MASTER THESIS

Titel der Master Thesis / Title of the Master's Thesis

„Impact of The Global Financial Crisis on Migrant Remittances in Ghana"

verfasst von / submitted by

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angestrebter akademischer Grad / in partial fulfilment of the requirements for the degree of

Master of Advanced International Studies (M.A.I.S.)

Wien 2017 / Vienna 2017

Studienkennzahl lt. Studienblatt Postgraduate programme code as it appears on the student record sheet:	A 992 940
Universitätslehrgang lt. Studienblatt Postgraduate programme as it appears on the student record sheet:	Internationale Studien / International Studies
Betreut von / Supervisor:	Professor Werner Neudeck

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Vienna School of International Studies
École des Hautes Études Internationales de Vienne

ABSTRACT

Impact of the Global Financial Crisis on Migrant Remittances in Ghana

by Aji Oumie Jallow

Remittances are an important source of foreign income for the economy and for households receiving the remittances. During the financial crisis in 2008/2009, the flow of remittances dropped slightly. The global effect of the crisis raised questions whether it will also impact the flow of remittances in developing countries. This study examined the impact of the financial crisis in the OECD countries on the remittance flows to Ghana from a period of 1980 to 2012, using the econometric ARDL model for analyses. The results suggest that remittances slowed down between 2008/2009 but did not drop significantly. Thus, the crisis did not have an impact on the flow of remittance in Ghana, from the empirical tests. However, the crisis affected the country's growth rates, trade sector, and employment sector, leaving it in a state of shock. The thesis further suggests that the remittance inflow to Ghana during the crisis acted as a shock absorber for households.

Keywords: *remittances, global financial crisis, Ghana, OECD countries*

Impact of the Global Financial Crisis on Migrant Remittances in Ghana

eingereicht von Aji Oumie Jallow

Rücküberweisungen sind eine bedeutende Quelle ausländischer Einkünfte für die Wirtschaft sowie für jene Haushalte, welche solche Rücküberweisungen erhalten. Während der Finanzkrise 2008/2009 war ein leichter Rückgang spürbar. Die globalen Auswirkungen der Krise warf die Frage auf, ob auch Rücküberweisungen in Entwicklungsländer davon betroffen werden könnten. Die vorliegende Studie analysiert unter Anwendung des ökonometrischen ARDL Analysemodels die Auswirkungen der Finanzkrise in den OECD-Ländern auf die Rücküberweisungen nach Ghana zwischen 1980 bis 2012. Die Ergebnisse zeigen auf, dass in den Jahren 2008/2009 zwar ein leichter, jedoch kein signifikanter Rückgang ermittelbar ist.

Empirische Tests zeigen also, dass die Krise keine Auswirkungen auf Rücküberweisungen nach Ghana hatte. Jedoch hinterließ die Krise das Land aufgrund von Auswirkungen auf Wachstumsraten, den Handelssektor und den Arbeitsmarkt in einem Schockzustand. Vorliegende Arbeit erklärt zudem, dass einkommende Rücküberweisungen für das Land Ghana als Stoßdämpfer wirkten.

Schlüsselwörter (Keywords): Rücküberweisungen, Globale Finanzkrise, Ghana, OECD Länder

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ACKNOWLEDGEMENTS

Firstly, I would like to give thanks to God Almighty who has brought me this far. It is by His mercy and grace that I am where I am today. Secondly, I would like to express my profound gratitude to my academic supervisors Professor Werner Neudeck, the Chair of Economics at the Diplomatic Academy of Vienna and Univ. Prof. Dr. Jesús Crespo Cuaresma of the Vienna University of Economics and Business for their tireless support, patience and expertise towards the success of my thesis. I would also like to extend my thanks to the Administration of the Diplomatic Academy of Vienna. Finally, I extend my appreciation and thanks to my parents, sisters Mariam (Yam Jallow); Mamie Siera; Aji Oley; Amie and my elder brother Ablie for their support, prayers and endless encouragement through my studies. I would not have done this alone without them. My appreciation also goes to all those who supported me in one way or another; I'm grateful. May God bless you all.

CHAPTER ONE: INTRODUCTION

1.1 Background to study

The increasing trend in international migration has significant effects on the inflow and outflow of remittances and these financial flows are becoming important. We live in a demographically polarized world that is shaped by human migration. Every day, people make decisions to leave their origin countries to move to another country in search of work, study (mostly higher levels of educational attainment) or even to reunite themselves with families (Muῆlz- Solari et al. 2010). The increase in globalization, has made this trend easier and more affordable to many. International migration is growing and is likely to grow even further.

Although migration is as old as human history, it has received increased attention and has been identified as an area of priority in the global development agenda in recent years. This is due to the rapid increase in the number of people leaving their home following the end of WWII. The world has witnessed different waves of migration including a forced migration during the time of slave trade, migration from Europe to the new world and the recent migration exodus from Africa and Asia. The migration trends in Africa can be best understood by looking at the political and historical evolution of Africa societies. During the pre-colonial era, large movements of people were to search for better ecological and sociopolitical conditions. The violent and deadly warfares, coupled with natural disasters amongst others and the search for rich farmland area. The colonial rule is said to have paved the way for peace and political stability but internecine warfare surfaced as the independent nations engaged in war within their borders or between other nations. Somalia and Ethiopia are examples of wars engaged between nations. Others such as Angola, Chad, Nigeria, and Uganda faced several and intense internal conflicts and the liberation wars witnessed in West, Central, and South Africa. The occurrence of natural disasters and droughts displaced hundreds of thousands of people in some parts of the Sahel region of West Africa and parts of East Africa and many moved to search for better and much fertile lands. Remittances as already known can not be discussed without referring to migration.

The wide-stretching debate of international migration in the international community and individual states makes it one of the most significant economic and political indicators and a major focus of recent policies. The searches for better economic, political and social prospects over the decades and the external source of capital from the migrant's remittances have grown steadily for developing countries. It is often said that the flow of remittances has become the most tangible and least controversial link between migration and development. However, international migration was largely significant due to the increasing inequalities in terms of development, lack of employment opportunities and the divergent gaps of incomes and social welfare faced in developing countries. However, in Africa the international migration was not solely an economic factor, the political factors were more important than economic. One of the key elements that can explain the political strifes which led to war was the 'mismatch' of the boundaries drawn by the colonial rulers cutting across the homogenous ethnic groups with different social and cultural identities of different countries. For instance, the dispute between Nigeria and Cameroon for over two decades over the Bakassi peninsula, the highly oil-rich island on the West African coast, has left over 65,000 Nigerian refugees in the Minawao camp in Cameroun according to the report from UNHCR (2016). Of recent, the violence from Boko Haram in Nigeria has also forced more than 100,000 refugees in Niger. Somalia and Ethiopia were also in territorial and political conflict from the late 1940s until 2009 which left nearly half a million refugees in Kenyan camps according to UNHCR. According to estimates of IOM, the number of international migrants jumped from 152 million in 1990 to 244 million in 2015 (UNDESA,2015). Approximately half of these migrants reside in ten highly urbanized countries. Globalization has increased the magnitude of migration as well as the remittances inflow. However, immigrants are more likely to be affected by economic crisis, especially when strict controls on immigrants are introduced by governments.

In August 2008, the world witnessed the worst global financial crisis after the great depression of the 1930s. The financial crisis initially became visible when crisis in the subprime mortgage markets in the United States developed into one of the massive international banking crisis, which leads to the collapse of one of the biggest investment banks -the Lehman Brothers investment bank. The banks, such as the Lehman Brothers and some European banks ventured into huge risk-taking investments which helped magnify the impact of the financial crisis globally. Given that banks play a major role in the market system due to globalisation and the massive debt crisis bail-outs by the European financial institutions, the crisis quickly spread into a global economic crisis. The crisis affected many regions of the world in different ways due to their different interactions with the United States and European countries.

There has been a great debate on the global financial crisis and the impact it will have on migrant's remittances to African economies. Concerns were raised among policymakers on the impact the financial crisis will have particularly on the external resource inflows to developing countries which can adversely affect the economic growth and poverty reduction of these countries (World Bank 2009). In the beginning of the financial crisis, some researchers believed that the immediate impact of the financial crisis will have little impact and in some countries it might have due to the low levels of integration of the international financial markets of African economies to the western countries. Others argued that the crisis will force huge influx of migrants to return to their countries which may affect the remittance flows. With the increasing importance of migrant remittances to the developing countries, which was approximately US$330 billion in 2008, concerns were raised that the decline in the remittance flow would affect households and the poor countries that depended heavily on remittances. The global financial crisis provided setbacks towards the progress of achieving the Millennium Development Goals, in particular poverty reduction. Currently, with the Sustainable Development Goals being initiated and the potential financial crisis dilemma, observers believed that these goals could be threatened. Although the crisis started in the United States and around high-income countries, it has created a terrible impact on migrants and developing countries. The global financial crisis provided an environment of threat towards human security, migration and the flow of remittances to developing countries. Migrant remittances tend to be countercyclical when it comes to economic downturns and crisis in origin countries. However, in the past in most developing countries or regions such as Mexico in 1994-95 or East Asia in 1997-98 crisis surfaced from the emerging markets but currently the crisis surfaced from the rich developed countries and spread through the developing countries. Thus, there was not a clear estimation or analyses of how remittances will react in response to the economic crisis of host countries.

Migrant Remittances are an important and essential external financial source for labor exporting countries. Recognition for the importance remittances had for developing countries became prevalent in the early 1980s. It was seen as a compensation for the loss of human capital for the developing country because of the migration of labor but had potential to boost the growth of the economy in many ways. The importance and significance of this external source of capital have also been recognized by the United Nations, as one of the methods for domestic financing for the 2030 Sustainable Development Agenda. The remittance inflows to most of the developing countries in 1989 amounted to US$75 billion, which increased to US$125 billion in the mid-2000s to more than US$350 billion by 2011, and by 2016 officially recorded remittances amounted to more than US$440 billion, according to the World Bank. Migrant remittances are considered an important source of foreign exchange to the economy as it represents a higher proportion of foreign exchange for covering the Balance of Payments deficits and a significant source of income for recipient families.

Officially recorded remittances flow to Africa was an estimated amount of US$9.1 billion around 1990. In 2010, the estimated amount of the migrant remittances to Africa amounted to nearly US$35.2 billion (World Bank, 2011). The true size of migrant remittances has not been recorded due to poor data collection especially with the informal remittances-receivign inflows, thus the true value of remitances is expected to be larger than the figures given. An equivalent of 31 million African migrants send remittances to and within the continent of approximately USD$40 billion in 2010 (divided equally between the North and Sub-Sahran Africa), which was equivalent to 2.6 percent of the gross domestic product of Africa, according to the International Fund for Agriculture Development (IFAD 2009). In Nigeria, its substantial share of remittances of US$10 billion in 2010 equaled to half of all the officially recorded remittances to sub-Saharan Africa, this could be due to its high population size. Other countries such as Sudan, Kenya, Senegal, South Africa and Uganda record high levels of remittance inflows. When remittance is calculated as a share of GDP, countries such as Lesotho with 28.5 percent of GDP, Togo with 10.7 percent, Senegal with 9.3 percent, The Gambia with 8.2 percent are recorded as the largest recipients. In Northern Africa, the Arab Republic of Eygpt and Morocco are the largest recipients interms of inflows and share of GDP in North Africa. They account for three-quarters of the inflows of remittances in the North African region (IMF 2010a).

The flow of migrant remittance has become an important and essential source of income. It remains as one of the less volatile sources of foreign exchange incomes for developing countries. From various literatures, migrant remittances for some time has been stable and even countercyclical to economic problems, whether it is financial crisis, political instabilities or natural disasters for remittance-receiving countries (Ratha 2003;World Bank 2006a).

The flows of remittances to developing countries fell by 5.2 percent of the total annual remittance flow in 2009, which showed an indication of resilience of remittances when compared with private capital flows, which declined steeply (Ratha and Sirkeci 2010:126). The flow of remittances to developing countries started declining by the third quarter of 2008. The officially recorded remittances flows to developing countries in 2007 was at US$279 billion and this increased in 2008 to US$324 billion, but by 2009 the remittances flow declined to US$302 billion. This decline in remittances was smaller than the decline in Foreign Direct Investments (FDI), which declined from US$540 billion in 2008 to US$385 billion in 2009. This implies that remittances showed more resilience relative to other capital flows.

