Remittances, Institutional Quality and Economic Growth in Sub-Saharan Africa

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1   INTRODUCTION

The past decades had witnessed a dramatic increase in international capital flows to developing countries. Few people would disagree that, remittances constitute a major component compared to other external flows (World Bank 2016, figure 2.1). The flow to Africa was characterized spectacular, having overtaken official development assistance (ODA) and portfolio equity and remains the most stable source of all external finance in 2015 (Africa Economic Outlook 2016). In 1991, remittances as a share of GDP were 0.65 in Sub-Sahara Africa. The figures which were negative in 2014(-1.4) and 2015(-6.1) are expected to reach 3.3 and 4.9 in 2017 and 2018 respectively (World Bank 2016, table 2.1). Increasing financial weight and stability of remittances to Sub-Sahara Africa have heralded heated argument among researchers and policymakers. Hard evidence in the impact of the phenomenon on growth remains mixed. The work of Ratha (2003) which shows that economic growth depends on remittances through investment multiplier; significantly lend credence to this debate. Adams & Page (2005), Lim & Hem (2017) among others, recognize the importance of remittances in reducing poverty. Meanwhile, the work of Chami, Fullenkamp, & Jahjah (2003), Zuniga (2011) and Ahamada & Coulibaly (2013) are significant turning point in the debate. These authors argue that decades of remittances had retarded long- run growth.

Meanwhile, Ramirez and Sharma (2008) assert that, the extent to which remittances contribute to economic growth depend on the quality and the environment of the financial system of the recipient countries. An increasingly common argument in favour of remittance-financial growth channels is that, it may increase the depth and breadth of domestic financial markets and lead to an increase in the degree of efficiency of the financial intermediation process. Providing remittances, services can allow banks to get to know and reach out to unbanked recipients or recipients with limited financial resources (Buch *et al* 2002). Perhaps banks can become more willing to extend credit to remittance recipients, because the transfers they receive from abroad are perceived as significant and stable and to increase during periods of economic downturns. Giuliano and Ruiz-Arranz (2006) argue that remittances might become a substitute for inefficient or nonexistent credit markets by helping local entrepreneurs bypass lack of collateral or high lending costs and start productive investments. In some cases the money received from relatives who have migrated can be enough to provide savings or investment opportunities in small scale enterprise, to buy land or open a bank account. This implies that the exact impact of international remittance inflows on economic growth might largely dependent upon the quality of financial development and income level of the particular economy under consideration.

Meanwhile, several literatures also point out that quality of non-financial institutions like control of corruption, political stability, respect of rule of law, democratic accountability and so on are crucial for the development of the financial markets (Roe & Siegel 2008) and the economy as a whole (North 1990, World Bank reports 1997c, Rodrik *et al*. 2004, Acemoglu *et al* 2005, Igbal & Daly 2014, Orayo 2016). North (1990) asserts that, 'institutions matters' for long-run growth. World Bank promotes quality institution slogan through its 2002 report, titled, 'building institutions for

markets,' focus attention on the non-financial institutions that are essential to increase market development. They argue that developing countries characterized by strong non-financial institutional frameworks can easily attract more financial institutions that can eventually attracts more private capital for investment purposes (Busse & Hefeker 2005, Catrinescu *et al* 2009). They argue that no matter how strong a country's financial institutions appear to be, nonfinancial institutions in terms of political stability, less corruption and avenues to seek redress are paramount to attracting more foreign capital to supplement limited domestic investment funds to enhance the capacity of the economy to growth.

The main objective of this study is therefore to examine the role of institutional quality (financial and non-financial) on the impact of remittances on growth in SSA. Since remittances constitute a great proportion of foreign capital finance in SSA, the quality of both financial and non financial institutions may influence motivation to remit and lead to growth, especially where migrants seek to exploit investment opportunities as a means of allocating savings optimally between origin and home countries. Hall and Jones (1999) and Flachaire *et al (*2011) and Ivlevs and King (2015) maintain that, different institutions exert different impact on growth. Based on Acemoglu *et al* (2005) hierarchy of institutions hypothesis, this study also investigates whether the role of financial, political and economic institutions are different in remittances impact on growth. Our study differs from earlier works by broadly focusing on how non-financial and financial institutions influence the role of remittances impact on growth. The study finally lays to rest the question: should government harness remittances for developmental purposes and which institution matter most in enhancing remittances-growth potentials in SSA?

The paper is organized as follows. The next section presents stylized facts on remittances, institutions and growth. Section 3 reviews the literature. Section 4 describes the theoretical framework and methodology. Section 5 moves to the presentation and discussion of results. The last section concludes with policy implications.

2   STYLIZED FACTS: REMITTANCES, INSTITUTIONS AND GROWTH

2.1   Trends of Remittances and other Capital Flows

Global flows of remittances have increased rapidly for the past decades. The figure which was US70 billion in the mid-1990s grew to US467 billion in 2010, reached US575 billion in 2016 and predicted to be US594 at the end of 2017 (World Bank 2016)(Table 2.1). One noticeable feature of remittances is it's resilient even during and after the 2007/2008 financial crisis (See figure 2.1).

