

REMITTANCES AND ECONOMIC GROWTH IN UGANDA (1993-2017)

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DECLARATION

I **ABDIRIZAK OSMAN MOHAMED** whose registration number is **1164-05136-09426** do declare that this research thesis has been my original work and it has never been copied or submitted to any institution for any award.

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APPROVAL

This research thesis entitled ***remittance and economic growth in Uganda (1993 to 2017)*** has been submitted by ABDIRIZAK OSMAN MOHAMED with my approval as the university supervisor, for the award of a Master of Economic planning and policy at Kampala International University.

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DEDICATION

This work is dedicated to my valuable, honored, sacrificed and hearty mother HAWA MOHAMED ISMAIL, my respected elder sister FAHMO OSMAN MOHAMED, my cousin ABDIFATAH SAID MOHAMED and all my brothers, sisters, relatives, friends for their financial and moral support and the encouragement they gave me during my study.

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LIST OF ABBREVIATIONS/ACROYNMS

ADF	Augmented Dickey Fuller
AFDB	African Development Bank
BOU	Bank of Uganda
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GNP	Gross National Product
IDA	International Development Association
IMF	International Monetary Fund
LDCs	Least Developed Countries
ODA	Official Development Aids
OECD	Organization of Economic Cooperation and Development
UBOS	Uganda Bureau of Statistics
UIA	Uganda Investment Authority
UN	United Nations
UNCTAD	UN Conference on Trade and Development
UNDESA	UN Department for Social and Economic Affairs
VAR	Vector Autoregressive Regression
WB	World Bank

ABSTRACT

A booming interest in the topic of Diaspora remittances has developed over the past few years on the part of academics, donors, international financial institutions, commercial banks, money transfer operators, microfinance institutions, and policy makers. The surge of remittances to countries of origin in the last two decades, exceeding aid and foreign direct investment (FDI) to developing countries, has reignited debate on their development potential in receiving countries. Alongside the interest in remittances, there is also growing recognition of the importance of transnational practices in shaping the relationship between remittances and economic growth. The main objective of this study was to examine the relationship between remittances and economic growth in Uganda (1993-2017). Specific objectives: To investigate the long run relationship between remittances on Economic growth in Uganda (1993-2017), To examine the effect of remittances and economic growth in Uganda (1993-2017). The data used was sourced from UN data, Word Bank, BOU for the period 1993 to 2013. Augmented Dickey- Fuller (ADF), Philip-perron (PP) tests were carried out on the variables and were found to non-stationary at level but stationary after first difference, The study employed co-integration to test the long run relationship between remittances and economic growth and regression analysis to examine the effect of remittances on economic growth, and from the discussion of the findings, it can be concluded that the remittances are the among the most significant factors influencing positively the economic growth in Uganda. Since the remittances have positive relationship with economic growth, therefore there is need to optimize the volume of remittances because the country with the high remittance level boosts the economy through domestic saving and in the long run investment and increased positive growth effects of remittances are most likely to occur when remittances are transmitted in formal channels, incentives that make remitting money using formal channels cheaper as compared to the informal ones should be provided.

CHAPTER ONE:

INTRODUCTION

1.0 Introduction

This chapter consists of the background of the study, problem statement, purpose, objectives, research questions, hypotheses, scope and significance of the study. It provides the basic framework behind the intent and pertinent historical issues associated with remittance and Economic growth in Uganda for the selected period.

1.1 The Background to the study

1.1.1 Historical perspective:

Remittances are not a new phenomenon in the world, being a normal concomitant to migration which has been a part of human history. Several European countries, for example Spain, Italy and Ireland were heavily dependent on remittance received from their emigrants during the 19th and 20th centuries. In the case of Spain, remittances amounted to the 21% of all of its current account income in 1946. All of those countries created policies on remittances development after significant research efforts in the field. For instance Italy was the first country in the world to enact a law to protect remittances in 1901 while Spain was the first country to sign an international treaty with Argentina in 1960 to lower the cost of the remittances received. since 2000" remittances have increased sharply worldwide having almost tripled to \$529 billion in 2012 migrants from India and china alone sent more than \$130 billion to their home countries {World Bank 2009}.

In African, remittances to Africa play an important role to national economies but little data exists as many rely on informal channels to send money home. Today 's African Diaspora consists of approximately 20 to 30 million Adults, who send about USD 40 billion annually to their families and local communities back home for the region as a

whole ,this represents' 50 percent more than official development assistance (ODA) from all sources and for most countries the amounts also exceeds foreign direct investment (FDI). In several fragile states remittances are estimated to exceed 50 percent of GDP, MOST Africa countries restrict the payment of remittances to banks which in turn typically enter into exclusive arrangements with large money transfer companies like western union or money gram to operate on their behalf (World Bank 2009).

In Uganda, the Remittances from Ugandans working abroad, locally called *Kyeyo*, have grown by about 14% annually in the past 10 years, according to a new report by the UN Conference on Trade and Development (UNCTAD 2012). According to the Least Developed Countries (LDCs) Report 2012, Uganda's percentage growth in remittances surpassed that of most countries like Mauritania, Comoros, Yemen, Malawi, and Angola. Despite the recent global economic slump remittances or *Kyeyo* money increased from \$694m (sh1.56 trillion) in 2008 to about \$773m (sh1.9 trillion) in 2009 and almost sh3trillion in 2010. The UNCTAD 2012 report shows that remittances accounted for about 6% of Uganda's Gross Domestic Product (GDP) between 2008 and 2010; the percentage has since increased to 25%.

The world economy grew at 2.8 per cent in 2011 from 4 per cent in 2010, largely because of decreased demand and greater uncertainty. Gross domestic product (GDP) growth in developed economies declined from 2.7 per cent in 2010 to just 1.3 per cent in 2011, on both demand and supply factors. Domestic demand, particularly in the developed world, stagnated owing to obstinately high unemployment and depressed consumer and business confidence, as fear of a second recession became widespread (UN-DESA, 2012).

Uganda was among the top five recipients of money from people living abroad in sub-Saharan Africa last year and only second to Kenya in East Africa, according to a World Bank April 2018 publication on migration and remittances outlook. The country received \$1.4bn in 2017, almost the same amount as the reported figure of tourism receipts in the country. Kenya received \$2bn. This means remittances tie with tourism as Uganda's top foreign exchange earner. Remittances are larger than FDI, which reached about

\$1.2bn in 2017, mostly going to the oil and gas sector in Uganda, according to Bank of Uganda's estimates.

According to the World Bank report for 2017 titled "Global Partnership on Migration and Development Initiative(KNOMAD)," remittances from Ugandans in the Middle East alone brought into Uganda \$500 million (about Shs1.8 trillion). Ugandans in the US, UK, China, South Africa, Canada and other parts of the world brought in a combined total of \$870m (about Shs3.1 trillion), This makes Uganda the sixth among African countries bringing in huge remittances. Top is Nigeria with \$22 billion, followed by Egypt with \$20b, Ethiopia (\$4.9b), Kenya (\$2.2b) and Ghana (\$2.2b).

The report indicates that Uganda's remittances have risen remarkably, from \$224 million in 2016 and \$82m in 2015.

GDP Growth in Africa declined from 4.9 per cent in 2008 to 1.6 per cent in 2009. As a result of the global economic recession, In spite of the fall in world commodity prices, primary commodity exports continue to be the major driver of growth in Africa. Although oil and other commodity prices fell generally in the early part of 2009, they rebounded in the second half of 2009 and remained high. Thus, oil exporting African countries grew at 2.5 per cent compared to an average of 0.5 per cent for non-oil African economies in 2009 ((UN-DESA, 2010). There were considerable regional variations in growth in 2009 across African regions and countries. Growth was highest in East Africa at 3.9 per cent, followed by North Africa at 3.5 per cent, West Africa at 2.4 per cent and Central Africa at 0.9 percent, while Southern Africa posted a negative growth rate of 1.6 per cent. Of the 53 African countries, only 7 grew at 5 per cent or more in 2009, while 29 grew at less than 3 per cent. This compares to 25 countries growing at 5 per cent or more and 16 countries growing at less than 3 per cent in 2008.Africa's GDP growth trended downwards in 2009. Disparities among countries persisted and even increased in some cases. In 2009, 29 countries grew by 3 per cent or less, 17 managed to record GDP growth rates in the range of 3 to 5 per cent and 2 (Ethiopia and Republic of the Congo) expanded by 7 per cent or more. This was a

marked deterioration compared to the performance recorded over the past two years when the majority of countries witnessed GDP growth of more than 3 percent (UNECA and AUC, 2009; IMF, 2009).

African economies continued to sustain the growth momentum of previous years, recording an overall real GDP growth rate of 5.7 per cent in 2006 compared to 5.3 per cent in 2005 and 5.2 per cent in 2004. For the second consecutive year, Africa's growth rate remains higher than that of Latin America (4.8 per cent) but lower than that of developing Asia (8.7 per cent). As many as 28 countries recorded improvements in growth in 2006 relative to 2005. Only one country— Zimbabwe - recorded a negative growth rate in 2006. North Africa recorded the highest acceleration in GDP growth, from 5.2 per cent in 2005 to 6.4 per cent in 2006, followed by Southern Africa, from 5.6 to 5.9. There was a notable deceleration in growth momentum in West Africa, from 5.4 per cent in 2005 to 4.2 per cent in 2006. Stronger growth performance in North Africa was mainly the result of higher oil prices, especially for Algeria, Libya, Sudan, and Mauritania. Mauritania achieved the highest increase in GDP growth rate (from 5.4 per cent in 2005 to 14.1 per cent in 2006) owing to the start of commercial exploitation of crude oil in 2006. (UNECA and AUC, 2005; IMF, 2005).

Uganda achieved impressive economic growth over the past two decades, with positive per capita GDP growth since 1988 and stronger growth than the continent as a whole. Despite this improvement, Uganda's per capita GDP at purchasing power parity remains about half that of Sub-Saharan African as a whole. During the decade following the end of political instability and civil war in 1986, Uganda's economy grew at an average rate of 7.7 percent a year. (Economic growth declined by 1.4 percentage points between 2008/09 and 2009/10.) Initially, economic growth was driven by postwar recovery and reconstruction. Since the early 1990s it has been driven by comprehensive macroeconomic and structural reforms. Investment growth also remained strong, with private investment rising by an estimated 17 percent and public investment rising 15 percent. Private investment growth was led by construction (AfDB 2009).