In Africa, the major migration destinations are the United States, Europe and other OECD countries. When these major destinations for Africans are experiencing an economic crisis, then its snowball effect will immensely affect not only the incomes of migrants and their employment opportunities but can also reduce the willingness of migrants to stay in their host countries and also reduces their ability to remit funds to their origin countries. This expectation was realised when a decline in the general remittances flows was recorded in 2009. The effects of crisis can also place a negative impact on macroeconomic indicators, in particular trade and capital flows which has a negative impact on African economies. The economic growth in Africa increased from 5.7 percent in 2006 to 6.0 percent in 2007, but when the crisis became evident in 2008 the economic growth in Africa declined to 5.1 percent and even further down in 2009 (UNECA,2009). In Ghana, economic growth slowed down from 8.4 percent in 2008 to 4.7 percent in 2009, mainly due to the impact of the global crisis. The flow of remittances has been measured to exceed relatively the Official Development Aid (ODA) on a global level, that is, from the advanced economies to the developing countries. Whether remittances has an impact on the socio-economic inequalites of developing countries, is still debatable. Some researchers have argued that migrants remit funds depending on the motivations involved to remit, whilst others argue that remittance flows does reduce poverty by increasing the incomes of households, it provides for more equality and contribute to economic growth through indirect multiplier effects from the works of (Adams and Page 2003, 2005; Ajayi and others 2009;).

1.2 Problem Statement

The global economy in turmoil and the deepened global credit crisis that started in 2007 came into full blown effect by the second quarter of 2008, at the same time when there were two major upward spiral shocks of food and fuel prices. These shocks resulted in consumers losing confidence of the economy and slowing down their private investments, particularly in developed countries. These shocks however came at a moment when the economy of Ghana was growing but at a vulnerable state. The deficits in the current account increased as the world food prices and oil continued to increase. The continuous increase of price in the world market for the crude oil increased the costs of production in Ghana. This increase of cost resulted to higher prices of goods thus inflation, which was an estimated 18.1% in 2008 from 12% in 2007. In that year government increased spending to alleviate the adverse impact of the higher prices, which resulted to a budget deficit of about 12% of GDP reducing the gross international reserves significantly to cover for the imported goods and services. The flow of remittances in Ghana increased in 2007 to 2008 from US$117 billion to US$126 billion but this followed a decline in 2009 to US$114 billion. The World Bank thus categorised Ghana "as among the countries considered 'highly exposed' to the global financial crisis". From the report, the crisis affected the financial sectors such as the stock markets, banking sectors and foreign direct investments (FDI) before it spread to other sectors such as remittances, aid and trade.

A number of studies have been done on the impact of the crisis on advanced economies or on the global economy and few studies have been conducted on the effect of the crisis on the migrants' remittances inflows in Sub-Saharan African countries. This realisation has stimulated a great deal of debate on how different countries were perhaps affected when the crisis unfolded, and the ways it might have affected the flow of remittances which is an important source of income for households and a source of foreign exchange for their economies. Also, given the importance placed on remittances to the household welfare and poverty reduction in Ghana. To understand how the global financial crisis will influence migrants' remittances flows and by extension poverty and economic growth in a particular country in the region needs to be explored. Due to this, the paper attempts to fill that knowledge gap by estimating and assessing the impact the global financial crisis had on the migrant's remittances to the Ghanaian economy.

1.3 Study Objectives

From literature, financial crisis can have an immense impact on the remittances flow and migration pattern of an economy. This leads to the aim of this study to empirically investigate:

To investigate whether the global financial crisis had an impact on the flows of migrant's remittances to the Ghanaian economy.

1.4 Hypothesis

To test for the significance of the parameter the following hypothesis will be used:
H_0: The change in economic activity in developed economies due to the financial crisis will affect remittances negatively.

1.5 Data Source

The study employed the use of secondary data. Time series data on the annual remittances, GDP growth rates of Ghana, GDP growth rates of the OECD countries, consumer price index (Ghana), and the real exchange rates are studied over the selected time period of 1980 to 2010. The secondary data is used for this analysis, as a result of the verification process being more rapid, and the reliability of information and conclusion being greatly enhanced. Also, it was readily available and therefore, convenient to use (Ghauri, et al. 2002). The source of data is the World Development Indicators from the World Bank open data portal.

1.6 Organization of study

The study is organized into five chapters. The first chapter gave a background study of the global financial crisis,migration and remittance pattern in Africa and then gives a description of the migration and remittances pattern in Ghana over the years. The second chapter explores the theoretical review of migrants' remittances and an empirical review of previous studies globally on this said topic. In the third chapter focuses on the methodological part of the study, whereas the fourth chapter is devoted to the exposition of the data. The findings and results of the study, as well as recommendations and proposals for effective policy related implementation, are presented in the fifth chapter.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

The subject of migrant remittances is one that is discussed due to its effects on the day-to-day life of the average individual and country as a whole. Remittances consist "of goods or financial instruments transferred by migrant living and working abroad to residents of the home economies of the migrants. It is limited to transfers made by workers that had stayed in foreign economies for at least one year while transfers from migrants that are self-employed are excluded" (IMF, 1999). These foreign remittances cater for various sorts of expenditures such as day-to-day support for the basic livelihood needs (food, clothing, health care etc) of the recipient, to investments such as building houses or setting up businesses and to improve the living conditions of migrant families in order to remove them from poverty.

The International organization for Migration (IOM 2006) defined remittances "as the financial flows associated with migration, in other words, personal cash transfers from a migrant worker or immigrant to a relative in the country of origin."

International Labour Organization (ILO,2000), defined it "as the portion of migrant workers' earnings sent back from the country of employment to the country of origin."

In the 5th edition of the IMF Balance of Payments Manual (BPM5), "workers' remittances is defined as an item under current transfers by migrants who are employed in new economies and considered residents there and a migrant is 'a person who comes to an economy and stays there, or is expected to stay, for a year or more.'"

Berhane Tewolde (2005), defined remittances "as monetary and non-monetary items that migrants earn while working abroad and sent back to their families living in their homeland." Whilst, Ratha (2003) defined it "as capital transfers which are assets that a migrant brings into or takes out of the country."

This chapter is divided into four sections: the first part is the different measurements of remittances in the balance of payments account, the second part is the overview of the financial crisis, the third part gives an overview of the country context–Ghana. From there the various theoretical approaches towards remittances and the theories that motivate migrant to remit would be explored. In this study, various studies that have been done on the subject are considered, therefore the final part will look at the empirical reviews on the said subject.

2.2 Measuring Remittances

According to the The International Monetary Fund (IMF), the measurement of remittances is recorded in different sections of the balance of payments. To measure the impact on the Ghanaian economy from its expected change in the remittance inflow is simply by measuring the changes in the remittances inflows that are likely to occur. Remittances in Ghana is well known to be often transferred through informal channels such as family members travelling back to Ghana and friends. This way of informal transfers of funds to Ghana is commonly called "in the back pocket" which is the most important and frequent method used by Ghanaians. Thus, the transferred made through these informal channels can only be roughly estimated. The flow of remittances is not only important to households but also serves as an important source of foreign exchange for the economy and this is widely acknowledged in Ghana. The Bank of Ghana have been more diligent in its collection of data on the remittance flows. They require all registered banks and transfer agencies as part of their policies to provide accurate and reliable data on the remittances inflows and outflows in the country. The estimated value of the formal remittances recorded by the Bank of Ghana are higher than the recorded estimates made by the IMF's Balance of Payments (BoP) statistics. This is because the Bank of Ghana estimates for the informal remittances flows to be higher than the formal recorded flows (Addison 2004). The volume of recorded remittance flows for Ghana based on Balance of Payments offical data sets, as a percentage of Gross

Domestic Product (GDP) are lower when compared to other African countries. From the data, Ghana is not among the top ten remittance recipients in Africa, which can be surprising considering that the country has experienced mass emigration from the 1960s upto date. The Bank of Ghana has placed strict reporting rules for the banks and other transfer agencies. This is due to the low levels of remittances recorded which can be from banks and transfer agencies under-reporting their statistics.

In the Balance of Payments statistics, within the category of formal remittances, there are different ways of measuring it. The World Bank records the most reliable and often-used databases on remittances. The data considered as "remittances" are three distinct categories of transfers. The first is *workers' remittances* which records "the current transfers made by migrants who are employed in host countries and considered a resident after a year or more". Another is the *compensation of employees*, which "comprises of wages, salaries and other benefits (in cash or kind) earned by individuals in countries other than those in which they are residents for work performed for and paid by residents of those countries. Included are contributions paid by employers, on behalf of employees, to social security schemes or private insurance or pension funds to secure benefits for employees." Employees, in this context, include those seasonal workers or short-term workers for less than a year and even border workers who still have economic interest in their own economies. The compensation received by the local staff in the host country working in institutional entities such as embassies and consulates are classified as paid residents by nonresidents entitites in the Balance of Payments account, this is because these institutions are considered extraterritorial to the economies they are located in. Finally, the *migrants' transfers* are "contra-entries to flows of goods and changes in financial items that arise from migration (change of residence for at least a year) of individuals from one country to another. The transfers to be recorded are thus equal to the net worth of the migrants.This is recorded as a one-time flow of capital transfer in the capital account when a person migrates and it shows the net value of assets and liabilities of households that change their status from non-resident to resident".

The United Nations Technical Sub-group (TSG) worked in consultation with the IMF Committee on BOP Statistics and the Advisory Expert Group on National Accounts on the extension of the definitions of remittances. Recommendations of definitions given were incorporated in the BPM6, which is the new template for compilation of Balance of Payment statistics. Most countries are yet to incorporate the new template. Remittances here are defined in terms of “personal transfers, personal remittances, and total remittances”. These are defined as:

a. Personal Transfers which “consists of all current transfers in cash or in kind made, or received by resident households to or from other non-resident households.”

Personal transfers include “all the current transfers from resident to non-resident households” which are independent of:

- The sender's sources of income, whether it is “wages and salaries, social benefits or any other type of transfers” which includes transfers from an individual “receiving no income and running down his/her assets;”
- the relationship between the migrant sending and the household receiving; are they related or not;
- the purpose of the transfer made.

b. Personal transfers are broader than workers’ remittances in the BPM5. Due to this, the “workers’ remittances” is renamed to “remittances of resident employees” in the BPM6 to “maintain the continuity of the time series, but will be recorded as an “of which” item of personal transfers and will be considered as a supplementary item”.

Personal remittances “includes all current transfers, except for net non-life insurance premiums and non-life insurance claims paid or received by resident households, capital transfers received by households and compensation of employees. Mathematically it is thus:

Personal remittances = *compensation of employees – social contributions + personal transfers + capital transfers between households*

Personal remittances are essentially household-to-household transfer, with net compensation of employees approximating an unrequited flow from the household to itself.”

c. Total remittances are “the sum of all personal remittances and current transfers to households and non-profit institutions serving households (NPISHs) from any sector. It is thus calculated as:

Total remittances = *personal remittances* + *social benefits* + *current transfers to NPISHs.*

The total remittances cover all flows from abroad which are either receivable by households directly or indirectly through NPISHs in the home countries for their benefit.”

In most studies on remittances, researchers sum up all three types, which are workers’ remittances, compensation of employees and migrants’ transfers and label it as “remittances.” According to Chami et al(2009), they explained that the aggregation of these transfers is not appropriate to use when conducting econometric estimates since the different types of transfer have different properties which respond to economic shocks differently. Thus, in this paper, we use the personal remittances data from the World Bank as our measure of remittances.

2.3 The Origins of the Crisis

The immediate sign of the economic crisis was first felt in the US financial markets. In 2008, the global economic crisis was sparked by the bank failures in the world’s biggest economy, the USA. The crisis has its roots in the politics of the highly unregulated transactions by the financial sectors in the housing markets, in the end of the 20^{th} century and early 21^{st} century. In the early 2000s the US experienced a boom in the housing markets which was a government policies to increase the housing ownership in the US. This lead to increased levels of investments around the world, through the mortagage-backed securities and various financial institutions into the housing markets in the US. By 2006, the total value of the home equity peaked to about US$13 trillion and between 2000 to 2005, the market value for houses grew by 50%. During the Clinton and Bush Administration, low interest rate policy regimes were introduced, this however reduced the yields from the prime mortagages. Due to this phenomenon, the banks resorted to sub-prime mortagage lendings. The crisis started becoming even more prevalent when the banks figured out a way to escape the risk of not getting their returns on their issued mortgages they sold the mortgages in “complex products” to investment banks. Banks marketed recklessly the mortgages to those people that were financially insecure and not credit worthy households, because the issuance of loans seem to be longer risky for them thus increasing the vulnerability of the banks of their interest rate risks.

In early 2006, the sub-prime mortagages markets began to experience high levels of default. Households could no longer meet up their obligations to pay for the loans, that was to be paid initially within two-years on the low interest rate period, thus borrowers were confronted to pay higher interest rates which more than tripled the debt than the average income of the borrower. The house prices dropped significantly to a point that borrowers could not resell their houses to pay off their debts. The debts was more than the value of the houses. By mid-2008 the total value of the home equity dropped to US$8.8 trillion, and securities backed by the sub-prime mortgages lost its value. Banks in the US experienced a gradual diminish in the size of their capital. Major banks and financial instituitons reported massive losses due to bad loans.