Figure 2.1: Trends in Remittances and other capital flows
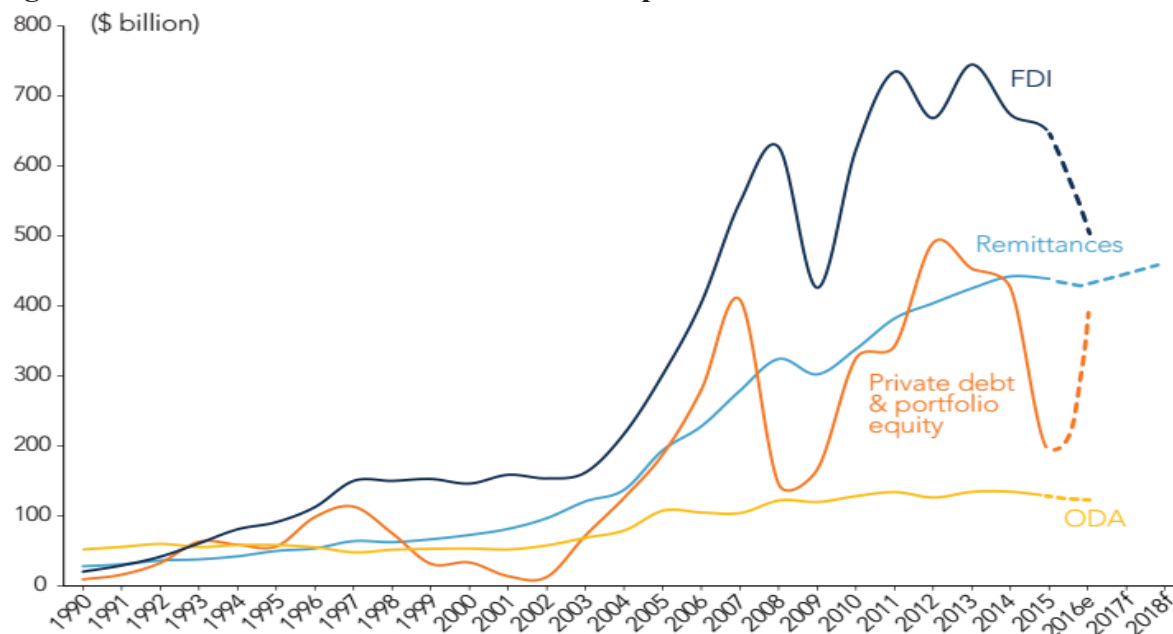
Sources: World Bank 2016.

India was the largest remittances-receiving country (US62.7 billion) in 2016, followed by China (US61 billion), and the Philippines (US29.9 billion) (figure 2.A appendix). Countries with the highest remittances/GDP ratio in 2016 was Kyrgyz Republic (34.5 percentage), followed by Nepal (29.7 percent), Liberia (29.6 percent) and Haiti (27.8 percent) (figure 2.B appendix). East Asia and the Pacific got the highest average growth between 2010 and 2015 (9.4 percent). Latin America and the Caribbean experienced the most rapid growth rate in 2015 at 6.0 percent. Remittances to South Asia which grew by 4.5 percent in 2014 only grew by 1.6 percent 2015. The figure for Middle East and North Africa declined by -6.1 percent and that of Europe and Central Asia by -22.1 percent in 2015(Table 2.1). The growth rate of remittances in Sub-Saharan Africa grew by 1.7 percent in 2014 but fell slightly by -0.4 percent in 2015. The fall was attributed to stern capital controls introduced by many SSA countries in 2015 and 2016. Many countries in the region witnessed large black market premia on foreign exchange by then. For example, in 22nd of February 2016, the dollar was bought at 367 naira and sold for 372 naira in the Lagos black market, while the official exchange rate was around 195 naira. Similarly, despite a 25 percent devaluation of the official rate, the Angolan kwanza traded at around 270–280 to the dollar in the black market, while the official rate was around 135 kwanza. Such large differences between official and black market

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rates tend to drive remittances to informal channels. Remittances to Sub-Saharan Africa are projected to rise by 3.3 percent and 4.9 percent at the end of 2017 and 2018 respectively.
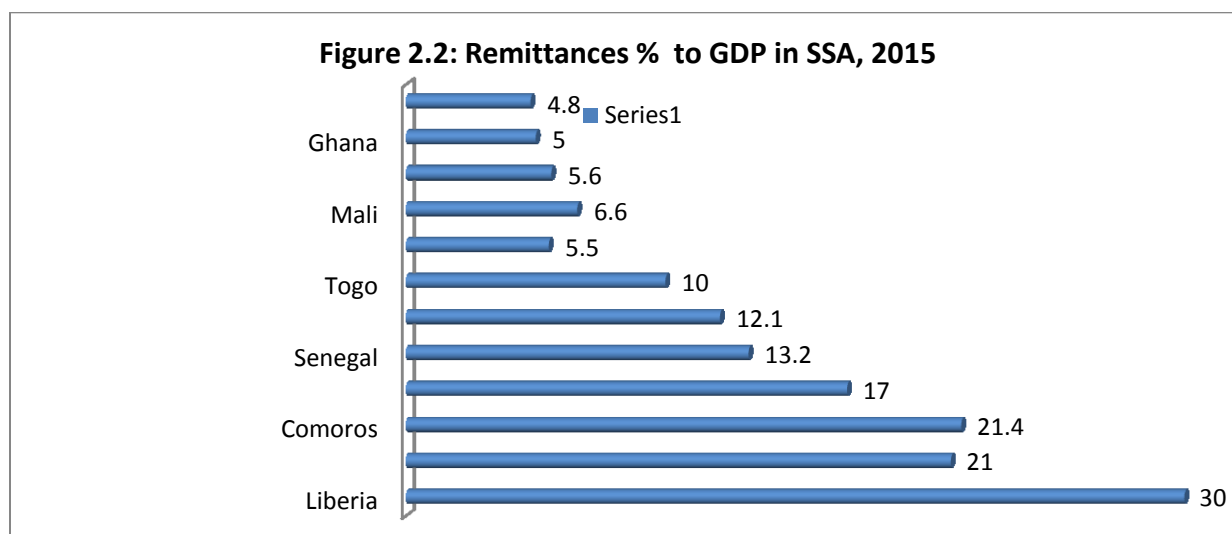
Table 2.1: Tends in Remittances around the World

Region	2010	2013	2014	2015	2016e	2017f	2018
	Billion USD						
Developing Countries	340.3	426.4	444.3	439.8	429.3	443.6	459.1
East Asia and Pacific	94.9	114.3	122.7	127.3	125.8	129.0	132.7
Europe and Central Asia	37.8	54.6	51.7	40.3	38.4	41.0	43.6
Latin America and Caribbean	56.5	61.5	64.5	68.3	73.1	75.0	78.2
Middle-East and North Africa	39.0	50.5	54.4	51.1	48.8	51.8	53.5
South Asia	82.0	110.8	115.8	117.6	110.1	112.3	115.3
Sub-Saharan Africa	30.1	34.7	35.3	35.1	33.0	34.1	35.7
World	466.7	574.8	598.3	582.4	575.2	593.8	615.9
Low and middle income countries	334.2	419.0	435.9	432.3	422.5	436.3	451.1
	Growth rate, percent						
Developing Countries	11.2	5.2	4.2	-1.0	-2.4	3.3	3.5
East Asia and Pacific	19.5	6.7	7.4	3.8	-1.2	2.5	2.9
Europe and Central Asia	4.8	17.1	-5.3	-22.1	-4.6	6.6	6.4
Latin America and Caribbean	2.6	2.1	4.8	6.0	6.9	3.3	3.6
Middle-East and North Africa	18.2	3.4	7.8	-6.1	-4.4	6.1	3.3
South Asia	9.4	2.6	4.5	1.6	-6.4	2.0	2.7
Sub-Saharan Africa	9.6	1.0	1.7	-0.4	-6.1	3.3	4.9
World	8.3	5.3	4.1	-2.7	-1.2	3.2	3.7