Economic growth has been export led, with the share of exports in GDP rising over the past two decades. The expanding regional market for Uganda's food and manufactured products has boosted exports during the past five years, a reflection of the dividend enjoyed by Uganda's neighbors, whose demand for Ugandan goods has increased (AfDB 2009).

Since 2010, growth has been more erratic ranging from a high of 5.64% during the financial years 2010/11, 9.39% 2011/12, 3.84% 2012/13, 3.59% 2013/14, 5.11% 2014/15, 5.19% 2015/16, 4.66% 2016/2017 to a low of 3.9% in the financial year 2017. This sluggish and uneven growth resulted in Government failing to meet its desired 7.2% annual growth rate which was the target for the National Development Plan I (NDP I) over the five year period 2010/11 to 2015/16 (BOU 2017).

1.1.2 Theoretical perspectives:

The study is based on the following theories

1)The Solow model The theory was developed by Solow in (1956) and Swan(1956), who independently developed relatively simple growth models and is based on neo-classical assumptions and assumes a multifactor production characteristic which includes labor and capital which are assumed to be close substitutes. It assumes that the production feature is increasing in every input, and has diminishing marginal product. When zero devices of enter are used for either K or L, then nothing is produced for this reason $F(K,0) = F(0,L) = F(0,0) = 0$. Also the production function exhibits constant returns to scale such that: $ZY=F(ZK,ZL)$. The Solow Model consists of two equations: a production function and a capital accumulation equation.

The production function is given by: $Y= F(K,L)$. Y is output, K is capital and L is labour. Capital shares include plant and machinery, bridges, factories, land just to point out but a few and labour represents economically active population. Consequently, for an economy to develop based on this model there need to be an increment in the shares of capital via funding and supply of labour through population growth. Investment on

capital stock depends on financial savings and remittance can be used as alternative or to extend the home fund hence enlarge in capital funds. Furthermore, future remittance inflow can enhance the creditworthiness of home investors, which may additionally end result into lower value of capital in remittance receiving economies.

2)Two gap model of economic growth was the work Chenery And Bruno (1962) And Chenery and Strout (1966). According to this model, growth requires an investment that in turn requires savings. Assuming that there is no government sector, $Y = C + I + (X - M)$ Where Y she GNP , C Are consumption, I Is an investment (or the formation of local capital) X Are export and M import. Ago $Y - C = S$ the place: S = Saving (local) then $M - X = I - S$, (M-X) Is the foreign exchange gap while $I - S$) Is the savings gap. These two form two separate constraints. The elimination of one does not get rid of the other. If we allow $M - X = F$, We can represent the above as follows, $I = F + S$. Using the above relationship , the following scenarios may arise: Savings may be smaller than that of the size of the investment that the state has the capacity to do so. Therefore, there will be a savings gap. Export may be too small to permit the import required to take full advantage of the economy's resources. So there will be a gap in foreign exchange (or trade). While the gaps are distinct and separate, international transfers can actually be used to fill the two. For example, international transfers can increase domestic savings, and households that receive them may also be used in agriculture and business, which will increase exports.

3)Harrod-Domar (H-D) growth model

Harrod (1939) and Domar (1946) growth model emphasizes the role of savings in growth of output in an economy. The models assume a positive relationship between an economy’s saving rate and its rate of output growth and an inverse relationship between capital-output ratio and economic growth as shown in equation 2.1.1

$\Delta Y/Y = S/K$ 2.1.1

Where Y is total output, ΔY is change in total output, s is savings rate and k is capital output ratio. The gap between the desired and actual level of savings to achieve a targeted level of economic growth can be filled by foreign financial resources among which is remittances. Hence, remittances are deemed to enhance economic growth where domestic savings are insufficient.

4) Endogenous Growth Model

The Arrow (1962) and Romer (1986) were developed Endogenous Growth Model, The endogenous growth theory assumes a production function with constant marginal product of capital. Unlike the neoclassical assumption of diminishing marginal products, these models postulate long term growth. According to Todaro (2006), open economies tend to converge at higher income levels and their growth is higher compared to closed economies. This is because capital flows from economies where capital-labour ratios are higher to developing economies where lower capital-labour ratios exist. Consequently, restricting inflows of remittances in developing economies will hinder economic growth. In sum, externalities, human capital and research and development form the main springs of endogenous growth theory.

1.1.3 Conceptual perspectives:

Remittances may be described as the transfer of money, by electronic means and through friends to recipients abroad. Remittances may be formal or informal depending upon the mode of transfer. Formal remittances include money sent and received through banks, post offices, non-bank financial institutions, foreign exchange bureaus and money transfer operators like Western Union, MoneyGram and RIA. It is informal, if it involves transfer of money which do not follow formal contracts and hence, not captured in flows data. Informal channels include cash transfers based on personal relationships through business people, or carried out by courier companies, friends, relatives or oneself (Freund and Spatafora, 2005).

UBOS (2009) defined Remittances as the Funds sent home by migrant workers abroad mainly for the benefit of family members.

Vogiazides (2008) defined Remittances as the cash inflows coming from foreign countries as a result of foreign workers' remitting or transferring money to their home. These cash inflows have been increasing rapidly in developing countries. The history of transferring money by foreign workers to their home is very significant and cannot be overlooked as these remittances have impact on economic growth and it will be measured also in term of billions of US dollar.

A useful taxonomy of remittances is provided in Wahba (1991) who divides remittances into four types:

1. Potential Remittances -- savings available to the migrant once all expenses in the host country have been met. These represent the maximum the migrant can transfer at any time.
2. Fixed Remittances -- the minimum the migrant needs to transfer in order to satisfy her family's basic needs and other contractual obligations.
3. Discretionary Remittances -- transfers in excess of fixed remittances. These together with fixed remittances constitute the level of actual remittances.
4. Saved Remittances (or retained savings) -- the difference between potential remittances and the amount remitted during the period. These flows are accumulated into a stock of resources, which can be used to supplement actual remittances at a later date. This stock of wealth is a result of a portfolio decision by the emigrant and she may be encouraged to make these resources available for the development of her country of origin.

According to the Organization of Economic Cooperation and Development, OECD (2006), the International Monetary Fund (IMF) interprets and records remittances in three different sections of the balance of payments which include: compensation of employees, workers' remittances and migrants' transfers. Compensations of employees are the gross earnings of workers residing abroad for less than 12 months, including

the value of in-kind benefits (recorded in the current account). Workers' remittances are the value of monetary transfers sent home from workers residing abroad for more than one year (also recorded in the current account). Migrants' transfers represent the net wealth of migrants who move from one country of employment to another (recorded in the capital account).

Economic growth can be defined as an increase in capacity of the economy to produce goods and services as compared from one period to another. In simple terms, it is the increase in aggregate productivity (Statista, 2017). There are several ways of measuring economic growth of any economy. Some measure the economic growth in terms of Gross National Product (GNP) or the Gross Domestic Product (GDP) from one period to another, adjusted for inflation (expressed in real as opposed to nominal terms) (Statista, 2017; Bjork, 1999).

Economic growth (GDP) is the increase in the inflation-adjusted market value of the goods and services produced by economy overtime. It is conventionally measured as the percentage rate of an increase in the real gross domestic product. Of the more is the growth of the ratio of GDP to population (GDP per capita) or simply per capita income. Per capita output is determined by output per unit of labor (labor productivity), hours worked, the percentage of working age (participation rate) and the proportion of working-age to the total population (demography). Therefore, the rate of change of GDP over population is the sum of the rate of these four variables plus their cross product. In economics, it is calculated as;

$$\text{GDP Growth rate} = \frac{\text{Current year's GDP} - \text{Last year's GDP}}{\text{Last year's GDP}} * 100$$

Gross domestic product (GDP) which is a measurement of economic growth.

The element of GDP is consumption, Investment, Government expenditure and net tax. Gross Investment is the total amount spent on adding to the stock of capital and on replacing depreciated capital. Investment is the amount spent on adding to the stock of capital. Government purchases or expenditure are purchases of goods and services by governments. Net taxes are taxes paid to governments minus transfer payments received from governments and minus interest payments from the government on its debt.

$$Y = C + I + G + NX.$$

There are three approaches measuring to GDP. First, expenditure approach which is the total spending on all final goods and services (consumption good and services (C) plus gross investments (I) plus government purchase (G) plus net export (NX)). Second, income approach, using the income approach GDP is calculated by adding up the factors of production in the society. Adding up (National income (NY) plus indirect business taxes (IBT) plus capital consumption allowance and depreciation (CCA) plus net factor payments to the rest of the world (NFP)). Third, Value added approach which is the value of sales of goods minus purchase of intermediate goods to produce the goods.

In studying the aspects related to economic growth and its main determinants, we could identify two leading approaches. The first one is the quantitative approach, and relates to the quantitative variables like natural resources, capital, foreign direct investments or degree of openness. The second approach, namely the qualitative one, implies a series of variables interconnected with the political or the cultural field. Besides that, speaking of economic theory, the most well-known model to investigate output dynamics is the Solow model awarded with a Nobel Prize. In the Solow model, once an economy attains its equilibrium level of output, growth rates of population and technology are the sole determinants of output growth.

Economic growth has two meanings. Firstly and most commonly used, growth is defined as an increase in the output that an economy produces over a period of time,

the minimum being two consecutive quarters. The second meaning of economic growth is an increase in what an economy produces if it is using all its scarce resource. (Kambou G, Devarajan S, Over M 1992).

This definition is similar to that of Michael Parkin and Robin Bade who also defined gross domestic product as the nation's expenditure of all goods and services produced during the year at a market prices. Consumption, investment, and government spending are the three sectors of GDP. Gross domestic product (GDP) is intended to measure how much an economy produces in a given period such as quarter, or a year. According to John Ddumba-Ssentamu, gross domestic product (GDP) is the aggregate of the market value of the many goods and services produced in the economy. Gross domestic product is a measure of a quantity of goods and services produced by an economy. According to Robert H.Frank, and Ben S. Bernank, gross domestic product (GDP) is categorized into real GDP and nominal GDP. Real GDP is measure of GDP in which the quantities produced are valued at current year's prices. Real GDP is a measure the actual physical volume of production while nominal GDP is a measure of quantities produced and valued at current year prices. Nominal GDP measures the current dollar value of production.