The financial crisis in the US spread globally through trade and financial linkages. With the credit crunch, consumer spending in the US dropped immensely, thus global exports decreased which lead to massive lay-offs and redundancies. With the housing prices in the US on the rise, foreign banks and investors found the prices as a good investment to make. However, the US sold the high risk sub-prime mortgages debts to the foreign banks and investors. When the value of the mortgages started to lose its value, the value of the securities also began to fall. Investors attempted to liquidate their asset holdings when the prices of their assets were falling. However, investors and banks could not sell off their assets due to lack of buyers in the market. International banks began to increase the interest rate at which they lent money to one another. In August 2007, the biggest bank in France suspended retrieval of its investment funds, by September that same year British banks experienced its first bank run among other banks in Europe such as the Deutschebank, Royal Bank of Scotland and Credit Suisse.

Efforts to stabilize the financial system created for a new financial crisis, which is the excessive sovereign debt in Europe. The European political crisis was deepened by the recession that followed from the financial crisis. Greece for one was a huge debt crisis due to the mismanagement by the Greek government in maintaining its social welfare without having to do it in excess. This left the European Union to bail-out Greece and other countries.

The crisis caused a severe blow to the political system in Europe, from mass demonstrations, strikes and political turmoil. At the national level, two-party systems were formally the norm for decades which soon were swept away with the emergence of new party systems. With the catastrophe of the 1930s in mind, the fear of ongoing political radicalisation in the wake of economic and financial disasters looms large in the public discourse. From historical reviews, politics always take a hard turn after a financial crisis. The gains of extreme right-wing parties became more pronounced after the economic recession of the 1920s/1930s and even after the 2008 financial crisis. Another problem faced by governments after a financial crisis is the increased levels of fragmentation in the governmental system, meaning that governing was becoming more difficult, larger parties were becoming smaller, and new parties were winning in certain areas but not landslide victory. “Government majorities shrink and parliaments tend to fragment”, as confirmed by Mian *et al* (2012), and the overall number of parties represented in parliament increased significantly. The most significant thing that countries affected by the financial crisis will experience is the amount of political protest that triggers. The number of anti-government demonstrations, violent riots and general strikes becomes evident.

2.4 Ghana: A Country Context

Ghana is located in West Africa and shares boundaries with three countries, Burkina Faso in the North, Togo in the East and Cote d’Ivoire in the West, it shares a frontier in the South with the Gulf of Guinea. Ghana is a multicultural nation, with variations in its ethnic, linguistic and religious groups. It has a population of 28 million based on the latest United Nations estimates, with a total land area of

238,535 km^2 (92,099 sq miles) and water 4.61 (11,000 km^2 / 4,247 mi^2). The country is divided into 10 regions and 170 districts. Ghana is known for its natural resources such as the industrial minerals, hydrocarbons and precious metals (especially Gold) and cocoa. Thus, the economy of Ghana is largely agrarian but depends on a small number of its exports on timber, gold, and cocao.

In the beginning of the 15th century, many Europeans powers disputed over the trading rights for ultimate control of Ghana, until the British were able to have full control of the coast from the 19th century. The current borders of Ghana were established by the British and were referred to as ‘the British Gold Coast’, a trading path for slaves and gold and other natural resources. After series of conflict within the region between the nationals and the colonize power, Ghana gained independence on the 6th March 1957, under the leadership of Dr. Kwame Nkrumah. Ghana became the first colony in sub-Saharan African nation to achieve self-government. Ghana spearheaded the political advancement for Africa and it was Dr. Nkrumah that laid the foundation for the Organization of African Unity (OAU). Since attaining independence the country has had both civilian and military administrations and is currently under a democratic government.

The Ghanaian economy, since attainmnent of independence in 1957 has gone through different cycles of growth, some marked by poor economic performance and military coup d’états through to the 1980s. Dr. Nkrumah pursued social democratic policies that the British initiated, taking loans to establish industries. However, these policies came to a halt when the price of cocoa collapsed in the mid-1960s. The policies initiated destroyed the Ghanaian economy, leaving the country with a series of economic crisis and political crisis that inhibited the growth and development of the country.The economy faced severe rising unemployment levels, the balance of payment recorded deficits, high interest rates, an overvalued currency, skyrocketing inflation rates and a dampening social welfare. With these unfavourable conditions, investments and growth in Ghana was dreadful. The living conditions became difficult for both foreigners and citizens. This alone was an initiative for emigration for many Ghanaians in search for greener pastures, where individuals and ethnic groups moved in search for security, and new land for settlement and farming but as the economic situation became worse, skilled labour both foreigners and citizens started migrating out of Ghana and this included a lot of professionals such as teachers, lawyers, and administrative personnel. The introduction of the Aliens Compliance Order did more havoc as Non-Ghanaians were expelled out of Ghana for invalid documents which increased the migration prevalence from 6.6 percent in 1960 to 12.3 percent in 1970.

The decade 1972-1981 was characterized by one military takeover to another, thus when the Economic Community of West African States (ECOWAS) was formed in 1975 it ignited for further emigration of Ghanaians to neighboring West African countries such as Nigeria, Sierra Leone, The Gambia, Benin, Ivory Coast, since one of its prime objectives for the regional organization was to facilitate free movement, employment and residence within the community.

In the early 1980s, Ghana's economy was in an advanced state of collapsing. The cocoa production declined, at the same time their mineral production fell by 32 percent, gold production declined by 47 percent, diamonds by 67 percent, manganese and bauxite declined by 43 percent and 46 percent respectively. Inflation in 1980, averaged to more than 50 percent, by the following year inflation more than double to 116.5 percent. Real minimum wages dropped from an index of 75 in 1975 to 15.4 in 1981. This alone became an incentive for the huge scale of migration in the early 1980's when semi-skilled and unskilled Ghanaians immigrated to other West African countries (Anarfi 1982). More professional personnel migrated due to the high demand for their labor abroad and it was seen as the only way to survive the harsh economic situations and provide a better living condition. It was also estimated that during these periods approximately two million Ghanaians emigrated. The situation was further worsened by the deportation of approximately 1.2 million Ghanaians from Nigeria. However, this figure excludes the professionals and their dependents. Migration had caused a loss of the country's much-trained personnel. For instance, it was estimated that about 50 percent of Ghana's architects migrated to Nigeria. In 1986, approximately 500,000 to 800,000 Ghanaians were living in Ivory Coast (Anarfi, Awusabo-Asare et al. 2000). In the mid-1980's the government of Ghana introduced a Structural Adjustment Programme to reduce the declining rate of the economy, however, to create for staff redeployment and the withdraw the subsidies on social services such as health, transport, and education but this instead created further emigration.

Through the 1990s, migration of Ghanaians moved from neighboring countries to other parts of the world. This emigration of Ghanaians to neighboring countries continued through the 1990's until recent times. On the international level, large scale Ghanaians emigrated for better economic and educational/training opportunities. However, a new phase of migration of Ghanaians involved moving to major cities such as New York, London, Amsterdam and Hamburg (Black, Tiemoko et al. 2003). Ghana experienced huge migration from its health professionals, an estimate of over half of the doctors trained in Ghana migrated. According to Mensah et al (2005), the total number of doctors registered in the UK and trained between the years 1999 and 2004, doubled from 143,000 to 293,300. The Gross Domestic Product (GDP) in Ghana was worth US$37.86 billion in 2015, and its GDP per capita was recorded at US$1696.08 reported by the World Bank.

From 1986 to 2000, approximately 49,703 Ghanaians migrated to the United States. By 2001 approximately 104,000 Ghanaians were living in the US and in 2015 approximately 235,000 were living in the US, whilst 114,335 were registered in Canada. In 2012, the Ghanaian diaspora transferred US$ 33 million to Ghana. In 2014, Ghanaians residing in the UK sent home a total of US$ 16 million.

2.4.1 Ghana before the crisis

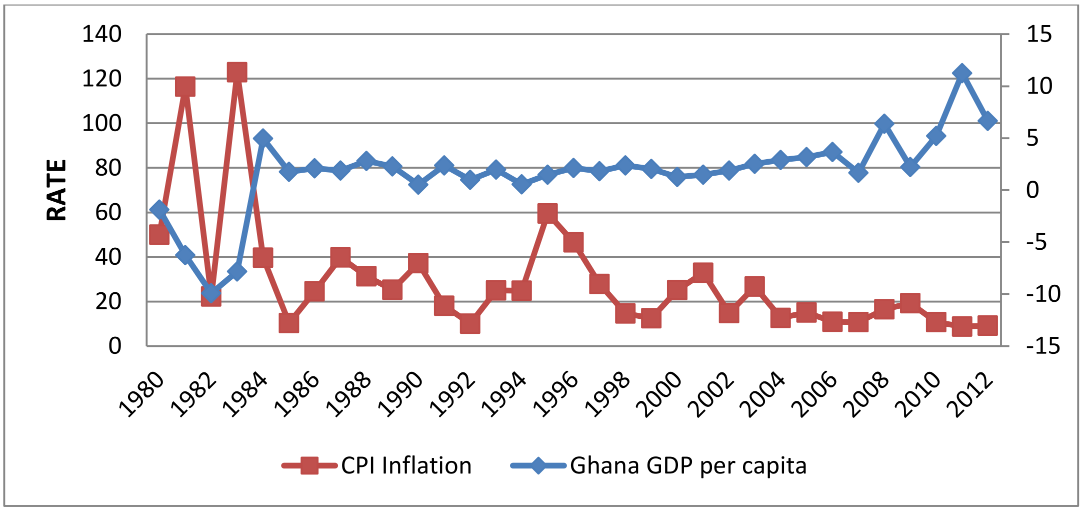
Figure 1 shows the real GDP growth rate and inflation in Ghana from 1970-2012. There has been series of changes in the Ghanaian economy since after their attainment of independence, ranging from the poor economic performances in the 1980s, which was due to the poor market prinicples in the national economic policies.The economy of Ghana continued to face major downturns when its inflation rate hit its all-time high of 122.8 percent in 1983, the highest since independence. This was as a result of the intensive drought and bushfires which destroyed large quantities of food crops in 1983 and so created serious food shortage in the country. Low productivity became inevitable, the real GDP growth rate in the 1980s averaged to about 1 percent per year and high inflation rates.

There was high interest rates which lead to abnormal growth rates. These issues lead to difficulties for the economy such as, limited accessibility for international credit funds, the foreign direct investments declined as well as the decline in country's exchange rate in comparison to othr major currencies and a fall in their international trade.

It was until the late 1980s and the early 1990s that the country returned to a multiparty democracy and constitutional rule which marked the beginning of a groundbreaking economic and political progress. With the high commodity prices of cocoa and gold and a set of new market reforms, both public and private sectors experienced growth. The improved macroeconomic stability reforms, the significant inflows of external financing and debt relief and political conditions within this period, the country experienced a real GDP growing at a steady state of about 5 percent per year over the last 20 years. From 1997 and 2005, real GDP growth rate averaged to about 5.9 percent annually (ISSER,2012). The economy grew by 6.2 percent in 2006 and in 2007 the country discovered oil in commercial quantities. It was expected that Ghana will become a significant hydrocarbon province in West Africa, however in 2007, economic growth increased very marginally to 6.3 prcent in 2007, that is, by 0.1 percentage points which was attributed to the effects of the high crude oil prices and energy shocks at that time (ISSER, 2012). Inflation rates has declined from 45 percent in 1995 to about 10.5% in 2007. The Ghanaian government from year 2000, had its principal objetive to reduce the domestic debts and stablize the GDP performance of the country. In 2001-2005, their effrts were realised in the improvements of their budget balance. However, fical deficits were very low due to the new measures to improve their revenue expansion and economic expansion. With the growing economic level Ghana was their current account balance showed deficits between 2002 to 2007. The current account deficits was due to the increase vlaues of their imported goods, services and investments, when compared to the value of their exports. This is referred to as trade deficits. Ackah et al.(2009), revealed that imports in Ghana increased from US$3232.8 million to US$8073.57 million during 2003 to 2007. Exports during this period increased from US$2562.4 million to US$4194.7 million.

At the end of 2008, during the financial crisis the inflation rates in Ghana was approximately 18.2 percent and continued to rise through to 2009 to about 20 percent, the highest in more four years. The Ghana cedi was losing value against all the major currencies after the second quarter of 2008, therfore depreciating by 20 percent and 16 percent against the US dollar and euro respectively.