Sources: World Bank 2017

While remittances to SSA rose by 3 percent from 2010 to 2015 on averagely, the flow to individual countries, both in absolute terms and relative to GDP vary. For example, about 60 percent of remittances received in SSA went to Nigeria. Liberia recorded highest remittances/GDP ratio in the region at 30 percent followed by Comoros (21.4 percent) and Gambia (20 percent) (figure 2.2 and table 2.2). Steady increase of remittances may be due to lower cost (figure 2.C appendix), expansion in the set of countries reporting remittances, unabated migration to developed countries in search for a better life (Todaro & Smith 2009, p. 926) and growing realization (Hopkins 2000) on the part of the diasporas on the need to raise their commitment at home. Another factor may be due to improvement in the economic and political structure at home (Catrinescu *et al* 2009). These factors and the institutional environment of countries may interact and make remittances suitable for longer-term development purposes (Lartey & Mengova 2015).

The amount of remittances can ultimately be influenced by the quality of non-financial institutions based on well-protected property rights, strong judicial independence, well organized labour market, low levels of corruption in regional comparison and a sound macroeconomic environment (World Economic Forum 2017). It can therefore be inferred that quality of non-institution is another fundamental factor that contribute to the voluminous increase of remittances in SSA.

Figure 2.2: Remittances % to GDP in SSA, 2015

Country	Value
	4.8 ■ Series1
Ghana	5
	5.6
Mali	6.6
	5.5
Togo	10
	12.1
Senegal	13.2
	17
Comoros	21.4
	21
Liberia	30

Sources: IMF (2016), World Bank (2016) World Development Indicators.

Table 2.2 Remittances in SSA, 2016

Country	%GDP	USD per capital	Current USD billion	
Liberia	30.4	150.0	0.66	
Comoros	21.4	161.4	0.13	
Gambia	21.0	91.3	0.19	
Lesotho	17.7	165.3	0.32	
Senegal	13.2	127.4	1.96	
Cabo Verde	12.1	384.7	0.20	
Togo	10.0	60.3	0.45	
Morocco	6.8	209.9	7.10	
Mali	6.6	55.6	0.94	
Egyt	5.7	204.9	18.68	
Guinea-Bissau	5.6	36.3	0.07	
Sao Tome and rincile	5.5	93.5	0.02	
Ghana	5.0	78.1	2.15	
Nigeria	4.8	108.9	20.00	
Tunisia	4.8	180.0	2.02	

Source: Adapted from IMF (2016) and World Bank (2016).

2.2   INSTITUTIONAL QUALITY IN SSA

This study utilizes six measures of non-financial institutional quality indicators based on World Bank Worldwide Governance indicators that capture voice & accountability, political stability and lack of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. Table 2.2 shows the non-financial institutional quality performance of some countries in SSA and the average for the sub-region. The average levels of non-financial institutional quality are low with negative signs across all SSA countries. Across all indicators, government effectiveness (-0.652) and rule of laws (-0.635) constitute relatively the weakest, while political stability takes a middle position in SSA. The level of non-financial institutional quality across the region nevertheless remains a missed bag. Countries like Boswana, Namibia, Mauritius, Seychelles and South Africa perform better than other in terms of control of corruption and government

effectiveness. Congo, Dem. Rep, Burundi and Nigeria are the worst heat in terms of corruption, government effectiveness and political instability and violence respectively. Cote d'Ivoire suffers from weak scores on rule of law. Botswana, Namibia, Mauritius and South Africa also fair better than other countries in term of regulatory quality. Benin republic joined the group in terms of political stability and absence of violence. Mauritius and Boswana are better than other countries in terms of regulatory quality and rule of law while Congo, Dem. Republic and Nigeria are worse off.

Burkina Faso, Swaziland, Senegal, Rwanda, Nigeria, Kenya, Congo, Dem. Rep, Burundi, Cote d'Ivoire, Comoros and Cameroon are the worst in terms of non-financial institutional qualities indices. Meanwhile, many SSA countries like Kenya, Nigeria, and Burundi have implemented both political and economic reforms but still fail to bring about an improvement in overall non-financial institutional quality. Averagely, SSA non-financial institutional quality since 1996 suffers from lowest scores in government effectiveness, rule of law, control of corruption, regulatory quality, voice and accountability and political stability. This may be why many of these countries make the lowest-ranked countries in the competitive report (World Economic Forum 2015).