1.1.4 Contextual perspectives:

International remittances are an important aspect of migration and development. Migrants send earnings to support family members left behind at the migrants' home areas of origin. Extended family systems and strong kin and lineage relations are important in Uganda. Family provides a sense of belonging, solidarity and protection. Family systems involve obligations and responsibilities (Tiemoko, 2004). Adepaju (1995) stresses that the decision of who migrates is largely reserved for the senior Members of the household and this decision is based on the amount of remittances that the person to migrate is likely to send back home. Various socio-anthropologist researchers in Africa have not adequately questioned the role of family and kin network in migration.

This is because most studies tend to focus on the macro level impact of remittance using econometric methodologies but little work is available on the micro level on remittance expenditure at the household level where most development is felt. Remittances to Uganda have surpassed traditional foreign currency earners like tourism, which Amounted to US\$400 million, coffee at US\$269 million and fish at US\$143 million. Like elsewhere in the world, indeed the impacts of migrants' remittances are associated with the positive role attributed to remittances sent by Ugandan emigrants to their families. The positive role played by remittances include the aggregate flows into the economy have a direct effect on the national reserves, foreign exchanges and GDP of the economy as well as improvement on savings and credit ratios as a result of improved investment.

Orozco et al., (2005) showed that remittance recipients are more likely to save and have bank accounts than non -recipients. Ugandan migrants are sending remittances to improve conditions in their households and communities. There is evidence that remittances in Uganda have the potential to significantly contribute to development compared to the official aid. For example, recent estimates of worker's remittances to Uganda indicate that they exceeded US\$0.9 billion during 2012 which is the highest that has been reported so far (Bank of Uganda, 2013). Similar to the global scene, Generally, household expenses and education are the most common expenditure categories, with about half of the received cash spent on items in these groups. The key issue to note from this spending pattern of personal transfer resources is one of sustainability. In a number of studies, it has been noted that migrant's attachment to original households weakens over time, resulting in a reduction and sometimes discontinuation of worker's remittances (Lillard and Willis 1997 ;)

Agarwal and Horowitz, (2002). Where much of such resources are put to consumption, it is likely that there will be immediate welfare improvements although over the long-term, such improvements may not be sustainable. It is for this reason that the need to channel worker's remittances towards more developmental use especially since they constitute a large share of foreign inflows has been emphasized by recipient countries.

In 2011, the Ugandan economy declined from gross domestic product (GDP) growth of over 6% the previous year to 4.1%. Over the course of the year, inflation averaged 18.8%, up from 4.1% in 2010, the exchange rate depreciated by 6.2% against the US dollar (USD), and the trade deficit increased from 9.6% to 10.8% of GDP.

The 2012 African Economic Outlook projects real GDP growth to improve to 4.5% and 4.9% in 2012 and 2013, respectively, mainly premised on good prospects in the oil sector. However, attaining these rates will depend on the ability of the authorities to address major infrastructural constraints, particularly in the energy sector, and to mitigate risk factors, including those linked to climate change. Inflationary pressures are forecast to subside in 2012 and to reach single digits in 2013, reflecting both global declines in food and fuel prices, as well as the impact of monetary tightening by the Bank of Uganda (BOU). The government is expected to rein in expenditure growth; yet slower revenue collections brought about by the slowdown of economic activity are likely to offset any improvements on the fiscal balance. On the external front, the current-account deficit is projected to deteriorate in 2012 and 2013 to 10.2% and 11.1% of GDP, respectively, as import growth accelerates and exports are hit by the global economic slowdown.

In 2009/10, it was estimated that 5.9 million, or 19.3% of the population were between the ages of 15 and 24. Youth unemployment was estimated at 4.3%, higher than for the labor force as a whole, at 3.8%. Youth unemployment and underemployment trends in Uganda are driven by a variety of factors, including the lack of employable skills, limited access to financial and technical resources, the insufficient emphasis on vocational training and a mismatch between skills and requirements in the job market. To address the challenges posed by youth unemployment in Uganda, the government is pursuing a number of interventions aimed at improving the employability of young people through initiatives such as the establishment of a Youth Venture Capital Fund to support entrepreneurial bankable ideas and initiatives, and the national Business.

During 2011 the Ugandan economy continued to perform strongly by regional and international standards, albeit with an important deceleration of GDP growth as of the third quarter of the year. This slowdown in economic activity has been particularly felt

in the mining, manufacturing, construction and energy sectors, and is likely to bring real GDP growth for 2011 down to 4.1%, the lowest in over a decade. The slowdown in the Ugandan economy is partly due to difficulties in the European and US economies, both important markets for Ugandan exports. The BOU considers that the sustained slowdown forecast for the advanced economies in the near term, together with financial instability in global markets, will continue to dampen demand for Uganda's exports and reduce foreign direct investment (FDI), remittances, and aid flows in the short to medium term. On a more optimistic note, the global economic downturn could cut Uganda's import bill, thus improving its external position, which deteriorated significantly, with the current account deficit (including grants) increasing from 9.6% of GDP in FY2009/10 to 12.6% in FY2011/12.

1.2 Statement of the problem

Uganda economic growth (GDP) rate has been low and GDP growth rate which is measurement of economic growth was declining. The real GDP growth rate of Uganda (3.8%) was lower than that of Tanzania (6.4%) and Kenya (4.6%) in 2012 (World Bank). According to the World Bank, the real growth of GDP of Uganda in 2006 was 10%, 2007 was 8.4%, 2011 was 9.4% and further in 2014 was 5.1%.

The GDP of Uganda has been fluctuating for the last years, the growth rate for each year from 2011 to 2017 was: 9.4%, 3.8%, 3.6%, 5.1%, 5.2%, 5.65% and 3.9% respectively (World Bank). This low growth rate of GDP could have negative impact and long lasting problems to the standard of living of people and the national economic performance, hence this deserves to be studied.

Proponents of remittances as external source of capital for development have argued that when remittances are invested, they contribute to output growth while when consumed they generate positive multipliers effects (Fayissa, 2008).

Recorded remittance inflows to Uganda have been increasing. In 2008, the inflows were Officially recorded at US\$723.5 million, which accounts for approximately 5 percent of

Uganda's gross domestic product (GDP). Remittance flows have grown faster than both foreign direct investment (FDI) and official development assistance (ODA). At the macro level, remittances contribute to smoothing the balance of payments in Uganda. At the micro level, remittances are mostly distributed in Cash and are used mainly for consumption and education. Overall, it could be stated that Remittance flows have supported wealth creation and contributed toward increased welfare gains to recipients (World Bank 2009).

Workers' remittances, external source of finance are seen as a potential source of growth in Uganda. Uganda faces many challenges in harnessing the potential economic and welfare benefits by developing the remittances. Some challenges are development-related, managing labor exports, overcoming barriers and obstacles to remittance market, addressing challenges to linking remittances, using formal financial intermediaries Without driving the market underground, and improving financial outreach through remittances. Other risk-related challenges include developing the payment system and related infrastructure, formalizing the remittance channels (World Bank, 2009).

1.3 Purpose of the study

The purpose of this study is to examine the relationship between remittances and Economic growth in Uganda.

1.4 Specific objectives:

1. To investigate the long run relationship between remittances on Economic growth in Uganda (1993-2017).
2. To examine the effect of remittances on economic growth in Uganda (1993-2017)

1.5 Research questions

1. is there long run relationship between remittances and economic growth in Uganda (1993-2017)?
2. Is there an effect of remittances on Economic growth in Uganda (1993-2017)?

1.6 Research Hypotheses

H₀₁: There is no long run relationship between Remittances and Economic growth in Uganda.

H₀₂: There is no effect of remittances on Economic growth in Uganda.

1.7 Scope of the study:

1.7.1 Geographical Scope

This study was carried out with the use of time series data of Uganda from 1993 to 2017.

1.7.2 Content scope

The study examined Remittances as independent variable and Economic growth as dependent variable in Uganda (1993-2017).

1.7.3 Time scope

This study examined the relationship between Remittances and Economic growth in Uganda for a period of 24 years (using time series data from 1993 to 2017).

1.8 Significance of the study:

First, this study increases knowledge of the impact of remittances, FDI, capital accumulation, labor force, trade openness on economic growth in Uganda.

Second, few studies have examined the role of remittances on economic growth in Uganda. Therefore, this research as a pioneer creates a new quantitative record of remittances and its contribution to Uganda's economy for the period under study.

Thirdly, Previous studies about the impact of remittances on economic growth have revealed mixed findings; positive, negative as well as indifference hence the need for more research.

Finally, this study is useful to the Ugandan Diaspora and their potential position of improving the standard of living and generally the country's economic growth.

1:9 Operational definitions of key terms

Remittance: Remittances in the generic terms are the transfer of money by using a foreign employee to his/her domestic country or in other words the remitted money, typically cash transfers and in sort that migrant people ship back to household at their home (Zohry, 2011).

Remittances can additionally be described as "funds invested, deposited or donated by using the migrant to the of origin" and the definition ought to be elevated to consist of in-kind non-public transfers and donations (IOM, 2010).

Economic growth:

Economic growth has two meanings. Firstly and most commonly used, growth is defined as an increase in the output that an economy produces over a period of time, the minimum being two consecutive quarters. The second meaning of economic growth is an increase in what an economy produces if it is using all its scarce resource. (Kambou G, Devarajan S, Over M 1992).

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.0 Introduction:

This chapter presents theoretical review, related literature (The trend of remittances in Uganda, the trend of economic growth in Uganda, and the relationship between remittances and economic growth), the related studies and the research gap.

2.1 Theoretical review

2.1.1 Neoclassical Growth Models

The neoclassical growth model was developed by Solow (1956) and Swan (1956). It is built upon an aggregate, constant- returns- to- scale production function that combines labour and capital (with diminishing marginal returns) in the production of a composite good. Savings are assumed to be a fixed fraction of output, and technology improves at an exogenous rate.

The production function is:

$$Y = F(K, L)$$

Where Y is output, K is the Capital, and L is the Labor. The conditions of constant return to scale implies that if we divide by L, the production function can be written as:

$$Y/L = F(K/L, 1) = L \cdot f(k)$$

Where Y/L is output per worker, $k = K/L$ is the capital-labor ratio, and the function $f(k) = f(k, L)$.

Thus the production function can be expressed as:

$$y = f(k)$$

There's need to increase factor productivity such as through improvement of Capital accumulation and labor force. Remittances are deemed to increase factor productivity such as through saving, Investment, improved health and access to education.