Figure 1: Real GDP growth rate and inflation, 1980-2012 (%)



Source: World Development Indicators

2.4.2 Trends in Remittances and other capital flows

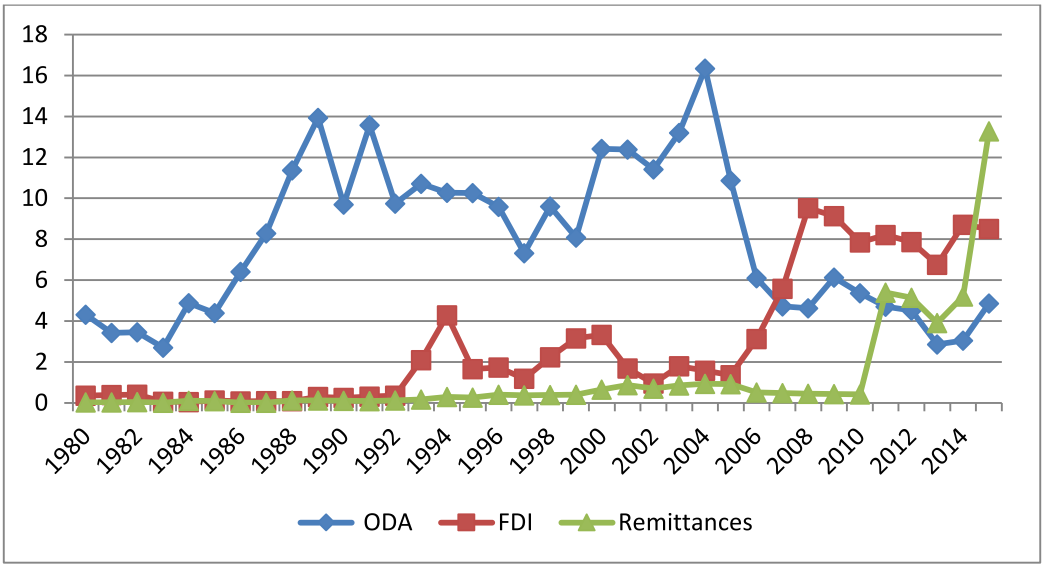
The importance of remittances from abroad for the survival of most Ghanaian households and injection of money into the economy cannot be gainsaid. Remittances play an imporatnt part of the nation’s economy (ISSER 2004). The remittance contributions to households in Ghana has increased over the years significantly, with the increasing Ghana migrants living abroad. These incomes received by households have been a buffer to expenditures for many households particular in times of economic shocks. Apart from that, remittances have increased the foreign exchange in Ghana. The importance and growth of the migrant remittances into the economy has caused a rapid increase of formal and informal money transfer institutions in Ghana. According to Addison (2005), remittances flows are measured in three ways in Ghana: The Balance of Payments (BOP) estimates conducted by the Central Bank of Ghana, the Ghana Living Standards

Survey (GLSS) which is conducted by the Ghana Statistical Service and thirdly the transfers through banks or other financial institutions in origin countries.

Official recorded remittance flows in Ghana has been increasing but at a steady rate since 1980 up to 2000, from Fig 2. Within that period the foreign direct investments and official development aid has been fluctuating form high to low levels in the country due to various indicators. The country's economy is also donor-dependent and this is reflected in the yearly budgetary support from her development partners. For instance, when the country opted for the Highly Indebted Poor Countries (HIPC) initiative in February 2001 and generated more than US$3.5 billion of debt relief, this gave the country an opportunity to increase its expenditure on education and socially sensitive sectors of the economy. In 2002, development strategies were consolidated into the Ghana Poverty Reduction Strategy (GPRS 2003-2005) now called the Growth and Poverty Reduction Strategy (GPRS 2006-2009), among other programs to name a few; the Ministry of Manpower, Youth and Employment (MMYE), the Livelihood Empowerment Against Poverty (LEAP) to stabilize the macroeconomy. By 2005, the ODA received in Ghana declined sharply and has been until today. In 2006, total grant received in the country amounted to US$565.0 million. Multilateral HIPC funds, grants on programes and projects amounted to US$56.6 million and US$312.5 million respectively for the following years. The foreign direct investments in Ghana was not substantial during the 1980's and this could be due to the economic climate of the country at that period of extremely high inflation rates and stagnate GDP growth rates. From 2005, the economy Ghana was showing signs of economic strength. That same year, Ghana was featured as one of the top 90 countries in the world to do business (GIPC, 2008). The flows of FDI more than doubled between 2006 and 2007 from US$2.3 billion to US$5.3 billion. This improved business and investment climate resulted to increasing levels of FDI, which created employment opportunities for the Ghanaian economy, improved the service sector, maunfacturing and major trading sectors. According to Addison in 2004, the formal and informal inflows of remittances from abroad to Ghana is expected to be higher and relatively more stable than Official Development Aid (ODA) and FDIs.

However, after the global financial crisis in 2008, there has been a decline in investments in Ghana, FDI declined by 16 percent to an estimate of US$4.4 billion. There has been visible trends of increasing capital outflows and this can be due to the increase in capital repatriaition by overseas investors in Ghana. Money has been moved out of the markets, for investors to be able to restructure their risk portfolios and strenghten their balance of sheets. The declining rates of investments meant that unemployment rose, other sectors such the cocao processing experienced a decline in its proceeds, crude oil prices plunged, the timber trade and service sectors all declined. According to the Bank of Ghana (2009) the data recovered from the banks showed that the flows of remittances was much lower by the last quarter in 2007 where remittances was US$718.3 million. The private inward transfers of remittances received through the banks by in first quarters of 2008 amounted to US$990.2 million and by the last quarter of 2008 when the global financial crisis became apparent, the remittances flows dropped to US$ 608 million. From data recovered from the banks and informal transfer channels in Ghana, the flow of remittances increased in 2007 from about US$4.8 million to about US$8 million in the fourth quarter of 2008. The higher inflows in this time can be explained in part by the Christmas period where remittances ar usually higher and a lot of the migrants go home to celebrate the holidays. The decline of remittances in Ghana was realised more in 2009 to about US$6 million. The slowdown in remittances flow has been due to the job cuts in the United States and Europe which affected migrants including Ghanaians. In times of economic downturns, immigrants workers are the most likely to suffer from job losses and therefore Ghanaians abroad are likely to be affected. The effect is that households which depend either in part or wholly on remittances from abroad would face serious economic hardships. In addition, as the flow of remittances from the Ghanaian migrants abroad is reduced, it does not only affect households but also artisans such as carpenters, masons and others who earn their incomes through the projects they work on for the migrants abroad. It should be noted that quite a sizeable percentage of remittances from abroad goes into building houses or other investments in Ghana. Thus the growth rate of Ghana's housing stock may also be affected. The interesting aspect of the remittance flow in Ghana is that, by looking at the diagram, remittances seems to increase from 2010 onwards. This is a why the paper will empirically test the impact of the financial crisis in Ghana and possibly provide an explanantion for its after effect on the capital inflows.

Figure 2: ODA, Remittances and FDI (% GDP) 1980-2014



Source: World Development Indicators

According to Boateng et al (2013), there should be an expectation of remittances into an economy to continue to increase because of the depreciation of the Ghana cedi against the major foreign trading currencies. The Cedi depreciated by 36% against the US dollar and other major currencies as of mid-2008. It can be seen from this that Ghanaians will want to take advantage of this depreciation by sending in more remittances. Data from the Central Bank of Ghana shows that inward remittances through the banks or other formal finance institution amounted to about US$1.017 billion in 2005, compared to US$479 million in 1999.The Offical Development Assistance and the FDI to Ghana have been very significant over the years to more than a third of Ghana's GDP. The estimated total amount of remittances in 2007 were US$4.7 billion, compared to US$9.2 billion in 2006. Remittances in Ghana by 2011 was more than the ODA, this increment can be explained by the Bank of Ghana's policy to record data from both the formal banks and informal transfer agancies. This shows the significant increase of remittances in 2011 in the graph above. In 2012 the total remittances of Ghana were valued at US$ 151 million; representing 40% of the countries' GDP and in 2015 an estimate of US$ 2 billion was recorded as the value of remittances in Ghana, according to

World Bank. In 2016, remittances recorded a slight drop to an estimate of US$1.92 billion, which could be a reflection of the slowdown in China's growth prospects and the falling oil prices.

2.5 Theoretical Review

2.5.1 The Concept of Remittances

The definition issues of remittances created two separate schools of thoughts or views; the Optimist views and the Pessimistic views. The Optimist theories developed first from developmental optimist views between the 1950s and 1960s, which lead the Pessimism theories to emerge in the 1970s and 1980s, to a more optimistic view from the 1990s to date. The Optimists hold that remittances have a positive impact on the remit receiving country in various ways as it can be an impetus to stimulate the growth of an economy, reduce the poverty rates and to help governments on foreign exchanges when faced with large external deficits. However, according to the Pessimistic view, remittances has a negative impact on an economy, they argue that it creates for higher dependency rates on foreign goods and aid which leads to 'over-consumption' and 'unproductive investments' which can inhibit growth and development of the recipient countries (Englama, 2009). Both of these views serve as origins for the development of the theories that link remittances to the theories on migration. According to Haas (2007), there have been several debates on the opposing views of the "migration optimist" and the "migration pessimists" which elaborates on the 'paradigmatic divisions' in the social and development theories.

According to the Classical theory (the 1950s and 1960s), "the inflow of large capital and industrialization will foster their economic growth and also increase on modernisation. For the developing countries, migrants should be seen as the agents of change, they accelerate investments, exposure to rational, democratic ideas, modern knowledge and education. Developing countries started to actively encourage migration as it was considered instrumental to the promotion of national development".

The Optimistic views of Neo-classical theory on migration argue that migration, in fact, benefits both the sending and receiving countries. Movement of labor within or across borders is one of the requirements needed for economic growth and thus a component for development. When there is free movement of labor, scarcity of labor will be evident in the country where labor is in abundance. Theoretically, the marginal productivity of labor will increase in the labor exporting country which thus increases the wage levels. The flow of capital moves in the opposite direction meaning capital will flow in the labour-exporting country. Therefore, the role migration plays in development would be entirely realized. According to Djajic (1986), the Neo-classical theories failed to explain the role of remittance flows to origin countries.

According to the Development theories of the 1950s and 1960s, migrants are viewed as ‘agents of change and innovation’. Their role is not only to remit to their origin countries money but they also transfer knowledge, innovative ideas and entrepreneurial skills into their countries. They create modernization in developing countries as well as jobs and opportunities which can stimulate growth for an economy. The “developmentalist” view that emerged after the Second World War, was rooted in the ideas that the decolonised countries would quickly follow the development patterns of Western countries by rapid economic growth, modernisations and increase in industrialization. The developmentalist approach suggested that with large flows of capital transfers such as development aids, loans, and remittances, the poor decolonised countries would experience increased growth rates and industrialization. According to Keely and Tran (1989:500), the increase of migration in a country is expected to improve the living conditions of households in migrant-sending countries and to “improve income distribution and quality of life beyond what other available development approaches could deliver”. The so- called “MIRAB” model from Bertram (1999) which is a combination of ‘migration’, ‘remittances’, ‘aid’, and ‘bureaucracy’ should kick-start the economic development of the developing nations.

The Pessimistic views challenged the optimistic views through the Structural and Dependency theories. This theory states that migration is seen as a “flight from misery” which has been caused by the growth of capitalists which does not solve the structural factors that cause for migration, thus migration increases or worsens the problems of underdevelopment. It undermines the skilled and productive manpower of the underdeveloped societies. For most of these countries, the State had invested many years towards the education of its population, and thus increase of migration deprives the country of its skilled and professional labor, also known as, “brain drain”. The remittance flow generates ‘over-consumption’ which causes high inflation rates and few or unproductive investments.

According to the Cumulative Causation theory, explains that to the development of capitalist systems leads to increase inequalities in welfare. In the event of differentials in growth, the internal and external economies of scale deepen and worsen the cycle of poverty in the periphery regions and increases growth in the core region, this can also be explained by the “agglomeration and multiplier effect”. Therefore, investments in this periphery are drained which forces for migration out of the peripheral area and countries to core countries. According to Myrdal (1957), remittances cannot outweigh the negative effects faced in the periphery unless there are strong state policies initiated against the capitalist systems to reduce inequalities.

The New Economics of Labour Migration (NELM) was developed by Stark and Bloom in 1985, and they argued that people migrate as a means of risk-sharing for households. Individuals and households diversify their active labor as a means to reduce income risks. In order to secure their income, family members invest or help members of their families to migrate to other countries to work and create a better life for themselves, however, this investment has an expected return, migrants are meant to pay back the cost incurred over their travels plus any other financial assistance they might require. An important role migrants play in developing countries is the provision of investment capital, which is important for capital and risk insuring.

Social Network theory explains that migrants remit because they ‘feel’ obligated towards their society. Migrants remitting as part of their social obligation do it in form of provision for child care or to transfer goods that have sentimental values. In addition, migrants remit to their homes to conform to their moral values learned from their member groups. Finally, remitting increases the migrant's presence and social visibility from their societies, which help them to avoid being excluded or rejected from their social groups.