Table 2.3: Institutional Quality for SSA Countries, 1996 - 2015

| Countries	Con of Corr	Gov Effect	PSAV	Req Qua	Ruo f Law	Voi & Acc
Benin	-0.686	-0.442	**0.473**	-0.367	-0.467	**0.223**
Botswana	**0.850**	**0.524**	**0.967**	**0.615**	**0.599**	**0.582**
Burkina Faso	*-0.230*	*-0.671*	*-0.217*	*-0.235*	*-0.567*	*-0.422*
Burundi	*-1.131*	*-1.320*	*-1.842*	*-1.210*	*-1.298*	*-1.165*
Cameroon	*-1.061*	*-0.816*	*-0.649*	*-0.817*	*-1.144*	*-1.058*
Comoros	*-0.846*	*-1.581*	*-0.227*	*-1.331*	*-1.075*	*-0.539*
Congo, Dem. Rep.	*-1.491*	*-1.710*	*-2.360*	*-1.643*	*-1.734*	*-1.569*
Cote d'Ivoire	*-0.744*	*-0.870*	*-1.271*	*-0.684*	*-1.158*	*-0.993*
Ghana	-0.121	-0.081	-0.094	-0.114	-0.083	**0.175**
Kenya	*-0.975*	*-0.508*	*-1.159*	*-0.258*	*-0.905*	*-0.443*
Mali	-0.570	-0.861	-0.235	-0.402	-0.428	**0.002**
Mauritius	**0.509**	**0.671**	**0.876**	**0.628**	**0.944**	**0.878**
Namibia	**0.343**	**0.183**	**0.599**	**0.159**	**0.179**	**0.377**
Nigeria	*-1.125*	*-1.021*	*-1.689*	*-0.860*	*-1.214*	*-0.852*
Rwanda	*-0.159*	*-0.474*	*-0.980*	*-0.617*	*-0.791*	*-1.315*
Senegal	*-0.235*	*-0.261*	*-0.398*	*-0.211*	*-0.172*	*-0.008*
Seychelles	**0.364**	**0.205**	**0.849**	-0.482	**0.250**	**0.139**
South Africa	**0.323**	**0.556**	-0.181	**0.450**	**0.092**	**0.673**
Swaziland	*-0.257*	*-0.698*	*-0.196*	*-0.473*	*-0.588*	*-1.277*
SSA Average	**-0.554**	**-0.652**	**-0.497**	**-0.534**	**-0.635**	**-0.528**

Data source: Worldwide Governance Indicators database

Institutional variables are: 1 Con of Corr= Control of Corruption 2 Gov Effect= Government effectiveness 3 PSAV = political stability and absence of violence 4 Reg qua=Regulatory quality 5 Ru of Law = Rule of Law and 6 Voi & Acc+ Voice and accountability.

Boswana, Benin, Namibia, Mauritius, Seychelles and South Africa records are good in the SSA context in terms of voice and accountability. The best performing countries are Botswana, Namibia and Mauritius respectively. These countries do not record any negative index in terms of institutional quality variables. Thanks to significant Boswana inclusive political reforms since independence and economic reforms in the 1990s. These results consolidate the World Economic Forum Global Competitiveness Report 2014-2015 Rankings for Sub-Saharan Africa where Mauritius, Boswana and Namibia are in the leading position. The greatest strengths of these countries according to the report are their transparent and efficient government spending, well-protected property rights, strong judicial independence, well organized labour market, low levels of corruption in regional comparison and a sound macroeconomic environment (World Economic Forum 2015). This phenomenon may let us into important conclusion that quality non-financial institutions are basic requirements for economic success and long term progress in Mauritius, Boswana and Namibia.

2.3   Trends of GDP growth in SSA

Data from the World Development indicator show that real GDP growth measured at 1990 constant basic price indicates a growth rate of 1.9 percent in 1994. The figure rose to 5.3 percent in 1996, but declined to 2.40 percent and 2.2 percent in 1998 and 1999 respectively. This same low growth rare its head in 2002 at 2.9 but start to improve and reached its highest growth at 11.6 percent in 2004. The global melt-down brought the sub-region growth back to 2.8 percent in 2009. While the figure rebounded back to 5.4 percent in 2010, real GDP declined to 3.0 percent in 2015. World Bank figure shows a 1.4 percent dismal performances for economic growth in 2016 (figure 2.3). Economic growth in Sub-Saharan Africa is set to drop to its lowest level in more than 23 years, reflecting the adverse external environment, and a lackluster policy response in many of the countries.

Figure 2.3:Sub-Sahara African growth trends to lowest level
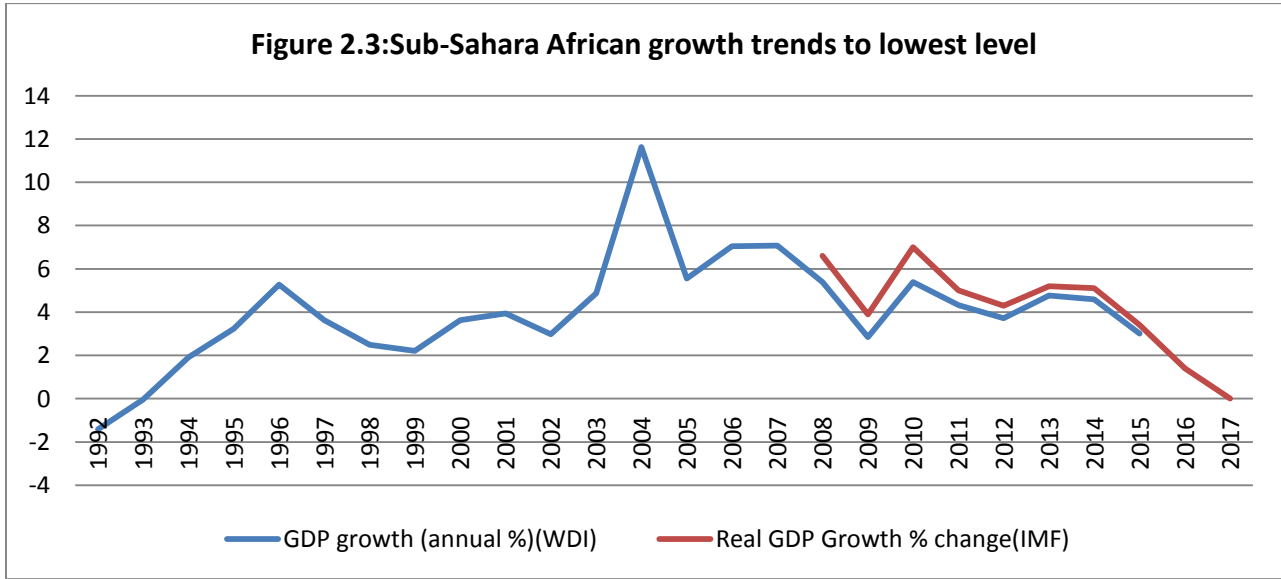
Source: World Bank 2016

Most commodity exporters, however, are under severe economic strain. This is particularly the case for oil exporters like Angola, Nigeria, and the countries from the Central African Economic and

Monetary Union (Gabon, Cameroon, the Central African Republic (CAR), Chad, the Republic of the Congo and Equatorial Guinea) whose near-term prospects have worsened significantly in recent months. In these countries, repercussions from the initial shock are now spreading beyond the oil-related sectors to the entire economy, and the slowdown risks becoming deeply entrenched. Sub-Saharan Africa remains a region of immense economic potential, but policy adjustment in the hardest-hit countries needs to be enacted promptly to allow for a growth rebound. Against the backdrop of the gradual policy adjustment and of a shallow pickup in global activity, (especially oil price pickup) SSA is expected to rebound to 2.9 percent in 2017, after 1.4 percent in 2016 (Table 2.A appendix), although the recovery may remain modest by recent standards.