2.1.2 Two gap model of economic growth

Chenery and Bruno (1962) and Chenery and Strout (1966). According to this model, growth requires investment which in turn requires savings.

Essentially, the two gap model is based on the gap between a country's own provision of resources and its absorptive capacity. These two gaps are known as the Savings Gap and the Foreign Exchange Gap. Whichever of the two gaps is binding (or is the greatest) will constrain the amount of investment and capital formation, which can be undertaken.

(1) The Savings Gap Where savings fall short of what can be effectively and productively invested.

(2) The Foreign Exchange Gap

Where earnings of foreign exchange fall short of the amounts needed to purchase the necessary foreign materials, components, etc.

Derivation of the Two-Gap Model

We start with the basic Macroeconomic Identity where Aggregate Output = Aggregate Expenditure. Thus, assuming that there is no government sector

$$Y = C + I + (X - M) \quad \text{where: } Y = \text{GNP}$$

Where Y= GNP; C= Consumption; I= Investment (or Domestic Capital formation)

X = Exports; M = Imports

Now, (Sources of Resources used in the economy = Uses of Resources in the Economy): Expenditure Targets

$$Y + M = C + I + X$$

Subtracting C from both sides we get:

$$Y - C + M = I + X$$

Since $Y - C + M = S$ Where: S = Savings (domestic) Then,

$$S + M = I + X$$

(Withdrawals) (Injections)

This relationship can be restated as follows

$$M - X = I - S$$

(Foreign Exchange) (Savings Gap)

These two constitute two separate constraints. Eliminating one does not get rid of the other.

Note: The analysis rests on the premise that domestic investment can be financed by domestic saving as well as through inflows of capital.

If we allow $(M - X) = F$, then we can represent the above as follows

$$F = I - S \text{ or } I = F + S$$

2.1.3 The Harrod Domar Model:

Harrod (1939) and Domar (1946) growth model emphasizes the role of savings in growth of output in an economy.

The Harrod-Domar model is a type of neo-classical model. It states growth rate depends on a function of the savings rate.

The Harrod Domar Model suggests that economic growth rates depend on two things:

1. Level of Savings (higher savings enable higher investment)
2. Capital-Output Ratio. A lower capital-output ratio means investment is more efficient and the growth rate will be higher.

A simplified model of Harrod-Domar:

$$\text{Rate of economic growth (g)} = \frac{\text{Level of Savings (s)}}{\text{Capital Output Ratio (k)}}$$

The Harrod Model:

$$GC = S \quad G = \frac{\Delta Y}{Y}$$

$$\text{Or } \frac{\Delta Y}{Y} \times \frac{I}{\Delta Y} = \frac{S}{Y}$$

$$C = \frac{I}{\Delta Y} = \frac{I}{Y} = \frac{S}{Y}$$

Or

$$I = S$$

G is the rate of growth rate, C is the net addition to capital, S is the savings, I investment.

The Domar Model:

$$\sigma = \frac{\Delta I}{I} \quad \frac{\Delta I}{I} = \alpha \sigma$$

$$\sigma = \frac{\Delta S}{\Delta Y} \quad \frac{\Delta I}{I} = \frac{\Delta S}{\Delta Y} \times \frac{\Delta Y}{I}$$

$$\frac{\Delta I}{I} = \frac{\Delta S}{I}$$

Or $\Delta I = \Delta S$

σ =sigma represents the net potential social average productivity of investment

2.1.4 Endogenous growth

Endogenous growth models, developed by The Arrow(1962) and Romer (1986) placed greater emphasis on the concept of human capital and technology. How workers with greater knowledge, education and training can help to increase rates of technological advancement. They place greater importance on the need for governments to actively encourage technological innovation. They argue in the free market classical view, firms may have no incentive to invest in new technologies because they will struggle to benefit in competitive markets. The model Places emphasis on increasing both capital and labour productivity and States that increasing labour productivity does not have diminishing returns, but, may have increasing returns.

They argue that increasing capital does not necessarily lead to diminishing returns as Solow predicts. They say it is more complicated; it depends on the type of capital investment.

Increased importance of spillover benefits from a knowledge-based economy and Emphasis is placed on free-markets, reducing regulation and subsidies.

Arrow's model in a simplified form can be written as:

$$Y_i = A(K) F(K_i, L_i)$$

Y_i denotes output of firm, K_i stock of capital, L_i stock of Labour, K denotes the aggregated stock of capital and A is the technology factor.

Romer's Model in a simplified form can be written as:

$$Y = A(R) F(R_i, K_i, L_i)$$

Y is aggregate output, A is the public stock of knowledge from research and development R ; R_i is the stock of results from expenditure on research and development by firm I , and K_i and L_i are capital stock and labor stock of firm i respectively.

2.2 Related literature:

2.2.1 The trend of remittance in Uganda

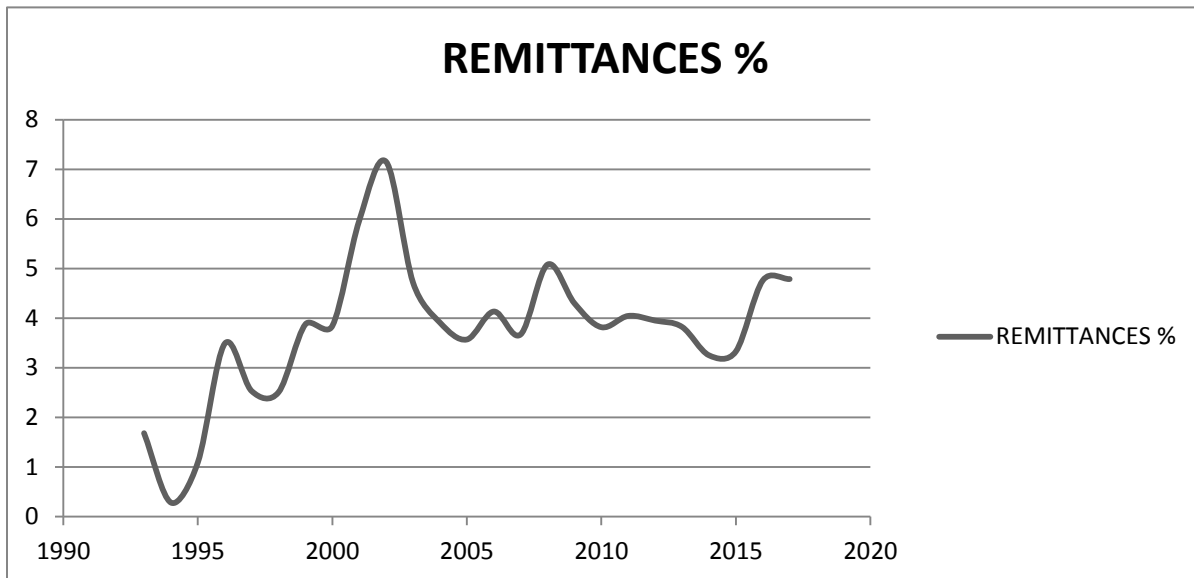
With GDP growth averaging 6 percent in the last decade, Uganda has emerged as one of the top performers in the Africa region. The International Development Association (IDA) has ranked Uganda third among IDA countries in Africa in terms of country performance, institutional capacity, and management.

Uganda is among the top ten sub-Saharan African countries that receive a large volume of remittances proportionate to GDP. The remittance trends over the last five years show that the inward remittances grew rapidly while outward remittances remained stable. Inward remittances doubled from US\$323.5 million in 2005 to US\$723.5 million in 2008. In 2008, remittance inflows and outflows accounted for 5 percent and 2.2 percent, respectively, of the GDP. Net flows of 2.8 percent of the GDP are well above the sub-Saharan African net flows (1.2 percent) and the developing countries net flows of 1.5 percent.

In addition to the growth of absolute volume of remittances, the significance of remittances relative to FDI and ODA has been increasing. In 2006, the size of remittance inflows was nearly 90 percent of the ODA flows. Inflows of remittances have constantly been higher than FDI flows. The ratio of remittances to GDP was around 6.8 percent in 2006.

Sander (2004) identifies the contribution of remittance flows to investment and wealth creation. Aggarwal and others (2006) identify a positive relationship between remittances and financial development. Ratha (2003) has iterated that migration generates substantial welfare gains and reduces poverty. Benefits to countries of origin are mostly through remittances (World Bank 2006b). A preponderance of the literature provides evidence that increase in remittances can lead to wealth creation, more investment opportunities, and welfare gains. Population and labor statistics reveal that growth rates for Uganda continue to improve and are better than the regional as well as world trends.

Figure 2.1: Showing the trend of remittance in Uganda



Source: Researcher (2018)

According to the figure above, it is evident that there was a constant increase on remittances in Uganda. For instance, the remittances stood at 3.57 in 2005, 4.134 in 2006, 3.673 in 2007 and 5.081 in 2008 and so on. However it is believed that these were attributed by the increase of Ugandan Diasporas who are sending back Money to home country to help their families.

2.2.2 The trend of Economic growth in Uganda

Since adopting economic reforms in the early 1980s, Uganda started to experience high levels of economic growth. GDP at 2005 constant market price increased from USD 2,708.22 million in 1985 to USD 16,406.24 million in 2014. During the same period, capital stock increased from USD 12,879 million to USD 81,447 million, representing annual capital accumulation of USD 35,269.95 million, growing at 6.59% per annum. According to UBOS (2013), beginning from the period 1990, Uganda experienced strong economic growth, partly driven by external and internal shocks. These shocks had both

positive and negative effects on the performance of the economy. Uganda's economic growth environment between 1990 and 2000 focused mainly on inflation control, which was considered by the government as the overarching condition for investment and consequently economic growth (World Bank, 2012).

Ssewanyana and Bategeka (2007) noted that annual headline inflation rate fell from 26% in 1992 to about 5% in 2000. The Ugandan government implemented liberalization and privatization policies, from the year 1992 with the intention to improve efficiency in the allocation of resources, and the management of business; both of which were expected to maximize economic growth (Ssewanyana & Bategeka, 2007).

The government of Uganda created Uganda Investment Authority (UIA) to identify investment constraints, propose appropriate interventions to address the constraints, and to serve as a one stop Centre for foreign investors so as to expedite starting up businesses. The UIA focused on attracting Foreign Direct Investment (FDI). These policies and measures contributed to improvement in the performance of the economy: from 1992 to 2010 real GDP grew by nearly 7% per annum (UBOS, 2013). High economic growth in Uganda was supported by a benign economic environment characterized by low rates of inflation, favorable global commodity prices, and foreign capital inflows (MFPED, 2015).

