarly, Kenyan government could come up with policies that attracts foreign direct investments. For instance, investors could be given tax incentives. In addition, government should create policies to spur and manage financial deepening, trade openness and inflation in the economy.

5.5 Areas for Further Research

The current study examined how diaspora remittances influence economic growth in Kenya. It was established that there was presence of statistical significance between diaspora remittances and economic growth in Kenya. Nevertheless, despite the study assessment and investigation on the effects of diaspora remittances on economic growth in Kenya. The study did not exhaustively cover the same in all aspects and as such there is need for future scholars to consider conducting further studies on the diaspora remittance in relations to different factors like education, migration, population, legal and institutional framework, technological transfer, health and macroeconomic factors like unemployment, price levels, and national income among others. Studies on the impact of diaspora remittances on inequality and social impacts on the families in Kenya and other developing countries should be done to inform governments in decision making in relations to diaspora remittances.

Also, a study should be done to establish the impact of transaction cost of remittances on the diaspora remittances in Kenya. The study findings will be beneficial to Kenya in coming up with measures to increase the performance of diaspora remittances.

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