3   LITERATURE REVIEW

3.1   Empirical Literature - Remittances, Institutional Quality and Economic Growth

One question that has generated heated debate in recent time among researchers and policy makers is: do remittances have positive or negative impact on economic growth? The work of Ratha (2003), Adams & Page (2005) among other significantly lend credence to this argument. Ratha (2003) argues that, remittances, whether used for consumption or investment contribute to economic growth through multiplier effects. Ratha (2003) for instance, argues that, remittances help finance peoples economic fortunes, build schools, clinics, other infrastructures and return-migrants bring fresh capital in financing investment projects in Mexico, Egypt and Sub-Saharan Africa. Other studies that support Ratha's position are World Bank (2006), Meyer and Shera (2015) and Lim and Hem (2017). Using panel cointegration, Lim and Hem (2017) show that, there is a long-run significant impact of workers' remittances on income across different test of five South Asian countries—Bangladesh, India, Nepal, Pakistan, and Sri-Lanka— from 1975 to 2011. In contrast however, Chami *et al* (2003) find that remittances have negative impact on growth for a sample of 113 countries. The study reports: firstly, that a significant proportion of remittances are spent on consumption; secondly, that a smaller part of remittances go into saving or investment; and thirdly, the ways in which remittances are typically saved or invested – in housing, land and jewelry – are not necessarily productive for the economy. Other studies like Acosta *et al* (2007), Baraja *et al* (2009), Anyawu and Erhjikarpor (2009), Zuniga (2011) and Ahamada and Coulibaly (2013) among other support Chami *et al* position and report that, decades of remittances had retarded long run economic growth in remittances-receiving economies**.**

A number of scholars have challenged the validity of most studies that examined the direct link between remittances and economic growth without due consideration about the general environment of the economy under consideration. Aggarwal *et al* (2006) for instance argue that the level of financial development matters for remittances. Based on panel generalized methods of moments (GMM) for 99 developing countries, Aggarwal *et al* (2006) find that remittances contribute to deeper financial sectors measured in domestic savings. This result is similar to that of Hunt (2004) for 18 developing countries, Martinez *et al* (2008) for 25 Latin America and Caribbean countries, Posso (2015) for 72 developing countries, Ojapinwa & Bashorun (2014) for 32 Sub-Sahara Africa countries, Zouheir and Sghaier (2014) for 4 countries of North Africa (Tunisia, Morocco, Algeria and Egypt), Guetat & Sridi (2014) for 15 Middle East and North Africa (MENA) countries and Shukralla(2016) for 55 developing countries. All these support Giuliano & Ruiz-Arranz (2006), Rao & Hassan (2009) and Ramirez (2012) argument that, quality financial framework creates incentive structure for remittances proceeds**.**

The conclusion of Bettin and Zazarro (2011) and Sambira (2013) that remittances and financial development could substitute each other provided the banking system is insufficient is in contrast with Chimhowu *et al.* (2004) argument that remittances are detrimental to endogenous growth. Chimhowu *et al.* (2004) show that remittances lead to distortions in the functioning of formal capital markets and also destabilizing exchange rate systems through the creation of parallel

currency markets. This result is similar to that of Ambrosius (2006) which report that remittances could neither substitute for, nor complement financial development, but rather worsen the condition of the latter. Orozco and Fedewa (2006) argue that when remittances are held as foreign currency rather than domestic, it would appear as if domestic currency is dollarized. According to these authors, this type of informal dollarization can lead to complete loss of control over monetary policy, including the loss of the function as a lender of last resort. Adenutsi (2011) reports that remittances are directly detrimental to endogenous growth and Brown *et al* (2013), based on micro perspective, conclude that remittances deterred bank intermediation and the use of formal banking service.

It could be observed that most of the above studies only focus on the importance of financial environment despite Catrinescu *et al.* (2009) assertion that unbiased understanding of the role of remittances on economic growth may be conditional on the total humanly devised incentive structure of the receiving countries' environment. North (1990) argues that institutions are more than just financial; they broadly comprise human interaction and structure incentives in exchange, whether political or economic. Sambira (2013) argue that, with quality institutions, remittances could be a promising financial vehicle for Sub-Saharan Africa to attract resources, and for the diaspora to satisfy their yearning to contribute to the development of their countries. Using data from 94 countries over three decades, World Bank (1997c) shows that the determinants of growth in an economy is beyond financial, economic or human capital rather involves broad quality of country's non-financial institutions. Those non-financial institutions in effect determine the environment within which markets operate (Stiglitz 1998). Aron (2000) as well as Shukralla (2016) argues that the growth literature does not subscribe to an overarching integration of all institution variables because of their likely changing channels of influence on growth. Hall and Jones (1999) and Flachaire *et al* (2011) assert different institutions exert different impact on growth. Konte (2015) employs democratic institution while testing whether remittances recipients are less likely to support democratic institution than the non-recipients in Africa. He shows that remittances recipients are more concerned about their economic conditions rather than their rights and freedom, hence, hinder legitimacy of democracy in Africa. Five different institutional variables, Dagher *et al* (2008) for 111 countries find that increases in remittances lead to deterioration of institutional quality— specifically, increase in the share of funds diverted by the government for its own purposes. Ahmed (2013) finds similarly reports, that, remittances deteriorate the quality of governance in countries with weak democratic institutions. Ivlevs and King (2015) maintain that different institutions serve different purposes, focused on specific issue of political institutions and Deonanan and Williams (2017) on democratic institutions. They find that migrant households are more likely to be extortion targets for public officials. Using a dynamic panel estimator for 133 developing countries, Deonanan & Williams (2017) find a different conclusion that workers' remittances improve the quality of democratic institutions.