According to the World Bank (2015), in the period 2000 to 2010, the East African countries (Uganda, Kenya, Tanzania, Rwanda and Burundi) experienced fairly high rates of economic growth, mainly attributed to regional integration. In the year 2011, Uganda witnessed the lowest rates of economic growth in East Africa; Tanzania led in economic growth with a rate of 7.2%, followed by Rwanda (7%), and Kenya (6.9%).

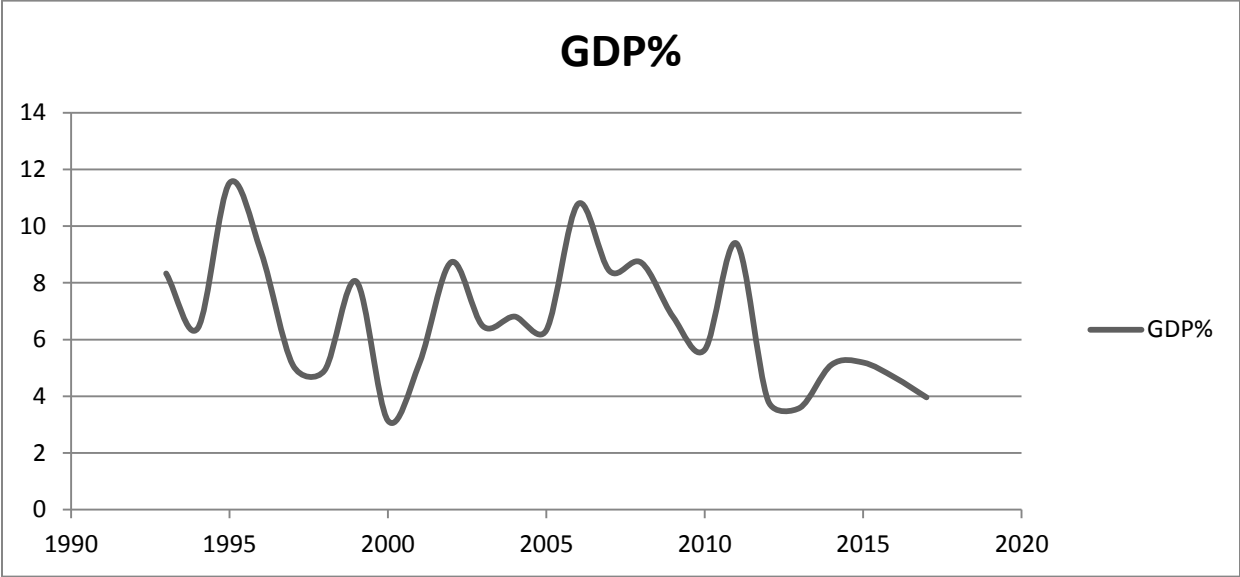
The World Bank (2015b) identified the key shocks that dampened economic growth as slippages in fiscal and monetary policies; disruptions to aid flow due to corruption cases; and a volatile external environment.

The World Bank (2015) observed that Uganda's stellar economic growth is not being sustainable in the long term. Risks to economic prosperity are mainly related to fiscal management and poor performance in the area of domestic revenue mobilization. Beyond these risks Uganda's economic growth and development is constrained by low

levels of productivity of both agricultural and non-agricultural sectors; inappropriate urban development; the slow development of infrastructure; and limited availability of credit.

The World Bank (2015) argues that productivity improvements can drive long-term economic growth and make a country more resilient to exogenous shocks. Frequent volatility of economic growth has had dampening effects on living conditions of Ugandans. Amidst the high population growth rate of 3.2% in Uganda, per capita income is estimated to have grown by only 2% over the period 2011 to 2015 (UBOS, 2014). The World Bank (2015) forecast that with the reduced rates of economic growth, it will take at least eight years for Uganda to attain a middle income status.

Figure 2.2: Showing the trend of Economic growth in Uganda



Source: Researcher (2018).

There is general fluctuation of economic growth in Uganda over the period under studies Due to the dynamic factors which affect the economic growth i.e. FDI, Remittances, labour force, capital accumulation, trade openness etc.

2.2.3 Remittance and Economic growth Relationship

Remittances have a potential superb have an impact on as a development device for the recipient countries. The development effects of remittances can be decomposed into its affect on savings, investments, growth, consumption, and poverty and income distribution. The affect on boom of remittances in the receiving economies is probable to act via savings and funding as properly as short-run outcomes on aggregate demand and output through consumption. Workers' remittances are a thing of foreign savings and they complement national savings through growing the total pool of resources available for investments (Solimano, 2003).

For some recipient countries, remittances are massive enough to have broader macroeconomic implications. As Ratha (2003) pointed out, remittances augment the recipient individuals' incomes and expand the recipient country's foreign trade reserves. If remittances are invested, they contribute to output growth, and if they are consumed, then additionally they generate fantastic multiplier effects.

2.3 Related studies

Ratha and Mohapatra, (2007) prepared a note for G8 outreach event on Remittance to identify the macro economic impact of remittances on development and concluded that remittances are the most important source of finance and in most of the under developed countries they are the biggest source of external financing and they also help in reducing poverty as well as they increase standards of living of the people who are receiving the remittance. The effects of remittance on growth are mixed but in the presence of good policy huge remittance can eradicate export competitiveness as well as can play a foreign role in exchange rate.

Taofik M Ibrahim and Babajide Fowowe (2016) conducted an empirical study of the effects of remittances on economic development in Lesotho using fully-modified OLS (FMOLS) estimation technique to examine the long run relationship between remittances and development, results of econometric estimations revealed that remittances have had a significant positive effect on development in Lesotho.

Ismail O. Fasanya *and* Sulaimon Baruwa (2015) examined the aggregate significance of capital flows from international migrants on the economic growth of six (6) WAMZ Countries within the non-linear augmented conventional neoclassical growth framework using heterogenous panel co-integration method from 1970 to 2011, findings indicated that remittances have a positive and significant effect on the growth of WAMZ Countries in both the full sample and sub samples period..

Jawaid and Raza (2012) examined the data of seven years of 113 countries to determine the association of remittances and economic growth and identified after empirical examination that here exist an important direct relationship linking worker's

remittances to economic growth. It was also identified that workers' remittances are contributing more in high income countries.

Irfan (2011) conducted an empirical study on remittances and poverty linkages in Pakistan and after analyzing that data from 1975 to 2009 concluded that GDP is the significant factor with remittance which leads to poverty reduction and economic development.

Wakayama (2011) wrote a thesis on remittance and GDP growth in developing countries and after analyzing the Europe and central Asia region countries concluded that there is no correlation between remittance and GDP per capital growth therefore remittance cannot express GDP correctly in countries whose ratio of remittance to GDP as suggested by core.

Siddique, Selvanathan and Selvanathan (2010) conducted a study on remittance and economic growth on major south Asian countries i.e. Bangladesh, India and Sri Lanka and after empirical analysis identified that remittances have a mixed response with the economic growth. In Bangladesh remittance is not the cause of economic growth and same is the case with India no causal relationship is found between remittance and economic growth but in Sri Lanka a two way causal relationship is found between remittance and economic growth which effects vice versa.

Karagoz, (2009) conducted a study on the same topic workers' remittance and economic growth with reference to economy of Turkey and after analyzing time series data of thirty five years concluded that workers' remittance have a strong relationship with economic growth and these two variables are negative correlated.

Jawaid and Raza (2012) conducted study on the same topic workers' remittance and economic growth with the view to identify the relationship between these two variables after analyzing the time series data of twenty nine years of China and Korea concluded that workers' remittances have significant relationship with economic growth in china

and Korea but that relationship is not same in two countries. Significant positive relationship was found between workers' remittances and economic growth in Korea in long run while significant negative correlation was identified between workers' remittances with economic growth in China.

Giuliano and Ruiz-Arranz (2005) a study conducted by IMF about impact of remittance on growth in which the data of 101 developing countries was analyzed and it was found that there exist no relationship between remittances and growth.

Waheed and Aleem (2008) empirically examined the time series data from 1981 to 2006 of Pakistan's economy with the view to recognize the impact of workers' remittance on economic growth and identified that workers' remittances and economic growth have significant positive linking in short run while negative impact in long run.

Jongwanich, (2007) analyzed the panel data from 1993 to 2003 to identify the relationship of workers' remittance with poverty and economic growth. Seventeen developing countries of Asia pacific were in the study and concluded that workers' remittance have significant direct relationship with economic growth as well as with poverty alleviation.

Iqbal and Sattar (2005) examined the data of Pakistan with the view to answer the question whether workers' remittance contribute to economic growth and determined through empirical analysis of time series data from 1973 to 2003 that workers' remittances are the important source of economic growth in Pakistan.

Hassan and Holmes (2014) study the relationship between remittances and the sustainability of the current account, rather than the size of the current account balance. They find that more remittances facilitate a weakly sustainable current account balance, and that higher levels of remittances lead to a faster speed of adjustment or lower persistence of the current account following shocks.

Lartey (2017) shows that the current account dynamics generated by inflow of remittances depends on both the end-use of remittances and exchange rate policy.

2.4 Research Gap

The literature on how remittances impact economic growth of recipient countries is conflicting. Some scholars believe that migrant remittances have positive growth effects in recipient economies Jawaid and Raza (2012); Irfan (2011) Ratha and Mohapatra, (2007) Iqbal and Sattar (2005). while other scholars highlight the negative growth effects of remittances (Giuliano and Ruiz-Arranz (2005) Wakayama (2011).

we focus in this study only on the recorded remittances that enter the country through official channels such as; banks, or money receiving enterprises such as; Western Union while not taking into account the unrecorded remittances. Besides, according to Luna Martinez (2005), as stated in Karagoz (2009), about 40 developing countries' Central banks has examined that the data available doesn't give a dependable indication about the full amount of remittances inflows.

CHAPTER THREE

RESEACH METHODOLOGY

3.0 Introduction

This chapter gives details about the research design, data type and sources, data analysis, ethical consideration and limitations of the study.

3.1 Theoretical framework

Proponents of remittances as external source of capital for development have argued that when remittances are invested, they contribute to output growth while when consumed they generate positive multipliers effects (Fayissa, 2008).