2.5.2 Theoretical Rationals for a Migrant to Remit

The Pure Altruism Theory

This theory states that migrants feel obligated and responsible for providing for their families and cater to their every need. Therefore, migrants' remit to their families unless their incomes is not as sufficient enough to provide for his or her personal basic subsistence needs. This means that migrants remit based on their level of income, the more they have, the more they remit.

The Pure Self- Interest theory

The theory explains that migrants want to accumulate on their wealth and they do this by saving. This accumulated wealth would then be remitted home to invest in various projects such as purchasing property or land, invest in the stock markets or other businesses. Such investments are getting quite large in most developing countries because interest rates are much higher than in migrated country, *ceteris parabus*. A migrants family could be trustworthy to purchase and maintain the assets on the behalf of the migrant. This behavior may underlie or enhance trust between the parties involved. There are other reasons that are considered for people to remit, which relies on "pure selfish motivations and the absence of altruism" by the migrant towards families.

One could be an aspiration to inherit. If inheritances are assumed to be conditioned on behaviour, then it can be the motive for a migrant that supports his or her family, especially the parents may be a reason to maintain favours in line with inheritance. When a migrant sends bigger remittances back to their family, then their potential of receiving higher portions of inheritance is expected. There is also the possibility or intention for a migrant to want to return home, which may be of interest to them to remit to secure investments such as land or property, public assets, and so on, to maintain a comfortable and or prestigious lifestyle in the home country. Therefore, the motives of altruism and self-interest by migrants cannot be examined if the motives are true or just a selfish way to receive and enhance prestige by perceiving to care.

Tempered Altruism or Enlightened Self-Interest

This theory views remittances as a contractual arrangement made between the migrant and home (members of their family). There are two elements that underlie this arrangement, which is, investment and risk. On average, it is expected for people living in urban areas to be more educated than those in the rural areas. The cost of education for a member of the family is incurred by its immediate family. Johnson and Whitelaw (1974) and Rempel and Lobdell (1978), noted that “there is a positive relationship between the amount remitted and the education of the migrant, and thus repayment of it comes with the principal plus interest that was invested by the family”. This, however, does not mean that the educated migrant’s wage should remit at higher fractions, this is because achieving a higher education ensures for higher returns of the investments made by the family. To educate a member of a household can be costly, and the cost incurred by for example, by parents is far larger than any cost incurred by other extended members of the family such as spouses, brother-in-law etc. Therefore, there will be higher incentives to increase the remittance to those that invested on the migrant then for other members.

Through an informal contract in an economy where insurance and capital markets are incomplete, the migrant may make the decision to send remittances to serve as a form of insurance for family members at home that can be weighed against the local sources of income. Risk can be associated with crop failures, price fluctuations and insecurities of land tenancy. The migrant may decide to spread its risks along many assets or investments. This will also depend on the net provider for insurance, the relative risk preferences and bargaining powers. Migrants can thus consider “the interest rate differential on comparable deposit account offered in the host and home countries, black market exchange premium, the return on real estate in the home country, inflation rates and other returns”. The monetary provision and in-kind transfers made by the migrant could be used to prevent “shock”, and help the migrants’ family to smooth out their consumption patterns.

2.6 Effects of Remittances on economic shocks

The impact of remittances on the economy can be effective in the short-run on both micro and macro levels of any economy. Evidence indicates that the increasing levels of remittances from migrants has become a crucial source of income for the survival of many developing countries (Quartey and Blankson, 2003). There is little literature on the methods and techniques used to measure the micro and macroeconomic impact of remittances when there are economic shocks. Most literature focus on the various uses of remittances or the impact it has on income inequality, poverty or development.

Remittances are either initiated by the migrant remitter or by the migrant family. However, the key factor is that the basic needs of the migrants family are catered for. Over 80 percent of the total remittances to home countries are used for basic maintenance of day-to-day activities such as food, clothing and health care. Remittances help to loosen the budget constraints recipients might experiences towards their consumptions, especially on both durable and nondurable goods. It generally improves the welfare of the recipients through their education and improved healthcare among others. Remittances provide for social security for most families in the developing world especially to those not employed such as students, pensioners and disabled to meet up with their basic consumption needs.

In the event where there are unanticipated economic shocks, it affects the consumption patterns through its income. Households can use various methods to smooth out consumption when there are shocks. One method could be to spend all accumulated household wealth (Deaton, 1992). Another could be to borrow from financial markets such as banks and postponed consumption in the future to smooth out consumption presently (Rosenzweig and Wolpin, 1993; Udry, 1994). Sharing risk within or across economies through private transfers is another way of smoothing out consumption patterns. Remittances can be used as collateral for raising funds. It is seen as a stable source of income, therefore, it can be used for leverage to access loans from individuals or commercial banks.

Unanticipated economic shocks such as the rapid increase in prices, or a fall in the export price of a country's major exporting goods; such as gold, cocao among othe commodity prices. In such cases, those households that receive remittances from their migrant families can augment their incomes and reduce the severity of the shock on their welfare. In the rural areas, the decline in outputs reduces incomes and thus affects consumptions and hence welfare. In urban areas especially in Ghana, when food prices are increased, the household expenditures increases and incomes fall unless money is remitted to them to maintain their expenditures.

In the findings of Ratha (2003), migrants could increase remittances when "there are economic hardships especially for low-income countries where families depend significantly on remittances as their source of income". Ratha claimed that economic challenges in home countries can encourage for migration of workers in the search for greener pastures and better economic opportunities to work and remit home to their families. He explained that when economies are progressing there is always an increase in capital flows vice versa, however, the flow of remittances does not react vigorously as the capital flows.

When there are negative economic shocks, there would be spillovers that affect different sectors of the economy. Those with very low incomes in any economy suffer the most from shocks because of the lack of accessibility for loans accompanied with poor public services. Shocks that are expected to usually hit low developing income countries include natural disasters and large fluctuations in export or import prices which can result in high inflationary prices. Incomes of the private and public sectors can also be affected when fluctuations in export prices are evident. External shocks such as financial crisis, conflicts in neighbouring countries, losses in export markets, higher transportation costs, lower remittances and can even generate conflict contagion and increased defense expenditures (Happe et al., 2003).

2.7 Empirical Review

The World Bank complied different research work on the same topic, titled "Migration and remittances during the global financial crisis and beyond". It is from this document that selected empirical reviews are mentioned in this work.

Rajan and Narayana (2012) “investigated the effects of the financial crisis in the six Gulf Cooperation Council (GCC) countries, which are Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the United Arab Emirates and its impact for the South Asian migrants and their remittances. The researchers assessed the trends and the patterns of international migration and remittances. In addition, the researchers assessed the macroeconomic aspects based on two surverys which include; a) the return emigrants in the countries of origin who lost their jobs in host countries due to the financial crisis and b) the return of the migrants that came back as per the terms of contract migration. The result of their work revealed that the remittances in the South Asian region did not decline because 1) migrants did not return to their origin countries due to the high debts they incurred during their migration; 2) even with the decrease of the remittance outflows in the first half of 2009, it did not affect the amount of migrants living in the Gulf; 3) the value of the dollar appreciated vis-a-vis the South Asian currencies; 4) the continuous increase of the oil prices brought in more income in the Gulf region; and 5) reverse migration occurred where emigrants returned back to the Gulf”.

Mohapatra, Ratha and Siliwal (2012), “studied the impact of the global financial crisis and policy option on the migrant remittances in Nepal. Their study assessed the trends in migration and remittances and the impact the financial crisis had on the remittance flows. An overview of the remittance sector in Nepal was assessed with policy option, suggestions to improve the remittance markets and capital market access through remittance securitization and Diasporas bond. From their analyses, the migration flows and remittances to Nepal reduced in 2009 during the global financial crisis, the flows eventually recovered in 2010. Policy options discussed was to make the remittance services provided to be cheaper and more convenient and to also leverage the remittances for improvements of financial access to migrants and the financial intermediaries. Other policy proposals included; an increase in the availability of information to migrants on the various remittance channels, work with the microfinance sector and improve the payment systems”.

Acosta et al. (2012) “investigated the impact of the financial crisis on the remittance flows in El Salvador and its ultimate impact on the welfare and poverty levels, using the household survey data of 2009. From the estimated results showed that on average a 10 percent decline in the remittances inflows in El Salvador would increase the national poverty rates by 1.6 percentage points. The crisis kept the country in serious economic downturn but has reduced the out-migration of young people in El Salvador to the United States. This increased the labour supply in El Salvador which means increasing pressure on the government to create for employment for the youths in the country and those illegal migrants deported from the United States. The researchers proposed for policy option to protect the most vulnerable population, by facilitating remittances transfers that are safe and transparent".

Akkoyunlu (2012) "forecasted the Turkish workers' remittances from Germany during the financial crisis. In 2010, the researcher modelled the Turkish workers' remittances to Germany from 1963 to 2005. The result of his work revealed that in the long-run the real GDP per capita for Turkey and the real GDP per capita for Germany both contribute negatively to the Turkish remittances, while the Turkish migrant stock, the real exchange rates and political instability all captured a positive relationship to the Turkish remittances. The researcher from his previous analysis on the same topic forecasted the Turkish workers' remittances from Germany and from his analysis found that the workers' remittances for Turkey was determined by the real GDP per capita for Turkey and the real GDP per capita for Germany, the Turkish migrant stock in Germany, the real exchange rate both long and short run. From his forecasting results, explained that for 2010, 2011 and 2012, the ratio of the Turkish workers' remittances from Germany to the Turkish GDP will remain constant just like before the crisis occurred".

Gedeshi and De Zwager (2012) "examined the various ways the global financial and the economic crisis impacted the trends of international migration and remittances of the Albanians and the possible future outcomes it may have on the economy. Their study was based on both primary and secondary data, including both qualitative and quantitative methods of estimation. Both methods of estimation included six focus group discussions with the migrants, with 39 semi structured interviews and a socioeconomic survey of 2,470 migrants between December 2009 and January 2010. From their results, they found that the two primary destinations for Albanians is Greece and Italy and these two countries were indeed affected severely by the global financial crisis. The Gross Domestic product in both Greece and Italy dropped and unemployment rose between December 2009 and 2010. Thus, the GDP growth in Albania dropped from 7.5% in 2008 to 2.5% in 2009 (World Bank 2010b). Albania also witnessed an increase in their foreign debts from 18.4% of GDP in 2008 to 24.3% of GDP in 2009. The official recorded remittances dropped significantly in 2008 from 12%, to 6.5% in 2009 and during the first nine months of 2010, the remittance flows dropped to 4.6%. The incomes of the migrants households decreased significantly with the economic recession, as many of the migrants lost their jobs, others had fewer working hours and some the high cost of living and prices was not attainable for them".

Barajas et al (2010) "studied the impact of the global financial crisis on the GDP of some African countries via the remittances during 2009-2010. The researchers used data on the migrants' distribution from Africa, forecasted the GDP growth rates of the host countries and estimated the remittance multipliers of the recipient countries. From their results, they forecasted that remittances will decline in the African countries by 3 to 14 percentage points with the migrants in Europe being affected the most, than the migrants within Africa which are mostly unaffected by the crisis. From their analysis the impact of the economic crisis on the GDP of the remittance-dependent countries will be 2 percent in 2009; this was likely to be short-lived because by 2010 the income of the host countries, that is, Europe is projected to increase".

Naufal and Vargas-Silva (2012) "explored the effects of remittances in the Middle East and North Africa (MENA) region during the financial crisis. In this region it has been marked as one of the top remittance-sending and remittance-receiving countries in the world. From their results, the remittances from the MENA countries to some destinations did not decline in 2009, but a slowdown was experienced in 2010. However, remittance inflow in some countries such as Egypt, Morocco and Jordan decreased significantly in 2009. The global financial crisis affected the revenues from their exports and tourism for these countries. Oil exports in the MENA region was faced with challenges, thus investment dropped which resorted to declines in employment opportunities, especially for the migrants. The remittance inflow to the MENA countries in 2010 showed an upward trend. Thus, from their analyses the effect of the global financial crisis in the MENA region on remittances outflows had a short-term effect, whilst its effect on the remittance inflows remains uncertain".

Naude and Bezuidenhout (2012) "investigated the responsiveness and the manner in which the global financial crisis affect remittances for 23 sub-Saharan African countries between 1980 and 2008, by using a pooled-data for the Generalised method of moments (GMM) estimator. Their findings showed that the global financial crisis did have a negative and significant impact on the remittance flows to sub-Saharan Africa. However, when compared to with other capital flows in the region, remittance proved to be relatively stable and less volatile and thus showed resilience during the global financial crisis".