It should be noted that empirical literature on the impact of remittances on economic growth appears controversial, covering the full gamut from positive effects, to negative effects and to conditional effects. This inconclusiveness might not be unconnected with the reliance of the earlier

studies on the direct relationship between remittances and economic growth despite Ramirez and Shama (2008) argument that impact of remittances on economic growth may be conditional on the quality of financial institution and Catrinescu *et al.* (2009) warning that, the humanly devised incentive structure of the receiving countries environment in question are crucial. Another reason might be connected with the lumping of different institutional variables despite Acemoglu *et al* (2005) argument that the role of political institution may be different from that of economic institutions. Lumping countries of different regions while analyzing remittances issue could have posed econometrics problem to earlier results. Moreso, the diversity of results can also be traced to the adoption of OLS and static panel as a result of potential endogeneity issue. This study bridges the literature-gap by not only focusing on the workings of institutional quality in the remittances-growth, but also tests the hierarchy of institutions hypothesis, an aspect usually ignored in the literature. Using dynamic panel system GMM framework to fully solve econometric issues associated with remittances and growth while at the same time focusing on SSA, where overarching vision and policy framework for accelerating economic are in dire need, this study is therefore unique.

3.2   Theoretical Literature
3.2.1   Institutional Quality as Motivation to Remit
The literature on remittances has come up with several theories to explain the motives behind migrants' decisions to send money back home. Solimano (2003) identifies four main theories which include (i) the altruistic (ii) the self-interest (iii) loan repayment and (iv) co-insurance/portfolio management decision theories. One main message of the theories is the plausible coexistence of these motives. This means the theories can only be distinguished from one another by specifying the initial path of the motivation. Following self interest path, Le (2011) posits that the amount of remittances transfer increase with the investment outcome surpluses (represented by the difference between high and low outcome) which is directly dependent on the quality of institutions in the environment. Here, remittances are assumed to be used mainly for the case of better realization of investment output at which the recipient exerts a higher level of effort today to get higher reward tomorrow. Of primary concern to migrants is the probability of high investment outcome (Ncube & Brixiova 2013). Of primary importance to outcome is favourable economic condition at home, which is fundamentally linked to institutions in the society such as structure of property rights and presence of properly organized market (Smith 1776, Acemoglu *et al* 2005).

The key message is as simple as it is crucial to remittances senders: continual sending money back home from abroad may always and everywhere depends on the fruit of investment, an outcome which can also depends on the level of altruism as well as loan repayment and co-insurance/portfolio quality of institutions, which may ultimately depends on the quality of institutions. Good policy environments will increase the return on investment, hence raise the opportunity cost of consumption and investment for both remitters and recipient household (Ratha 2005, World Bank 2006a). Catrinescu *et al* (2009), show that remittances are more likely to generate longer-term growth where the quality of political and economic institutions is higher. Remittances effect on economic growth may have important impact on the quality of domestic

governance (Abdih *et al* 2012). They argue, that access to remittance income makes government corruption less costly for domestic households to bear, hence, such corruption is likely to increase. A better contribution of the diaspora and remittances to economic growth and development may be related to political stability and initial growth in the recipient countries which remain signals of opportunities and incentives for investments (De Haas 2007). Rodrik (2000) identifies five important types of market-supporting institutions: property rights, regulatory institutions, institutions for macroeconomic stabilization, institutions for social insurance, and institutions of conflict management. Rodrik (2008) posits that a governance system that allows enforcement of contracts and property rights and reduces corruption is an impetus for individuals to invest, innovate and take part in economic activity. The famous invisible hand of Smith eloquently describes how well-organized market places allow individuals, solely pursuing their personal interests, to collectively maximize economic welfare.

Economic institutions are important because, it helps to allocate resources efficiently. When well-organized markets are missing or ignored, gains from capital flows go unexploited, and resources are misallocated (Smith 1776, Acemoglu *et al* 2004). Poor quality institutional may lead to weak incentives to invest on the part of remitters. For instance, in an institutional environment characterized by political instability, inefficient bureaucracies, and lack of just and fair legal recourse, workers in diaspora may find it difficult to identify safe and secure profitable opportunities. Conversely, sound institutional frameworks are more likely to create the appropriate incentive structure for investment from remittance proceeds.

3.2.2   Bank as a Maturity Transformation Theory of Financial Intermediation

The mechanism by which fund is transmitted to the real economy remains a central topic in macroeconomics. This line of research stresses that bank lending actions affect output, in part, by causing shifts in the supply and cost of loans. The bank lending channel represents the credit view of this mechanism. Diamond and Dybvig (1983) and Bernanke and Gertler (1995); Romer (1990) and Oliner and Rudebusch (1996) describe two possible linkages of the credit channel theory. The first one is the balance-sheet channel which places emphasis on the impact of changes in monetary policy on the borrower's balance-sheet. The second linkage is the bank lending channel which focuses on the possible effect of monetary policy actions on the supply of loans by the banking system. An expansionary monetary policy according to Diamond and Dybvig (1983); Bernanke and Blender (1988; 1992), increases bank reserves and bank deposits increase the quantity of bank loans available. Bernanke and Gertler schematically present possible monetary policy effects as follows:

$$M \uparrow \Rightarrow \text{Bank deposit} \uparrow \Rightarrow \text{Bank loan} \uparrow \Rightarrow I \uparrow \Rightarrow Y \uparrow$$

Thus, expansionary monetary policy through the broad credit channel leads to a rise in bank reserves and bank deposits, subsequently to a rise in bank loans, leading to an increase in investment spending and a rise in output. Mckinnon (1973) and Shaw (1973) emphasize monetary policy expansion would increase rather than reduce investment in the aggregate, either because the

need to accumulate funds to undertake investments makes deposit and capital complementary rather than substitute assets or because of a credit availability effects (Argenor & Montiel 2008 pp 656).

When efficient intermediaries (banks) exist, they accept these deposits and make them available for lending to a large number of agents with investment needs; and hold liquid reserves against predictable withdrawal demand (i.e. the law of large numbers operates to make withdrawal demand fairly predictable). Here, as in Diamond and Dybvig (1983), banks will be always ready to provide the demanded liquidity. The increasing and stability of remittances to developing countries substantially contribute to the liquidity in the financial system.