Remittance Inflows and Capital Accumulation: There are various ways through which inflows of worker remittances can affect the rate of capital accumulation in recipient economies. The most obvious of these, of course, is by directly financing an increase in capital accumulation relative to what would have been observed if the recipient economies had been forced to rely only on domestic sources of income to finance investment. From a microeconomic perspective, if domestic households face financial restrictions that constrain their investment activities—for example, as the result of poor domestic financial development—remittance inflows may directly serve to ease such constraints, permitting an increase in the recipient households' rate of accumulation of physical and human capital (Chami, Hakura and Montiel 2009).

With regards to human capital accumulation, empirical evidence shows that the impact of remittances on education is positive. Guha (2013) finds that in developing economies, households spend more on child education and health when receiving remittances. Acosta (2006) supports that, in El Salvador, remittances recipient's(2009) show that with a minimum level of human capital, remittances and growth are complementary.

The relationship between Investment and economic growth: The investment variable is one of the most fundamental variables and economic growth identified by the new classical growth models and internal growth (Al-Khathlan, 2012). This was the case in the internal growth model (Khathlan, 2012). In addition, in many studies on the relationship between investment and economic growth, or on models of these researchers (Mondaka, 2009; Burgess and Hexar, 2005; Iqbal and Sattar, 2005; and 2013), please specify and conclude that the rate of investment, The higher the growth rate. Moreover, they see the investment variable, and an indirect variable that we can test transfers through, since conversions have the greatest impact on investment and consumption, when there is a direct relationship between investment and economic growth, and then there is a positive relationship between remittances and the European Commission growth onomic (Thagunna And Ashura, 2013).

Foreign direct investment (FDI), which is already playing a crucial role in international economic activity and an important source of technology transfer and economic growth. For example, in 2011, in countries such as Tajikistan, Liberia and Nepal transfers about 47%, 31% and 22% of their countries in GDP (GDP) relative to the low proportion of foreign direct investment of GDP in those countries, Le Ratha and Timmer (2013). Although foreign direct investment is a volatile source of international capital flows for other reliably stable flows such as remittances, many researchers have identified the strong relationship between FDI and economic growth, such as Boeridge and Sinclair (2010). It is determined by the standard statistical model applied to the Chinese economic index. Similarly, Barrell (1997) used cross-section data for 46 developing countries and found that the positive impact of FDI was in terms of enhanced economic growth, especially in countries that adopted free market forces and provided an enabling environment for using FDI to promote growth . The first statistical cases that indicate that these investments and foreign investments can be variables in our model in our test of Ugandan economic growth, our main concern in this paper.

The relationship between Openness, Trade and Economic Growth Trade openness is indeed a fundamental variable in determining economic developments. What if you have a strong key? Some researchers, such as Sachs and Warner, 1995; Edwards, 1998), boast of experimentation? Including the openness of trade from their point of view, in the transfer of knowledge and technology, the competitiveness advantages of countries, or the strengthening of competitiveness among countries that could be an advantage of the country's economic growth (Sachs and Warner, 1995; Edwards, 1998).

3.2 Model specification:

On the basis of literature review the model to study the impact of workers' remittances on economic growth has been derived from the production function framework. The same model has been derived and used by Waheed and Aleem (2008), Jawaid and Raza (2012), and Iqbal and Sattar (2005). The production framework is:

$$Y = f(A, L, K) \quad (1)$$

Here "Y" represents the gross domestic product (GDP); "L" represents the employed labour force; "K" represents the stock of capital and "A" represents the total productivity of economic factors. Impact of workers' remittances can be identified through "A". (Waheed and Aleem, 2008; Jawaid and Raza, 2012)

$$A = g(WR) \quad (2)$$

Here "WR" represents workers' remittances. By substituting (2) in (1):

$$Y = f(L, K, WR) \quad (3)$$

Through this general production function **the empirical model for estimation** has been developed as follows:

$$Y = \beta_0 + \beta_1 L + \beta_2 GFCF + \beta_3 REM + \beta_4 OP + \beta_5 FDI + \varepsilon \quad (4)$$

In the above model Y represents the gross domestic product, $\beta_1 L$ represents employed labor force, β_2 GFCF gross fixed capital formation as percentage of GDP, β_3 REM, remittances as percentage of GDP, β_4 OP Trade Openness as percentage of GDP, β_5 FDI Foreign Direct Investment as percentage of GDP, and ε represents the error term. Yearly time series data of Uganda from 1993 to 2017 were used.

Previous studies suggest that remittances effect the economic growth positively through reducing the current account deficit, external borrowing and availability of foreign exchange (Iqbal and Sattar, 2005).

Table 3.1: Description of Variables.

Variable	Description	Unit of measurement	Source
GDP	Gross domestic product	Percentage	World Bank
FDI	Foreign Direct Investment	Percentage to GDP	World Bank
REM	Remittances	Percentage to GDP	World Bank
OP	Trade Openness	Percentage to GDP	World Bank
L	Labor force	Labor force participation rate.	World Bank
GFCF	Gross Fixed Capital Formation	Percentage to GDP	World Bank

3.3 Research Design

In order to analyze impacts of remittance on economic growth, we used a correlational and descriptive design as part of the non-experimental research design. The reason it is non-experimental because it does not involve manipulation of independent variable (remittances) to determine their effect on a dependent variable (Economic growth) of

interest. The correlational design simply aimed to determine the effects between two remittances and economic growth, as well as how strongly these variables relate to one another (Kazdin, 1992). And also descriptive design used to describe the words.

A quantitative research design in the form of an econometric model was employed for this study. An econometric model was used because it highlights whether there is a relationship between remittances and economic growth of the recipient economies. This approach also made it possible for the researcher to examine whether the relationship between remittances and economic growth is statistically significant or insignificant. The data set employed the Quantitative research approach because of the nature of the research problem, objectives and the type of research hypotheses. Thus it was an appropriate research design type to collect, analysis interpret and present all the necessary Data for the mentioned problem statement.

3.4 Data Type and Sources:

Data were obtained from: Bank of Uganda (BOU) <https://www.bou.or.ug> the World Bank <https://www.worldbank.org>, and World Development Indicators Database, the International Monetary Fund (IMF), The UN data, the data type is time series data attained through secondary data sources from the publications of statistical abstracts over the period of 24 years. Time series analysis is a sequence of observations on a variable measured at successive points in time or over successive periods of time. Time series forecasting is the use of a model to predict future values based on previously observed values.

3.5 Data analysis:

The E-view was used for the analyze of the data with respect to the specific objectives. Objective one: to Investigate the long run relationship between remittances on Economic growth in Uganda (1993-2017). Objective two to examine the effect of remittances on economic growth in Uganda (1993-2017)

A) Descriptive statistics

Descriptive statistics is the term given to the analysis of data that helps describe, show or summarize data in a meaningful way and it reveals variability of the data of the study variables within the country. Descriptive statistics are 1. central tendencies a) the mean b) the mode c) The median 2. Statistical dispersion A) The range. B) Variance. C) The standard deviation.

b) Testing of stationarity

The researcher performed stationarity test using the ADF (Augmented Dickey Fuller) and Philip Perron (PP) test procedures. The ADF and (PP) assume that the error terms are independently and identically distributed.

c) Co-integration

Regression of one non-stationary variable on another is very likely to yield impressive-seemingly results which are wholly spurious (Mukherjee et al., 1998). In general, if two time series variables are both non-stationary in levels but stationary in first-differences, they are integrated of order 1, $I(1)$, then there could be a linear relationship between them which is stationary, $I(1)$ and as such all the series of interest should be integrated of the same order, preferably $I(1)$. The two time series variables that satisfy this requirement are considered to be co-integrated. Variables are co-integrated with one another if the residuals from the levels regression are stationary.

d) Regression analysis:

Regression analysis is a statistical process for estimating the relationships among two or more variables. It focuses the relationship between a dependent variable and one or more independent variables (or predictor). Or regression analysis is the measure of the average relationship between two or more variables, in terms of the original units of the

data and These Regression variables must have an error correction representation in which an error correction term (ECT) must be incorporated into the model.

Regression of one non-stationary variable on another is very likely to yield impressive-seemingly results which are wholly spurious (Fox, 1997).

3.6 Ethical considerations:

To ensure that ethics is practiced in the study

- The works of the other people used in the study were fully recognized and appropriately acknowledged through quoting and referencing.
- The researcher is responsible at all times, vigilant, mindful and sensitive to human dignity. McMillan and Schmacher (1997)
- An institution from which the data was collected were be informed in writing about the objectives of this study and requested to participate.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND INTERPRETATION OF RESULTS

4.0 Introduction

In the next sub-sections of the chapter unit root tests are performed using the Augmented Dickey Fuller (ADF) and Phillip Perron tests.

And finally regression analysis is to examine the effect between the variables as stated in objective two.

4.1 Data preliminary testing

Before using the data in the analysis, numerous diagnostic checks and checks were conducted to find out the statistical conduct of all the variables. This is essential in view that for statistics to be used in any analysis, its integrity and reliability have to be ascertained as properly as finding out if the statistics is commonly distributed.

Table 4.1: Showing Data preliminary testing

	LNGDP	LNCAP	LNLABF	LNREMIT	LNTRADE	LNFDI
Mean	1.835240	3.053175	4.254058	1.194264	3.679824	1.181040
Median	1.856000	3.050694	4.254193	1.346774	3.663300	1.095000
Maximum	2.444000	3.344627	4.263524	1.967252	4.029980	1.868000
Minimum	1.144000	2.518503	4.246636	-1.259838	3.326470	0.530000
Std. Dev.	0.352348	0.211405	0.005754	0.636053	0.198756	0.365046
Skewness	-0.149336	-0.725024	0.086731	-2.563083	-0.048591	0.293733
Kurtosis	2.125032	3.048478	1.542476	10.22348	1.997142	2.173533

Jarque-Bera	0.890389	2.192695	2.244233	81.72527	1.057468	1.071004
Probability	0.640700	0.334089	0.325590	0.000000	0.589351	0.585375
Observations	25	25	25	25	25	25

Source: Researcher (2019)

Where;

LNGDP is the natural logarithm of Gross Domestic Product;

LNCAP is the natural logarithm of Domestic capital;

LNLABF is the natural logarithm of Labour force;

LNREMIT is the natural logarithm of Remittance

LNTRADE is the natural logarithm of Trade openness of the country

LNFDI is the natural logarithm of Foreign Direct Investment;

The mean GDP in the study period was 1.835. The Maximum registered growth was 2.444 and the lowest was 1.144. The standard deviation of growth rate from the mean was 0.352. The mean remittances was 1.194 with the highest being 1.967 and lowest - 1.259 and the standard deviation from the mean remittance was 0.636.