Singh (2012) "examined the determinants of remittances in 36 sub-Saharan African countries between 1990 and 2005, using data from the World Development Indicators and the IMF. They applied a panel fixed-effect and a fixed-effect of a two-stage least squares estimation methods. The researcher's findings showed that remittances are more of a shock-absorber. The real GDP per capita in the home countries have a negative relationship with the remittances, meaning that when incomes of the home country decreases due to economic shocks, the migrants tend to remit more to their families to protect them from the shocks".

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This section of the research paper outlines the economic theory that is drawn upon to investigate the impact of the global financial crisis on migrant remittances in Ghana. This section includes the model specification, description of variables and the expectations of the coefficients.

3.2 Model specification

This work employs the Autoregressive distributed lag model (ARDL). This model explains that the regressors is being modeled as a regression on its own past, that is, its lagged values and current and lagged values of one or more explanatory variables. The model allows us to determine what the effects or an impact of a change in a variable would have. In a simple case of one explanatory variable and a linear relationship, we can write the ARDL model as:

$$z_t = \beta + \delta_1 z_{t-1} + \beta_0 x_t + \beta_1 x_{t-1} + u_t,$$

Where z_t and x_t are the stationary variables and u_t is the zero-mean white noise, which is uncorrelated with past values of the autoregressive series of z_t. Thus, we can think of (u_t) as a series of random shocks.

This testing approach was developed by Pesaran and Shinn (1999) to test the level of relationships between variables. It was later extended to deal with relatively small sample size. The ARDL testing approach has been used a lot in recent times because of its many advantages. One of the advantages of the ARDL approach is that, variables do not necessarily have to be in the same order of integration. What this means is that, this testing approach avoids classifying variables into I(0) and I(1). Therefore whether the regressors are I(0) or/and I(1), this particular testing approach can be used. This particular advantage of the ARDL helps to avoid non-stationarity problems in time-series data. On the other hand the Johansen co-integration testing approach can be employed for testing only if the variables are of the same order of integration. Also for its validity, the Johansen testing approach requires a relatively large sample size whiles the ARDL can be employed for a small sample size (Pesaran et al., 2000). For this work therefore, the appropriate testing approach would be the ARDL because of the relatively small sample size employed.

The enormous advantages of the ARDL testing approach discussed above, makes it imperative to employ it to ascertain the existence of long-run relationship between the variables under consideration. Using the approach, the personal remittance (REM/GDP) is expressed as a function of both lagged and current values of the explanatory variables as well as a function of the lagged value of personal remittance (REM/GDP) itself. The inclusion of the lagged value of the dependent variable is to cater for the slow process of adjustment which is often associated with the response of personal remittance to adjustments in the explanatory variables.

The process of the estimation requires the estimation of the determinants of remittances and includes the explanatory variables between the amount of remittances received in Ghana and a set of driving variables. In this study, the set of variables includes the personal remittances (REM/GDP) which is the ratio of remittances to GDP, the GDP growth rates of OECD (GDP_{OECD}) countries and the GDP growth rates of Ghana (GDP_{GH}).
Remittance can therefore be expressed as follows:

REM/GDP=f (GDP_{OECD}, GDP_{GH},Crisis,$Crisis_{OECD}$)……………………… (3.1)
The ARDL testing approach first estimates and unrestricted error correction model. This is expressed below as;

$$Rem/GDP_t = \beta_0 + \beta_1 Rem/GDP_{t-1} + \beta_2 OECD_{t-1} + \beta_3 OECD_{t-2} + \beta_4 Crisis * OECD_{t-1} + \beta_5 Crisis * OECD_{t-2} + \beta_6 Crisis_t + \beta_7 Gh_t + \varepsilon_t \ldots\ldots \quad (3.2)$$

From equation 3.2 above, the short-run relationship between the variables is represented by the ‘β’ coefficients. The drift constant is represented by ‘β_0' whiles the Gaussian white noise is ‘ε_t'. The autoregressive model is used in the sense that the dependent variable is also explained in part by the lagged values of itself. The 'distributed lag' part is the form of successive lags of the independent variables in the function. To attain the results from the ARDL testing, we estimate equation (3.2) with Ordinary Least Square (OLS). The OLS will be used to measure the impact of the independent variables on the ratio of remittances to GDP by using the Autoregressive-Distributed Lag model.

3.2.1 Unit root test for stationarity of data

The main purpose for conducting a unit root test on the time series data provided is to check for the stationarity properties from the results derived from the regression model in order to avoid spurious results. The well-known tests that are valid when testing for large samples is the Augmented Dickey-Fuller (ADF) and the Phillips-Perron test. The stochastic properties of the variables in the modified model in the equation (3.2) had to be estimated. This task is realised by conducting unit root tests. However, one of the weaknesses of unit root test is related to small number of observations and that a minimum number of 20 observation are required so as to get reliable results which can be made inference (Gujarati and Porter,2009; Gujarati,2004). In this paper, the Augmented Dickey-Fuller test and the Phillips-Perron test will be used to check whether the data series variables are only integrated of order (0) or (1). Whiles the null hypothesis states the presence of unit root in the series, the alternative hypothesis states there is no unit root in the series of the ADF and PP unit root tests. The null hypothesis is rejected if the calculated test statistics is greater than the critical value.

3.3 Description of variables

From the regression equation above, the expected relationship between the dependent and the independent variables is expected to be either positive or negative. These relationships are explained below:

3.3.1 GDP Growth rate

This is an economic indicator that measures the rate of change in total output adjusted for market prices changes produced by an economy. GDP is an acronym for Gross Domestic Product and it is the value of a nation's goods and services during a specified period. Although, GDP is the total output, it is very a useful indicator that can be used to closely approximate the total spending in an economy, such as the investments made by an industry, the excess of exports over imports, the total spending of consumers and government expenditures. When the GDP is strongly growing, then employment is likely to be increasing as companies hire more workers for their factories and people have more money in their pockets. When GDP is shrinking, as it did in many countries during the global economic crisis, employment often declined. It is important to understand that GDP does not measure the overall standard of living as it can't tell if the average citizen in a country is better or worse off. Remittances respond to movements in the GDP growth rates to correct any disequilibria in times of shocks, meaning if the GDP in the host country is increasing then it means there should be increasing employment and income, thus migrants in these host countries should be able to remit more. Aside the theoretical relationship, many empirical studies have confirmed the relationship. Studies by Cooray, A. (2012), Pradhan et al (2008) have confirmed the positive relationship between remittances and economic growth rates (GDP). Consequently, this study expects a positive relationship between the GDP growth rates from the OECD countries and Ghana and remittances. That is, β_2 and $\beta_3 > 0$.

3.3.2 Dummy for Crisis

"Dummy variable is a dichotomous variable constructed from an originally qualitative variable. In a regression analysis, the dummy variables are one that take the value of 0 or 1 to show the absence or the presence of some categorical effect that may be expected to shift the outcome. In econometric analysis when the interested independent variables are qualitative, we need a technique that would allow for the information to be represented in quantitative terms without imposing unrealistic measurement assumptions on the categorical variables. By defining a set of dummy variables, it would allow us to capture the information in categorisation scheme and then use this information in a standard regression estimation. A dummy independent variable which for some observation has a value of 0 will explain that the variables coefficient have no role in influencing the dependent variable, while when the dummy takes on a value 1 its coefficient acts to alter the intercept" (Hardy M.A 1993 pages 1-4).

In this model, the dummy variable created is for the global financial crisis, since there are no actual figures or data to represent it. Therefore, in the regression model, the global financial crisis is one of the independent variables that should explain its impact on the remittances flows in Ghana. The dummy for "crisis" in its observation would take a value of 0 before the crisis in this analysis, and a value of 1 from 2007 to 2009 which indicates that these coefficients should act in altering the intercept.

Another dummy is also created in the model, which is the interaction of the crisis dummy to the growth of the OECD countries. This is because the crisis occurred in these countries, therefore it is important for the estimation of this model to use an interaction of the dummy for crisis with the GDP growth rates of the OECD countries.

3.4 Method of Estimation

From the books of Wooldridge or Gujarati, "the ordinary least squares (OLS) method of estimation is used to estimate for the unknown parameters in a linear regression model. The OLS method of estimate minimizes the sum of squared residuals, which is the vertical distances between the observed responses in the dataset and the responses predicted by the linear approximation.

With the OLS estimator, we will be able to derive unbiasedness, consistency when the regressions are exogenous and there is no perfect multi-collinearity, and optimality when the errors are homoscedastic and serially uncorrelated. Under these conditions, the OLS method provides minimum-variance and mean-unbiased estimation when the errors have finite variances. Under the additional assumption that the errors be normally distributed, OLS is the maximum likelihood estimator. Several diagnostic tests were conducted to ensure the validity of the estimated results", (Wooldridge 2013, Introductory Econometrics A modern approach fifth edition).

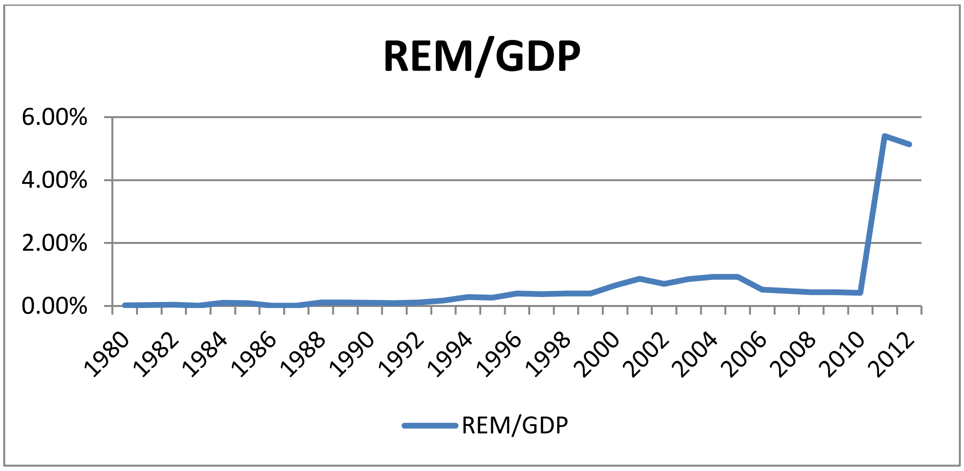
CHAPTER FOUR:Econometric Application and Empirical Findings

4.1 Introduction

This chapter presents and discusses the result of the regression, as well as other tests that were conducted. It begins with the trend analysis of the variables and continues with the regression results.

4.2 Trend of Variables from 1980-2012

Fig. 4.1 Trend of the ratio of remittances to GDP (current US$) 1980-2012

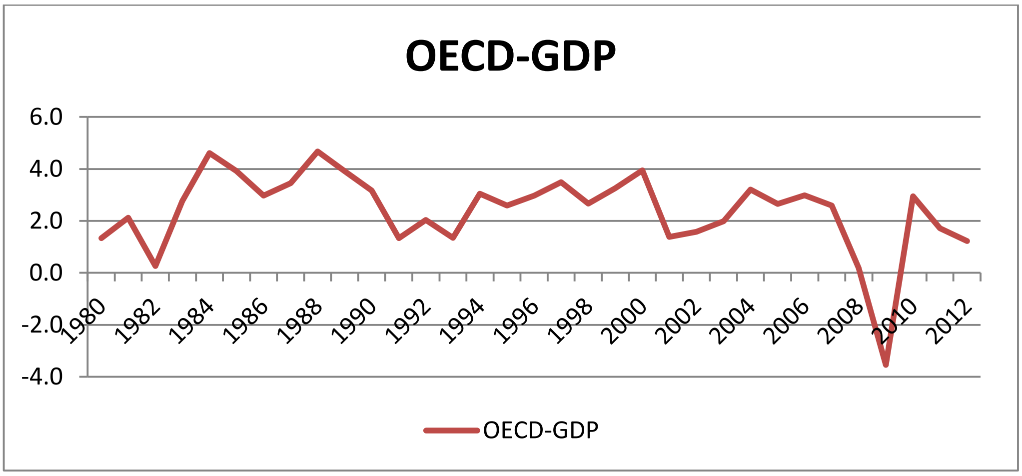


Source: Author’s construction

A look at Fig. 4.1 above reveals that the ratio of remittances to GDP has been fluctuating all through 1980 to 1996 to about 0.40%. Between 1997 and 1999 Rem/GDP declined by a small margin before increasing sharply to 0.86% in 2001 which dropped slightly in 2002 before increasing all through to 2005 to about 0.92%. From this period, the ratio of Rem/GDP dramatically fell from 0.92% in 2005 to about 0.42% in 2010. This implies that during the global financial crisis Rem/GDP in Ghana also declined. However, the Rem/GDP increased drastically from 0.42% in 2010 to 5.40% in 2011.