Schematically as in Bernanke and Gertler, monetary policy shock can occur through remittances inflows to supply of credit by banking system thus:

$$R \uparrow \Rightarrow M \uparrow \Rightarrow \text{Bank deposit} \uparrow \Rightarrow \text{Bank loan} \uparrow \Rightarrow I \uparrow \Rightarrow Y \uparrow$$

(Note: M= indicates an expansionary monetary policy engendered by international remittances inflows R leading to an increase in bank deposits and bank loans, thereby raising the level of aggregate investment spending, I, and aggregate demand and output, Y).

In view of the evidence that remittances are voluminously flowing to developing countries, with the agreement (Adams 2007) that receiving households invest and save more on the average than households without remittance receipts, the effects of remittances on investment from the multiplier effect of remittance-induced expenses may be impregnated with growth (Lucas 2005, Ratha 2005). The wiliness of remitter to be continually remitting may also depends on efficient allocation of remittances to investors, as well as, the private sector to having impetus to invest such funds. This may ultimately depends on institutional regimes characterized by political stability, respect of law, transparency, contract enforcement, as well as protection of property rights (North 1990, La Porta *et al* 2002).

4   THEORETICAL FRAMEWORK AND METHODOLOGY

4.1   Neoclassical Theory of International Capital Flows

The relevance of foreign capital inflow in boosting economic growth and prosperity originated from both classical and neoclassical theories which postulate that the major constraint on the part of developing economies is the shortage of capital. The theories in their open extension postulate that foreign capital inflow can supplement domestic investment funds to enhance the capacity of the economy to grow (Ojapinwa & Odekunle 2013). While the extended neoclassical growth theory argue that there are three main causes of economic growth: increase in the stock of capital; technological progress and growth in labour input due primarily to population growth; economic growth analysis within the framework of open economies posits that economic growth in capital-scarce economies is possible when inflows of capital are channelled through the financial system (Bencivenga & Smith 1991). The theory posits that capital flows through financial system could lead to steady growth rate through increased allocation efficiency. Banks accordingly can achieve this result by offering their individual depositors highly liquid assets and using these resources to fund investments that, while yielding high returns, require a long period to mature. They are able to do this essentially by pooling the idiosyncratic liquidity shocks that their depositors face into an aggregate liability portfolio from which liquidity shocks are effectively eliminated (Agenor & Montiel, 2008, p. 581). Growth which therefore can be constrained either by a shortage of domestic savings (the savings gap) or by a shortage of exports earnings (the trade gap) can then be facilitated by increased foreign savings through financial system. Foreign capital inflows are therefore crucial determinant of growth, thus adding to domestic savings to generate a higher rate of investment allowing less developed countries to grow faster than the more developed ones (Aghion & Howitt,1998).

Of primary importance to financial system is how well structured is the market institutions (Smith 1776). Recent growth theory of North (1990) and Acemoglu *et al* (2005) stay squarely within the neoclassical tradition of explaining differences in growth rate in terms of differences in institutions. Central to their idea is that, institutions are more broadly endogenous; they are mainly determined by the society or a segment of it. Consequently, the question of why less developed countries are much poorer than developed countries is closely related to the question of why some societies have worse institutions than others. This is also directly linked with whether foreign capital flown to a society (remittances) can be optimally utilized for growth. Catrinescu *et al*. (2009) argue that remittances are more likely to generate longer-term growth where the qualities of political and economic institutions are high. The intuition in this framework is that: foreign capital in terms of remittances that pass through well-organized system where enforcement of property rights, sound regulatory policies, political stability and high degree of equality of opportunity are guaranteed can motivate individuals (including migrants) to invest, innovate and take part in activity that can lead to economic growth.

Following neoclassical idea that increasing foreign capital flows to developing economy may be adding to domestic savings gap to generate a higher rate of investment, this study is motivated to determine insight into remittances as a sources of economic growth. Hence, Solow-Swan growth

framework based on the premise that output in an economy is produced using a combination of labour (L) and capital (K) under constant returns, where quantity of output (y) is determined by the efficiency (A) is a useful starting point

$$y = Af(L,K) \qquad\qquad 1$$

This study assumes competitive markets. The growth rate of the economy is then, a weighted sum of the growth rates of the efficiency parameter, g_A, of the labor force, g_L, and of the capital stock, g_K, where the weights on the latter two are the shares of payments to labor and capital in gross domestic product

$$g_y = g_A + \alpha_L g_L + \alpha_K g_K \qquad\qquad 2$$

Equation (2) is known as growth accounting framework.

One crucial assumption in this model is that the marginal product of capital decreases with the amount of capital in the economy. In the long run, as the economy accumulates more and more capital, g_K approaches 0, and the growth rate is determined by efficiency (parameter) of financial and nonfinancial institutional qualities and growth in the labor force. Remittances as a form of capital flow can therefore provide the financial system with substantial resources if they are saved in form of deposits which could lead to a greater allocation of investments such as credits among not only the remittances-receiving population but also the non-remittances-receiving, in the long run. Foreign capital flows in terms of remittance that pass through the financial system are generally needed to fill the prevailing gap, so that countries can grow more rapidly than their internal resources would otherwise allow (Solow-Swan, 1956; Diamond & Dybvig, 1983; Bencivenga & Smith 1991). Equation (2) can be extended by including remittances capital thus

$$g_y = g_A + \alpha_L g_L + \alpha_{KP} g_{KP} + \alpha_R g_R \qquad\qquad 3$$

Where the variables that measure the quality of institutions enter this model through efficiency parameter, they can be expected to have an indirect effect on growth. Acemoglu *et al* (2005) for example, discuss how region's initial level of technical efficiency may be affected by the quality of its institutions. Thus, efficiency parameter is said to be directly depended on region-specific institutional differences. Since remittances are the main focus in the growth equation, any effects that institutional variables exert on growth through an increase in the volume of remittances are indirect. Separate institutional or remittance equation would be necessary to ascertain the indirect effects of the variables on economic growth. However, no problem arises in connection with the simultaneity of remittances and growth when reduced-form growth regressions are used because these regressions omit the remittances variable and replace it with the set of variables that determine remittances. For sufficiently general models, this approach captures the influence of the voluminous increase in remittances on growth through the quality of institution clean of any endogenity. Equation (3) is a growth accounting that enables us to find out the contribution of labour, physical capital, remittances and efficiency parameter. Although in estimation the model efficiency parameter would be replaced by initial income to explain dynamism and also to avoid factor share bias (Temple 1999). Being an extended neoclassical growth framework, it enables us to find out the

impact remittances and institutions as well as other relevant growth determinants based on the literature.