Symmetry of the distribution of the series around the mean is measured using skewness. For the distribution to be considered Symmetric it should have a zero skewness value. Thus, by observing the row of skewness from the above table all variables seem to have symmetric distribution because their values are not far from zero.

The row under kurtosis in the above table, measures flatness and peakedness of the distribution measured by kurtosis of a series. For a distribution to be considered normal it should have a kurtosis value of 3 and therefore only Domestic capital is Mesokurtic.

The descriptive summary table in Table 4.1 shows that only Remittances follows a normal distribution and the rest of the variables do not follow a normal distribution at 5% level of significance.

4.2 Unit Root Test Results Using the ADF test

This section involves testing for stationary series of the individual variables using Augmented Dickey-Fuller test and (PP). A number of 5lags were used for the ADF tests which are determined automatically by E-views statistical package. The table below presents the test results at 5% level of significance.

Table 4.2: Stationarity Test Result for both ADF and PP

Augmented Dickey Fuller (ADF)			Phillip-Perron (PP)		
Levels			Levels		
Variables	Constant	Constant and Trend	Variable	Constant	Constant and Trend
LNGDP	-2.514	-3.029	LNGDP	-2.313	-1.731
LNCAPITAL	-1.613	-1.902	LNCAPITAL	-1.539	-2.980
LNLABOUR	-1.370	-2.533	LNLABOUR	-1.127	-1.088
LNFDI	-2.045	-1.845	LNFDI	-1.963	-1.598
LNREMITTANCE	-2.563	-2.259	LNREMITTANCE	-2.139	-2.004
LNTRADE	-1.764	-2.351	LNTRADE	-1.826	-3.084
Augmented Dickey Fuller (ADF)			Phillip-Perron (PP)		
First Difference			First Difference		
Variables	Constant	Constant and Trend	Variable	Constant	Constant and Trend
LNGDP	-6.561*	-6.366*	LNGDP	-8.491*	-8.269*
LNCAPITAL	-5.533*	-6.612*	LNCAPITAL	-7.366*	-7.914*
LNLABOUR	-3.587*	-3.578*	LNLABOUR	-4.238*	-4.638*
LNFDI	-4.291*	-3.846*	LNFDI	-4.277*	-4.305*
LNREMITTANCE	-5.147*	0.002*	LNREMITTANCE	-5.197*	-5.265*
LNTRADE	-6.419*	-6.418*	LNTRADE	-6.873*	-6.966*

Source: output E-views 7

The table above show that all variables i.e. Capital, Labour Force, FDI, Remittance, And Trade Openness are all non-stationary at levels when trend and constant were conducted. Therefore the non-stationary variables should be differenced at once to make them stationary before the cointegration test is run to avoid spurious results, i.e. a higher R-squared value yet the variables are not related.

The stationary variables can then be tested for long-run relationships using the Johansen co-integration test.

To carry out co-integration analysis, it is pertinent to determine the optimal lag length of the Vector Autoregressive (VAR) model.

Table 4.3: VAR Lag Order Selection Criteria

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-237.1821	NA	25.48790	20.26518	20.55969	20.34331
1	-149.7650	123.8409*	0.389768*	15.98042*	18.04201*	16.52736*

Source: Output from EViews7

* indicates lag order selected by the criterion

LR: sequential modified LR test statistic (each test at 5% level)

FPE: Final prediction error

AIC: Akaike information criterion

SC: Schwarz information criterion

HQ: Hannan-Quinn information criterion

The results of the lag selection criteria presented in Table 4.3 reveal that all the five different information criteria namely; Akaike Information Criterion (AIC), Schwarz

Information Criterion (SIC), Hannan-Quinn Information Criterion (HQ), Final Prediction Error (FPE) and Sequential modified LR test statistic (LR) considered, suggest 1 as the optimal lag length.

4.3 Co-Integration Test Results

In the Johansen's co-integration approach, similar to the Engle-Granger approach of co-integration, the first step is to check for stationarity of the concerned variables in the study.

In Johansen's approach to co-integration, on the first method as discussed in the previous sub-sections, the variables related to you were seen until all the variables were in their first order.

Testing is conducted to determine whether economic growth is associated with Y) And the independent variable of transfers X).

4.3.1 Unrestricted Co-integration Rank Test (Trace)

Table 4.4: Showing Co-integration results of the variables under study

Hypothesized			0.05 Critical	
No. of CE(s)	Eigenvalue	Trace Statistic	Value	Prob.**
None *	0.957075	199.4360	95.75366	0.0000
At most 1 *	0.935346	127.0253	69.81889	0.0000
At most 2 *	0.808983	64.03501	47.85613	0.0008
At most 3	0.461390	25.96091	29.79707	0.1299
At most 4	0.341929	11.72935	15.49471	0.1704
At most 5	0.087466	2.105178	3.841466	0.1468

Source: Researcher Output from EViews7

The findings of Table 4.4 above from the Unrestricted Co-integration trace rank test shows that there are 3 co-integrating equations at 0.05 level. Implying that there is co-

integration among Gross Domestic Product, capital, remittance, labor force and trade openness. Comparing the p-value at none and the p-value at most 5, it is decided that we reject the null hypothesis at 0.05 level of significance.

It is therefore concluded that there is long run relationship among the variables in the model.

Table 4.5: Unrestricted Co-integration Rank Test (Maximum Eigenvalue)

No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.957075	72.41072	40.07757	0.0000
At most 1 *	0.935346	62.99028	33.87687	0.0000
At most 2 *	0.808983	38.07409	27.58434	0.0016
At most 3	0.461390	14.23157	21.13162	0.3463
At most 4	0.341929	9.624167	14.26460	0.2378
At most 5	0.087466	2.105178	3.841466	0.1468

Source: Researcher, Output from EViews7

The results from Maximum Eigenvalue indicate that there are three co-integrating equations at 0.05 level, indicating that there is Co-integration among Gross Domestic Product, capital, remittance labor force and trade. These findings confirm the results got from the first trace rank test hence by observing the p-values from the above table we reject the null hypothesis that there is no Co-integration among these two variables thus we conclude that there is a long run relationship between Remittance and Economic Growth in Uganda (1993-2017).

Therefore, we employ regression analysis to evaluate the effect of remittance on economic growth from the co-integrated series.

4.4 Regression Analysis of the variables under study

The transformed variables were used for the regression analysis so as to minimize the chances of a model suffering from the problems of autocorrelation, non-normal residuals as well as heteroscedasticity. The findings are presented in the table 4.5.

Table 4.6: Effect of Remittance on Economic Growth In Uganda 1993-2017

Dependent Variable: Economic Growth (GDP)

STATISTIC	Coefficients	Standard Error	t-Stat	P-value
C	-13.172	9.422	-1.398	0.176
LNCap	0.0152	0.0044	3.4100	0.0029
LNFDI	0.0021	0.0007	2.8345	0.0105
LNRem	0.0137	0.0042	3.1958	0.0047
LNLab	0.0019	0.0013	1.3926	0.1798
LNT. Openness	-0.0005	0.0012	-0.4306	0.6715
R-squared	0.875			
Adj R-squared	0.842			
S.E. of reg	0.078			

Source: Eviews 7

Results in table 4.6 show that the value of R-squared is approximately 80.7%, The coefficient of remittance carries positive sign (0.0137), which implies that 1 percent increase in remittance will cause 0.0137 increases in overall GDP growth. Remittances increase the efficiency in the production capacity and also results in increase in

economic growth. This leads to an increase in production and consequently increases the level of growth. Additionally, the increased capital due to greater remittance inflow enhances the domestic productivity growth and results in an overall benefit in the economy. This result is in accordance with the findings of Mukhtar (2010), Bowdler & Luca (2005) and Lin (2010). Mukhtar (2010) in his study supported the Romer's (1993) hypothesis and stated that remittance is positively associated with economic growth in Pakistan. Bowdler & Luca (2005) reinforced the findings of Mukhtar (2010) and stated that the positive relationship between remittance and GDP holds true for OECD countries also. Lin (2010) conducted a panel study including Pakistan and reported that the impact of remittance on economic growth is positive.

In Uganda, the magnitude of the effect of remittances on growth is low for the fact that it is the agricultural sector that contributes the most. This is because most of the migrant households belong to low or lower middle-income brackets. This class in majority of the cases is the victim of malnutrition. With the increase in family income through the inflow of remittances these households immediately increase their expenditures on food. Once the basic needs are satisfied people strive to improve their standard of living. After the attainment of a reasonable standard of living, people are interested in investing in real estate. Thus, the demand for housing increases and consequently the price level increases. This result is in accordance with the findings of Qayyum (2006), Kemal (2006) and Grauwe & Magdalena (2005).

Kemal (2006) reinforced the findings of Qayyum (2006) and reported that remittance is major determinant of growth in Pakistan. And in Uganda the effect of remittance is positive and is highest on food, housing and construction.

Our results also indicate that Foreign Direct Investment (FDI) has a positive effect on economic growth, 1 percent increase in (FDI) will cause 0.0021 percent increase in overall growth. confirming the results of the researchers like Heller, 1975; Boone, 1994; and Fayissa and El-Kaissy, 1999. its impact is also significant. A measure of the FDI of the economy has the expected positive sign. FDI has often been credited for their role in the economic growth of a country; there is also ample evidence (Hansen and Rand, 2006; de Mello, 1999) that the level GDP and its growth rate have feedback effects on the amount of FDI a country receives and the rate of investment in human capital formation. Given that we are mainly interested in analyzing the effect of remittances on Ugandan economic growth while accounting for the traditional growth explanatory factors.

The coefficients of capital formation were positive and statistically significant, 1 percent increase in capital will cause 0.0152.

This implies that domestic capital has a positive impact on the economic growth of Uganda.

The results further reveal that the adjusted R^2 was estimated 0.842, meaning that 84% of change in the dependent variable (i.e. economic growth rate) is caused by remittance and the other explanatory variables in the model.