Fig.4.2 below displays the GDP growth rates of the OECD countries between 1980 and 2012. There was a significant increase in the growth rates from 1982 to 1984, then it fell in 1985 through to 1987 before it picked up and starting increasing. From 1990 to 1991 the growth rates dropped significantly, since then, the growth rates in the OECD countries has been fluctuating from increasing to declining levels of their GDP growth rates. In 2007, when the financial crisis just began, the OECD countries started to experience declines in their GDP. The problem was made worse when the economies were faced with credit crunch and productivity dropped; massive lay-offs and redundancies surfaced leading to a fall in the growth rates to an all time negative in 2009 for the first time since after the Great Depression experienced in the 1930s.

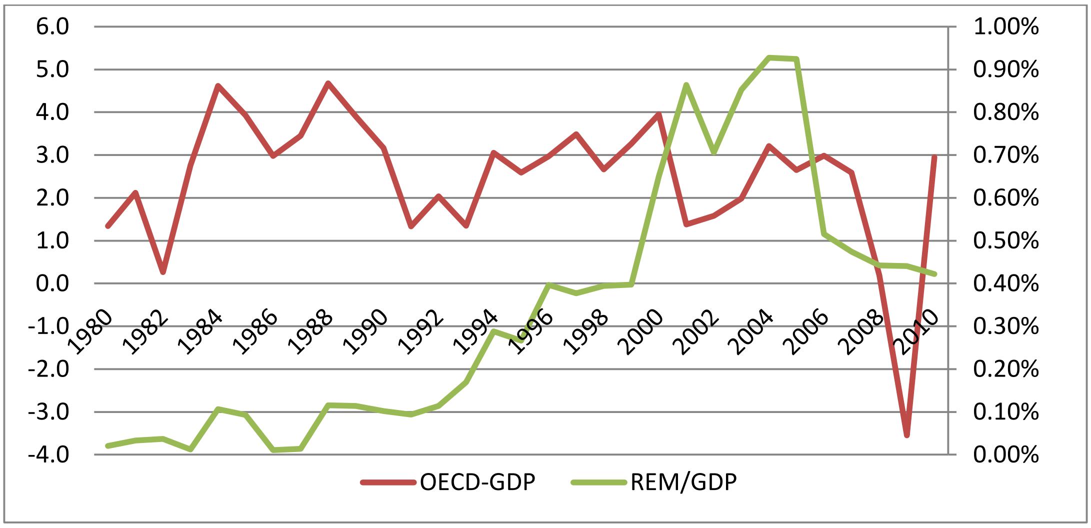
Fig.4.2 Trends of OECD GDP growth rates from 1980-2012



Source: Author's construction

Fig 4.3 shows the relations between the GDP growth rates in the OECD countries in comparison to the Rem/GDP for Ghana. With the fluctuations of the growth rates in the OECD countries the ratio of remittance to the GDP of Ghana kept a fluctuating and increasing pace until 1999 where it increased sharply to almost 0.90%, however the growth rates in the OECD declined around this period. Between 2001 and 2003 both the growth rates in the OECD countries and the remittances increased. However, in Ghana the ratio of the remittances and GDP sharply dropped in 2005 when there was a slight decline in the growth rates of the OECD countries. The decline in the remittances continued but at a decreasing rate from 2005 to 2010, but the growth rates in the OCED countries showed a massive decline to negative values through to 2009 and by 2010 the growth rates started increasing. From 2010 up to 2015 both the OECD growth rates and the ratio of the remittances showed a positive relationship, with both increasing.

Fig.4.3 Trends of OECD growth rates to the Rem/GDP



Source: Author's construction

4.3 Stationarity Analysis

We tested the stationarity of the variables with ADF and PP tests, because macroeconomic time series may not exhibit stationarity over time. The results of the stationarity tests were presented in Table 1 and 2.

Table 1: UNIT ROOT TEST AT LEVEL, I (0)

	ADF Test Statistics				**Phillips-Perron Test Statistics**			
Variables	Intercept	P-Value	Trend and Intercept	P-Value	Intercept	P-Value	Trend and Intercept	P-Value
REM/GDP	-1.319	0.6074	-1.387	0.8441	-1.349	0.593	-1.528	0.7968
OECD_GDP	-3.806	0.0072	-4.112	0.0153**	-3.712	0.009	-4.142	0.0143**
GH_GDP	-2.887	0.0591	-3.254	0.094*	-2.335	0.168	-3.260	0.0924*

*This table presents the results of the unit root test at level. ***, **, * shows rejection at 1%, 5% and 10% level, respectively.*

Table 2: UNIT ROOT TEST AT FIRST DIFFERENCE, I (1)

	ADF Test Statistics				**Phillips-Perron Test Statistics**			
Variables	Intercept	P-Value	Trend and Intercept	P-Value	Intercept	P-Value	Trend and Intercept	P-Value
REM/GDP	-4.936	0.0004	-4.918	0.0024***	-4.918	0.0004	-4.898	0.0025***
OECD_GDP	-5.737	0.0001	-5.532	0.0005***	-7.997	0.0000	-8.908	0.0000***
GH_GDP	-6.735	0.0000	-5.483	0.0006***	-9.060	0.0000	-11.049	0.0000***

*This table presents the results of the unit root test at first difference. ***, **, * shows rejection at 1%, 5% and 10% level, respectively.*

The results presented above of both the ADF and PP unit root tests indicate the presence of unit root at level for the variable personal remittance (REM/GDP), meaning that it is not stationary at level. At level, the other variables which are; the OECD_GDP and GH_GDP) are stationary at 5% and 10% significance respectively. At first difference, there is stationarity at 1% significance level with both the ADF and PP tests for the variables. The different order of integration can stem from a small sample problem, which is a weakness for unit root test as mentioned earlier and this could be a justification as to why the dependent variable (REM/GDP) was not stationary at level. The ARDL model can take both I(0) and I(1) series into one equation and can deal with a relatively small sample size. The results therefore validate the researcher's choice of the ARDL model.

4.3 Regression Results

Dependent Variable: Rem/GDP

Variable	Co-efficient	Std. Error	t-Statistic	Prob.
C	0.001055	0.000711	1.482897	0.1530
REM_GDP(-1)	0.906041	0.083863	10.80379	0.0000
OECD_GDP(-1)	0.000197	0.000181	1.087505	0.2891
OECD_GDP(-2)	-0.000421	0.000242	-1.735905	0.0972
CRISIS*OECD_GDP(-1)	-0.000313	0.000696	-0.449480	0.6577
CRISIS*OECD_GDP(-2)	0.000332	0.004895	0.067913	0.9465
CRISIS	-0.000445	0.012794	-0.034821	0.9726
GH_GDP	8.70E-06	8.11E-05	0.107248	0.9156

R-squared = 0.866 Adjusted R-square = 0.822 F-statistic = 19.48561

Prob(F-statistic) =0.0000 No. Observation 1980-2010

The lagged results of the dependent variable, Rem_GDP(-1) measures the persistence of the ratio of remittances on GDP in Ghana. This indicates that, if the parameter estimated for is closer to 1 then that means that the ratio is very persistent. In the estimated results, the Rem_GDP(-1) is 0.906 and this means that the ratio of remittances on GDP is persistent over the period studied. This explains that in Ghana, the flow of remittances does not fall out sharply in the event of an economic shock. At the 10%, 5% and 1% level of significance the ratio of remittances on GDP growth rates is statistically significant (p-value < 0.1;0.05;0.01), this means that remittances on GDP has a positive impact from one year to the next in Ghana over the period studied.

The regression results show a short-run effect on the independent parameters on the dependent parameter. From the regression results, there is a positive relationship between the first lag of GDP growth rates in the OECD countries and the ratio of the remittances to the GDP growth rates in Ghana. A 1 percentage point increase in the first lag OECD growth rates leads to a 0.0197 percentage point increase in the ratio of the remittances to the GDP growth rates in Ghana, even though the estimate is statistically insignificant. However, the second lag of the growth rates of the OECD is significant at the 10% level and indicates a negative relationship between the changes in the growth rates of OECD countries and subsequent changes in the ratio of remittances to GDP growth rates in Ghana in two years. A 1 percentage point increase in the OECD growth rates leads to 0.0421 percentage point decline in the remittance ratio to Ghana's GDP growth rates. From the diagram above, the flow of remittances was not increasing or fluctuating as much as the GDP growth rates trends of remittances over the period studied. The country has experienced high and low levels of economic growth rates but before the crisis emerged the GDP growth rates in Ghana were relatively high. The recorded remittances however did increase but not so significantly. This could be a reason why the ratio of the remittances to GDP growth rates in Ghana might record low levels.

To measure for the long-run effects of the OECD GDP growth rates on the ratio of remittances on GDP in Ghana by using this estimate: $\frac{\beta_3}{1-\beta_1}$. From the estimate the long-run effect is equal to (-) 0.8639. This explains that there is a long-run effect of the changes in the GDP growth rates in the OECD countries on the ratio of remittances on GDP in Ghana, and this is relatively persistence.

From the regression results in our estimates, an interaction the OECD GDP growth rates and a dummy for crisis was made to test for the impact of the crisis from the OECD countries on the ratio of the remittances inflows to the GDP growth rates in Ghana. From the results, the first and second lags of the parameters showed an insignificant outcome of the results at the 10%, 5% and 1% level of significance. The crisis for dummy created showed a negative and an insignificant relationship to the ratio of remittances on GDP in Ghana, this implied that even though theoretically the negative impact of the crisis is achieved, the crisis did impact or had an effect on the level of remittance flow in Ghana.

The R-squared explains the proportion of the total sample variation in the dependent variable that is explained by the independent variable. From the regression results the R-squared shows that the independent variables explain only 86.6% of the variation in the ratio of remittances on GDP in Ghana.

The F-statistics is used to test for the overall significance of the coefficient. The F-test could determine that the coefficients are jointly not equal to zero. Results from the estimates show that the F-statistics > p-value (19.49 > 0.000) meaning that all the coefficients are not equal to zero and thus are significant.

From the reports of the estimated results, remittances to Ghana do seem to play a shock-absorber role. The coefficient of the OECD growth rate is negative which shows that if the GDP growth rates fall in the host countries then the GDP growth rates in Ghana should decline but because the remittances figure from the migrants did not fall as much but instead increased in the last quarter of 2008, it increased the ratio of remittances-GDP. This suggests that when there are adverse economic shocks which decreases the incomes of their origin countries, migrants would remit more to protect their families from those shocks.

CONCLUSION

Ghana is particularly susceptible to the financial crisis. The flow of remittances has for decades acted as a backup income against economic shocks. It is also an important source of income for households to recover from the shocks of the crisis. The findings suggest that remittances seem to be countercyclical to the global financial economic shock. This is however consistent with the hypothesis that change in the economic activity in the developed economies due to the crisis has a negative effect on remittances in Ghana, over the period 1980-2010. These results would suggest that this time around remittances should be expected to shelter their home economies from adverse economic shocks, additionally the remittances did catered for the shocks.

Remittances have been relatively stable and less volatile than the other financial flows and therefore a source of resilience during the financial crisis as shown in the diagrams above. Even though, the remittance has been persistent over the period studied, the external shocks from the financial crisis affected the economy. The GDP growth rates declined and this could be attributed to a fall in the price of the main export commodity goods in Ghana such as gold, cocoa, timber because of a fall in demand in the international markets. The increase in the world price for fuel infiltrated into the inflation rates in Ghana increasing the general prices in Ghana to over 19 percent in 2009. The crisis also had an impact on the exchange rate. The value of their currency (the Cedi) depreciated sharply against all major currencies. The decline in the GDP growth rates also affected the employment rate. There was an increase in the unemployment rates, thus causing a fall in the income of households. This could be a reason why remittance inflows in Ghana remain relatively persistent and stable. Going back to the theory on pure altruism it explains that migrants feel obligated to and responsible to provide for the needs of their families consumption pattern, therefore they have to remit to them in cash or kind. Another theory such as the tempered altruism explains that migrants may make the decision to send remittances to serve as a form of risk-return option, and spread its risks along assets or investments due to the insecurities associated with the financial institutions in the OECD countries during the financial crisis. The relative persistence of remittances in Ghana suggests that they are a good buffer against the financial crisis. Therefore it is important for the Ghanaian government to look at the importance of the migrants and their transfers since it an important source of resilience in the face of economic shocks. They can start from by placing policies to reduce the cost of transfers from banks and other informal transfer agencies, for the household remittance-receiving. Migration is important for the Ghanaian economy, thus strategies for a stronger collaboration between the migrants in the Diaspora and the government.

REFERENCES

Ackah, Godfred Chales, Dorku, Bortei Ellen, and Aryeetey, Ernest (2009). "Global Financial Crisis Discussion Series: Ghana".Overseas Development Institute.

Acosta A. Pablo, Lartey K.K Emmaunel and Mandelman S. Federico (2009). Remittances and the Dutch Disease. Working Paper Series 2007-8a. Federal Reserve Bank of Atlanta.