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS AND RECOMMENDATIONS

5.1 Discussions of Findings

The main objective of this study was to investigate the relationship between remittances and economic growth in Uganda for a period of 1993 to 2017. The time series data was tested for stationarity using the Augmented Dickey Fuller (ADF) and Phillip Peron (PP) test, the long run relationship between remittance, FDI, labor, capital, trade openness and economic growth was tested using Johansen Co-integration test. The effect of remittance on economic growth and the listed variables was also tested using regression analysis.

Augumented Dickey Fuller and Phillip Perron unit root test indicated that all variables i.e. GDP, FDI, CF, LBF, TOP and REM, were all non-stationary at 5% level of significance. But when first differenced all the variables were stationary,

The Johansen co-integration trace established that there was a long run relationship between economic growth and remittances, capital formation, labor force and trade openness. Attempt to confirm the results of the trace tests using the Maximum Eigenvalue test also confirmed that there was a long run relationship among the variables in Uganda.

So in conclusion, the p-value of both Maximum Eigenvalue test and the trace tests were all less than the significance value of 0.05 thus our null hypothesis that there was no long run relationship between remittances and economic growth was rejected and the conclusion is that there is a long run relationship between the two variables under study, and

Another finding on the effect of remittances on economic growth in particular revealed that remittance positively contributes to the growth of the GDP. these results are in line with past research's such as Ratha and Mohapatra, (2007), Jawaid and Raza (2012), Waheed and Aleem (2008), Iqbal and Sattar (2005). These previous studies emphasize the findings of this study that there is a long run and short run relationship between remittance and economic growth and the relationship is positive. However, Wakayama (2011), Giuliano and Ruiz-Arranz (2005), Jongwanich, (2007) examined the relationship between remittances and economic growth and concluded contrary to the findings of this study, some using the panel data.

5.2 Conclusion

In our this study, we investigated and examined the relationship between remittances and economic growth through time series data, it is identified that a significant positive effect of remittances on economic growth in Uganda. In the course of investigating, the study utilized various time series econometric techniques such as Unit Root Test, Co-integration, regression analysis, the analysis revealed and established that remittances contributes to economic growth in Uganda.

Two gap model of economic growth suggests that the saving and foreign exchange gaps are the reasons for slow economic growth

From the findings of the study, there is strong validity of the two gap analysis that remittances contributes positively to economic growth as it increases savings domestically on the assumption that what is remitted is invested. The study concludes a positive long run and positive effect relationship between remittance, labor force, capital formation, trade openness, foreign direct investment and economic growth.

5.3 Policy Recommendations

The results from the findings shows that remittances have positive relationship with economic growth, Remittances are deemed to increase factor productivity such as through saving, Investment, improved health and access to education therefore there is need to optimize the volume of remittances because the country with the high remittance level boosts the economy through domestic saving and in the long run investment. The BOU should continue its collaboration with relevant authorities to enhance quality of data on remittances and to assess the impact of remittances on Standard of living. The BOU initiative to institutionalize surveys on remittances is a positive step in improving availability and quality of data on remittances. This may be achieved through nationwide household surveys and censuses. A working group on remittances should be constituted with participation of key stakeholders as a responsible body to enhance data quality, facilitate innovation of new remittance products, and identify undocumented issues affecting remittances.

Since, increased positive growth effects of remittances are most likely to occur when remittances are transmitted in formal channels, incentives that make remitting money using formal channels cheaper as compared to the informal ones should be provided. That way, banks and other traditional financial institutions will have access and control to this source of investment capital.

The BOU should continue to develop its national payment systems and improve access to financial services. Policies should provide incentives that substantially reduce the price of using electronic payments. Uganda needs to ensure that the developmental efforts aimed toward establishing the national payment system follows the General Principles for International Remittance Services so that transparency and soundness is ensured.

The BOU should consider adjusting regulatory framework to facilitate new technology for payment services. The opportunities resulting from innovations in the payments technology should be supported by appropriate regulatory framework that upholds the integrity of the financial sector. Regulations should support accommodative entry and exit strategies as well as facilitate more affordable operational costs. In designing improvements to the regulatory framework, it is imperative to involve the remittance providers.

The Government of Uganda should make a bilateral agreement and legislations to the other countries to protect the rights of it is citizens who are working abroad (Ugandan Diaspora).

Commercial banks should be encouraged to develop new products linked to remittances and savings by providing incentives to remittance recipients to receive and keep money in the bank. The introduction of the flexible, charge-free foreign exchange accounts and other unique products offers an opportunity for cross-selling financial products such as mortgages, school fees, and other service. With savings deposits, the commercial banks will be able to develop lending products. As a starting point, banks must recognize remittances as a stable source of income.

Uganda should utilize these remittances efficiently for economic growth and development. Uganda should focus on these remittances as these remittances are not only a source of economic growth but also these remittances are reducing poverty as well as these remittances are a major source of foreign exchange and helping to overcome the problem of balance of payment.

5.4 Contributions to Knowledge

This study contributes that prudence is required management of remittances, foreign direct investment and labour force of the country to achieve the objective of economic growth and stabilization. This provides a sound argument for a conscious and carefully

planned schedule of acquisition, deployment of remittances and foreign direct investment contracted for developmental purposes.

Financial institutions are also beneficiaries of this study since remittances make effective contribute to develop the financing capacities of the financial system, particularly in banking sector.

5.5 Limitations of the Study

The study did not consider the impact of out flowing remittances, this may be important because out flowing remittances leads to a reduction of investment capital that bank and other traditional financial institutions can access.

Data on remittance did not consider remittances that are received through informal channels. Data on remittances from The Bank of Uganda (BOU) captures remittances sent through financial institutions operating in Uganda.

There are also limitations as regards the assumptions of the regression model including loss of some dataset as a result of differencing and lagging of variables.

5.6 Suggestions for further research

This study was not able to trace data on the use of remittances, foreign direct investment and labour force and the contribution of these variables in the development of each sector of the economy. It is recommended that future studies could focus on the use of remittances, contribution of the labor force and foreign direct investment, trade openness on the key sectors of Uganda's economy. For instance one can study the impact of remittances on Agricultural sector and manufacturing sector.

This study did not inspect the interplay between remittances two and the other variables: for example, remittances and investment, remittances and openness, remittances and school enrollment as explanatory variables in the estimation of the impact of two remittances on Uganda's monetary growth.

A study of what are the determinants of remittances will assist the Government to work on areas that will enhance the contribution of remittances of financial increase and usual general of living. A study on the informal channels of sending and receiving money should be done to establish ways providing incentives that can encourage sending and receiving of remittances through the formal channels.

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Data

YEAR	GDP%	LABOUR FORCE%	CAPITAL FORMATION%	REMITTANCES %	TRADE OPPESSNESS	FDI%
1993	8.33	69.87	15.25	1.6826	28.24	1.7
1994	6.4	69.88	14.68	0.2837	27.84	2.21
1995	11.52	69.91	12.41	1.095	32.62	2.11
1996	9.07	69.91	20.17	3.487	35.39	2
1997	5.1	69.92	18.18	2.5314	34.16	2.79
1998	4.91	69.94	16.45	2.508	30.04	3.19
1999	8.05	69.97	19.55	3.878	36.02	2.34
2000	3.14	70.01	19.48	3.845	32.75	2.59
2001	5.18	70.08	19.3	5.968	35.33	2.59
2002	8.73	70.16	20.22	7.151	36.28	2.99
2003	6.47	70.24	20.98	4.715	36.59	3.19
2004	6.81	70.32	20.15	3.911	35.46	3.72
2005	6.33	70.4	22.36	3.57	38.99	4.21
2006	10.78	70.5	21.13	4.134	43.63	6.48
2007	8.41	70.58	22.08	3.673	46.78	6.45
2008	8.71	70.67	22.98	5.081	56.26	5.12
2009	6.8	70.75	25	4.299	40.05	4.63
2010	5.64	70.85	25.56	3.818	45.74	2.69
2011	9.39	70.95	27.46	4.046	52.08	4.43
2012	3.84	71.06	27.3	3.951	52.47	5.21
2013	3.59	70.98	28.35	3.824	50.32	4.46
2014	5.11	70.86	27.28	3.252	45.27	3.88
2015	5.19	70.72	24.62	3.329	45.93	2.72
2016	4.66	70.59	25.52	4.76	47.2	2.6
2017	3.96	70.67	24.01	4.788	44.4	2.7

SOURCE: WORLD BANK (2018)

Natural Logarithm Data.

YEAR	LN GDP	LN Labour	LN Capital	LN REMIT	LN TR	LN FDI
1993	2.119863	4.246636	2.72458	0.52034	3.340739	0.530628
1994	1.856298	4.246779	2.686486	-1.25984	3.326474	0.792993
1995	2.444085	4.247209	2.518503	0.090754	3.484926	0.746688
1996	2.204972	4.247209	3.004196	1.249042	3.566429	0.693147
1997	1.629241	4.247352	2.900322	0.928773	3.531055	1.026042
1998	1.591274	4.247638	2.800325	0.919486	3.40253	1.160021
1999	2.085672	4.248067	2.972975	1.35532	3.584074	0.850151
2000	1.144223	4.248638	2.969388	1.346774	3.488903	0.951658
2001	1.644805	4.249637	2.960105	1.786412	3.564732	0.951658
2002	2.166765	4.250778	3.006672	1.967252	3.591267	1.095273
2003	1.867176	4.251918	3.04357	1.550749	3.599775	1.160021
2004	1.918392	4.253056	3.003204	1.363793	3.568405	1.313724
2005	1.8453	4.254193	3.107274	1.272566	3.663305	1.437463
2006	2.377693	4.255613	3.050694	1.419245	3.775745	1.868721
2007	2.129421	4.256747	3.094672	1.301009	3.845456	1.86408
2008	2.164472	4.258021	3.134624	1.625508	4.029984	1.633154
2009	1.916923	4.259153	3.218876	1.458382	3.690129	1.532557
2010	1.729884	4.260565	3.241029	1.339727	3.822973	0.989541
2011	2.239645	4.261975	3.31273	1.397729	3.952781	1.4884
2012	1.345472	4.263525	3.306887	1.373969	3.960242	1.65058
2013	1.278152	4.262398	3.344627	1.341297	3.918403	1.495149
2014	1.631199	4.260706	3.306154	1.17927	3.812645	1.355835
2015	1.646734	4.258728	3.203559	1.202672	3.827118	1.000632
2016	1.539015	4.256888	3.239462	1.560248	3.854394	0.955511
2017	1.376244	4.258021	3.17847	1.566113	3.793239	0.993252

SOURCE: Researcher (2019)