Acosta et al. (2012), "The Impact of the Financial Crisis on Remittance Flows: The Case of El Salvador." Book: Migration and Remittances during the Global Financial Crisis and Beyond, Chapter 15, The World Bank.

Adams, Richard H., and John Page. 2003. "International Migration, Remittances and Poverty in Developing Countries." Policy Research Working Paper 3179, World Bank, Washington, DC.

Adams JR. Richard and John Page (2005). "Do International Migration and Remittances Reduce Poverty in Developing Countries?" World Development Vol. 33, No. 10, pp. 1645-1669. World Bank.

Addison, E. K. Y. (2004). "The Macroeconomic Impact of Remittances". Presentation by the Director of Research, Bank of Ghana, Accra, September 2004. Available at: http://www.undpgha.org/Document/MD%20CONF%20-%20PAPER%20BY%20E.%20K.%20Y.pdf

Addison, E.K.Y. (2005) "The Macroeconomic Impact of Remittances". At Home in the World? International Migration and Development in Contemporary Ghana and West Africa, pp. 118-138. Accra-Ghana: Sub-Saharan Publishers.

Ajayi, Michael A., Mukaila A. Ijaiya, Gafar T. Ijaiya, Raji A. Bello, Mufthau A. Ijaiya, and Sidikat L. Adeyemi. 2009. "International Remittances and Well-Being in Sub-Saharan Africa." Journal of Economics and International Finance 1 (3): 78–84.

Akkoyunlu Şule (2012), "Forecasting Turkish Workers" Remittances from Germany during the Financial Crisis." Book: Migration and Remittances during the Global Financial Crisis and Beyond, Chapter 21, The World Bank.

Alessandra Alfieri and Ivo Havinga, 2006. Definition of Remittances. United Nations Department of Economic and Social Affairs Statistics Division, TSG/3, New York, 22-26 February 2006

Anarfi, J. K. 1982. International Labour Migration in West Africa: A Case Study of the Ghanaian Migrants in Lagos, Nigeria. Accra: Regional Institute for Population Studies; Legon: University of Ghana.

Anarfi, J. K., K. Awusabo-Asare, et al. 2000. 'Push and Pull Factors of International Migration.Country report: Ghana. Eurostat Working Papers 2000/E(10).

Barajas Adolfo, Chami Ralph, Fullenkamp Connel, Gapen Michael and Montiel Peter (2009). "Do Workers' Remittances Promote Economic Growth?" International Monetary Fund Working Paper, WP/09/153. Washington DC.

Barajas Adolf, Ralph Chami, Connel Fullekamp, and Anjali Garg (2010), "The Global Financial Crisis and Workers' Remittances to Africa: What's the Damage?" IMF Working Paper – Middle East and Central Asia Department, WP/10/24.

Bertram, G (1986), "The MIRAB model twelve years on". Contemporary Pacific, Vol.11, 150-38.

Black, R., R. Tiemoko, et al. 2003. International migration, remittances, and poverty: the case of Ghana and Côte d'Ivoire. Sussex Centre for Migration Research, University of Sussex.

Boateng Felix Obeng, Gabriel Ahinful Sam and Paul Kofi Oppong-Boakye (2013). Remittances from Abroad: The Ghanaian Household Perspective. International Journal of Business and Social Science Vol.4 No.1.

Chami, R., Fullenkamp, C. and Jahjah, S. (2003) Are immigrant remittance flows a source of capital for development? International Monetary Fund Working Paper WP/03/189, Washington DC.

Chami, R., Fullenkamp, C. and Jahjah, S. (2005) Are immigrant remittance flows a source of capital for development? IMF Staff Paper 52, 1, International Monetary Fund, Washington, DC.

Chami, Ralph, Dalia Hakura, and Peter Montiel (2009). "Remittances: An Automatic Stabilizer?" Working Paper 09/91, International Monetary Fund, Washington, DC.

Cooray, A. (2012), “The Impact of Migrant Remittances on Economic Growth: Evidence from South Asia”. Review of International Economics, 20: 985–998.

Djajic,S.(1986) “International Migration, Remittances and Welfare in a Dependent Economy”, Journal of Development Economics, Vol.21.

Driffield, N and Jones, C. (2013). The impact of FDI, ODA and migrant remittances on economic growth in developing countries: A system approach. European Journal of Development Studies. Vol. 25, 173-196.

Dr. E.K.Y Addison 2004. The Macroeconomic impact of remittances. Bank of Ghana- Ghana Statistical Service (2014). Ghana Living Standards Survey Round 6 (GLSS 6) Main Report.

Englama, A. (2009). The Economics of Remittances, Theories, and Issues. West African Institute for Financial and Economic Management.

Feeny, S. Iamsiraroj, S and M. Mcgillivray (2014). Remittances and economic growth. Larger impact in smaller countries?

Gedeshi Ilir and Nicolaas De Zwager (2012), “Effects of the Global Crisis on Migration and Remittances in Albania.” Book: Migration and Remittances during the Global Financial Crisis and Beyond, Chapter 19. The World Bank

Ghana Investment Promotion Centre, 2008. www.gipcghana.com

Glytos P. Nicholas (2002). “Dynamic Effects of Migrant Remittances on Growth: An Econometric Model with an Application to Mediterranean Countries.” Centre for Planning and Economic Research, Athens, Greece.

Gyan Pradhan, Mukti Upadhyay, and Kamal Upadhyaya (2008). “Remittances and economic growth in developing countries” The European Journal of Development Research Vol. 20, Issue 3.

Haas, H. D. (2007). Remittances, Migration and Social Development. United Nations Research Institute for Social Development, 34.

Hardy, M.A. (1993). Regression with dummy variables. Sage University Paper series on Quantitative Application in Social Sciences, 07-093. Newbury Park, CA: Sage.

IMF Committee on Balance of Payments Statistics, 2005. Definition of Personal Remittances in the Balance of Payments Context. United Nations

Technical Subgroup on Movement of Natural Persons, Washington, D.C., June 27–July 1, 2005.

IMF (International Monetary Fund). 2009. International Transactions in Remittances: Guide for Compilers and Users. Washington, DC: IMF

———. 2010a. Balance of Payments Statistics Yearbook 2010.Washington, DC: IMF.

International Organization for Migration (2006). IOM and Remittances: Definition, Scale, and Importance of Remittances.

International Fund for Agriculture and Development (IFAD) 2009. "Sending Money Home to Africa: Remittance Markets, Enabling Environment and Prospects." Study report, IFAD, Rome.

ISSER (2012) The State of the Ghanaian Economy in 2011. Legon: Institute of Statistical, Social and Economic Research.

Johnson, G.E. and W.E. Whitelaw (1974), "Urban-Rural Income Transfers in Kenya: An Estimated Remittances Function." Economic Development and Cultural Change, 22(3).

Keely, Charles and Tran, Bao Nga. 1989 "Remittances from Labour Migration: Evaluations, Performance, and Implications." International Migration Review, 23(3).

Koyame-Marsh, R.O.(2012). The impact of workers' remittances on economic growth: evidence from ECOWAS countries. Journal of Third World Studies, Vol. XXIX, No.2.

Lartey, K.K.E.(2011). Remittances, investment, and growth in sub-Saharan Africa. The Journal of International Trade and Economic Development: An International and Comparative Review. Vol. 22, No.7, 1038-1058.

Lopez, H., Molina, L. and Bussolo, M. (2007) Remittances and the real exchange rate. World Bank Policy Research Working Paper 4213, World Bank, Washington, DC.

Mensah, K. Mackintosh, M, and Henry, L 2005) The "Skills Drain" of Health Professionals from the Developing World: A Framework for Policy Formulation. Paper prepared for MEDACT, UK.

Meyer, D., Shera, A. (2016). The impact of remittances on economic growth: An econometric model. Economia 2016.

Mian, A, A Sufi, and F Trebbi (2012) “Political constraints in the aftermath of financial crises”, VoxEU.org, 21 February.

Mohapatra, Ratha and Siliwal (2012), “Migrants Remittances in Nepal: Impact of Global Financial Crisis and Policy Options.” Book: Migration and Remittances during the Global Financial Crisis and Beyond, Chapter 9, The World Bank.

Muῆiz, O., Li, W., and Schleicher, Y. (2010). Migration conceptual framework: Why do people move to work in another place or country? In Solem, M., Klein, P., Muῆiz-Solari, O., and Ray, W. (Eds.). Global Economy: A module for the AAG Center for Global Geography Education.

Myrdal, Gunner (1957), “Economic Theory and Underdevelopment Regions.” New York: Harper Torchbooks.

Naudé Wim and Henri Bezuidenhout (2012), “Remittances to Sub-Saharan Africa in the Wake of a Financial Crisis: Source of Resilience or Vulnerability?” Book: Migration and Remittances during the Global Financial Crisis and Beyond, Chapter 28, The World Bank.

Naufal George and Carlos Vargas-Silva (2012), “Migrant Transfers in the MENA region: A Two-Way Street in Which Traffic is Changing.” Book: Migration and Remittances during the Global Financial Crisis and Beyond, Chapter 32, The World Bank.

Pradhan, G. Upadhyay, M. and K. Uphadhyay (2008). Remittances and economic growth in developing countries. The European Journal of Development Research, Vol. 20, No. 3, 397-506.

Rajan S. Irudaya and D. Narayana (2012), “The Financial Crisis in the Gulf and Its Impact on South Asian Migration and Remittances.” Book: Migration and Remittances during the Global Financial Crisis and Beyond, Chapter 5, The World Bank.

Ratha, Dilip (2003). “Workers’ Remittances: An Important and Stable Source of External Development Finance.” Chapter 7 in Global Development Finance 2003, World Bank, Washington DC. pp. 157–175.

Ratha, Dilip; SIRKECI, Ibrahim. Editorial: Remittances and the global financial crisis. **Migration Letters** No. 2, p. 125-131, Jan. 2014. ISSN 1741-8992. Available at: http://www.tplondon.com/journal/index.php/ml/article/view/184/167.

Rempel, H. and R. Lobdell (1978), "The Role of Urban Remittances in Rural Development", Journal of Development Studies, 14(3):324-41.

Robert E.B. Lucas and Oded Stark, October 1985. Motivations to Remit: Evidence from Botswana. Journal of Political Economy, Vol. 93, No. 5 pp. 901-918, The University of Chicago Press. URL: http://www.jstor.org/stable/1833062

Siddique, A. Selvanathan, E. A.and Selvanathan, S. (2012). Remittances and economic growth: empirical evidence from Bangladesh, India and Sri Lanka. Journal of Development Studies. Vol. 45, No. 8, 1045-1062.

Singh J. Raju (2012), "From Shoch Absorber to Shock Transmitter: Determinants of Remittances IN Sub-Saharan Africa." Book: Migration and Remittances during the Global Financial Crisis and Beyond, Chapter 29, The World Bank.

Stark Oded and David Elliot Bloom (1985), "The new economics of labour migration." Migration and Development Program, Harvard University.

Tewolde, Berhane. (2005). "Remittances as a Tool for development and Reconstruction in Eritrea: An Economic Analysis," Journal of Middle Eastern Geopolitics 1, no.2.

UNCHR 2016 Nigeria Regional Refugee Response Plan www.unhcr.org/56a2351b9.pdf

UNDESA.(2015). Refugees and Asylum Seekers: What's the Difference? International Migration Report Migrants.

UNECA (2009). Economic Report on Africa 2009 'Developing African Agriculture through Regional Value Chains'. Available at: www.uneca.org/publications/economic-report-africa-2009

Wooldrige Jeffrey M. (2013). Introductory Econometrics: A Modern Approach, Fifth Edition; Chapter 2. ISBN-13: 978-1-111-53104-1. South-Western, Cengage Learning, USA.

World Bank 2006. Global Economic Prospects 2006: Economic Implications of Remittances and Migration. Washington, DC: World Bank.

World Bank, 2009, "Workers' Remittances Fall Less Than Expected in 2009, But 2010 Recovery Likely To Be Shallow." http://go.worldbank.org/VNJQBYO1W0.

World Bank (2011). Migration and development brief 17. Washington, DC: World Bank.

World Bank (2012). Migration and Remittances during the Global Financial Crisis and Beyond; edited by Ibrahim Sirkeci, Jeffrey H. Cohen and Dilip Ratha. International Bank of Reconstruction and Development. ISBN: 978-0-8213-8827-3.

World Bank, 2016: Remittances to Developing Countries Edge Up Slightly in 2015. Press Release NO; 2016/342/DEC.

www.worldbank.org/.../remittances-to-developing-countries-edge-up-slightly-in-2015.

PLEDGE OF HONESTY

"On my honour as a student of the Diplomatic Academy of Vienna, I submit this work in good faith and pledge that I have neither given nor received unauthorized assistance on it.

(Aji Oumie Jallow)"