4.2   Model Specification
4.2.1   Remittances and Economic Growth
The basic model we estimate is based on the influential work of Guiliano & Ruiz-Arranz (2006) and Catrinescu *et al* (2009) where explanatory variables include initial real GDP growth per capita, remittances, domestic investment, FDI, trade openness, foreign aids, government consumption, population growth, inflation as presented in equation (4) below

$$y_{i,t} = \beta_0 + \beta_1 y_{i,t-1} + \beta_2 \operatorname{Re} m_{i,t} + \beta_3' X_{i,t} + \eta_i + \vartheta_t + \varepsilon_{i,t} \qquad \qquad 4$$

where $\eta_i \sim \quad \quad \frac{.2}{\eta}),\ \vartheta_t \sim \quad \quad \frac{.2}{\vartheta}),\ \varepsilon_{i,t} \sim \quad \quad \frac{.2}{\varepsilon})$

all errors are independent of each other and among themselves.

i indexes countries, t denotes time, $y_{i,t}$ is the growth rate of GDP per capita measured as the log difference of GDP per capita in year t, $y_{i,t-1}$ is the logarithm of GDP growth per capita lagged one year, $\operatorname{Re} m_{i,t}$ is a measure of remittances as a share of GDP, $X_{i,t}$ represents a matrix of control variables, η_i is a country-specific fixed effect that allows considering unobservable heterogeneity across countries, and ϑ_t is a time specific effect capturing productivity changes that are common to all countries. $\varepsilon_{i,t}$ is an error term.

INV refers to domestic investment over GDP defined in X; $_{it}$ is usually believed that domestic investment is capable of increasing the pace of economic growth and ensuring swift structural transformation of the economy, though this argument might not be sustainable without taking into cognizance the use of instrumental variable. Some researchers argue that even if the endogeneity of investment is correctly dealt with, its effect would still be close to zero in developing countries as a result of heavily distorted investment environments (Temple 1999). Following the trend in the literature, this study expects domestic investment to be positively correlated with economic growth. FDI is foreign direct investment to GDP ratio; according to the literature, this is also expected to contribute positively to economic growth. GCON is government consumption. It very common in political discussion that, high rate of social security transfers to GDP and a high government consumption can be damaging to long run growth. Hall and Jones (1997), find that high government consumption lowers the level of income, although they point out effect of underestimation in their framework as result of endogeneity issues. Meanwhile, Atkinson (1995) points out that the detailed structure of welfare state institutions is likely to be crucial, and cross-section studies will only succeed in obscuring the most important issues (Temple 1999). The description of the correlation between government size and growth as fragile by Levine and Renelt (1992) which may be conditional internal factors is worth remembering. The relationship between government size and economic growth may then turn positive or negative depending on other

outside factors. CPI is a measure of the inflation rate. Macroeconomists, central bankers and policymakers have often emphasized the costs associated with high and variable inflation. Inflation accordingly imposes negative externalities on the economy when it interferes with an economy's efficiency. Inflation is therefore expected to have negative relationship with economic growth given the foregoing. Trade Openness is total trade to GDP ratio: the open version of Neoclassical theory states that trade openness contributes greatly to growth based on support from variety of sources such as cross-country and panel data growth regression analysis, industry and firm level research and case studies. $\dot{i}$ is the population growth rates: the debate between positive and negative sides of population growth is ongoing. Population growth enlarges labour force and, therefore, increases economic growth. A large population also provides a large domestic market for the economy. Moreover, population growth encourages competition, which induces technological advancements and innovations. Nevertheless, a large population growth is not only associated with food problem but also imposes constraints on the development of savings, foreign exchange and human resources. Generally, the relationship between income and population growth is expected to remain highly strong and positive in enabling environment but detrimental to economic growth in fragile economies.

Remittances as share of GDP indicator may be negative or positive. Meanwhile, the literature highlights three components of the balance of payments in compiling remittances' statistics. The first component, workers' remittances, the second component is employee compensation and the third is migrants' transfer*s*. Workers' remittance and compensation of employees are recorded as personal remittances. This study argues that personal remittances better and closely conform to the notion that researchers and policymakers have in mind when discussing remittance flows. This study adopts this new definition and argues that inclusion of migrants' transfers by earlier studies may sufficiently pollute the database with non-remittance behavioural characteristics, consequently, renders earlier specification and conclusions unreliable. It is however recognized that personal remittances data are underestimated due to the use of informal channels.

4.2.2 Remittances and Institutions on Economic Growth

An important point made in this study is that institutions may be needed to induce remittances impact on growth. A country with have strong say a functioning democracy, sound rule of law, independent judiciary may likely encourage vibrant financial markets to mobilize both local and international capital, and channel them into productive usage. To this end, the study interacts remittances with institution variables and tests the significance of the parameter. The parametric remittances-institutions- growth model can be written as equation (6)

$$y_{i,t} = \alpha y_{i,t-1} + \psi_1 \left(\mathrm{Re}\,m \cdot Ins\right)_{i,t} + \beta' X_{i,t} + \varepsilon_{i,t} \qquad\qquad 6$$

X is a set of explanatory variables as described earlier.
$\mathrm{Re}\,m \cdot Ins$ refers to indicator of remittances-institution interaction. As mentioned earlier many theoretical models show that institutions are likely endogenous $E(\varepsilon_{i,t} / \mathrm{Re}\,m \cdot Ins) \neq 0$. Estimating model (6) directly will generate biased estimators (Arellano & Bond 1991). We handle this problem

by introducing a set of instruments for $\mathrm{Re}m \cdot Ins$. This study express $\left(\mathrm{Re}m \cdot Ins\right)_{i,t}$ in terms of these instruments $G_{i,t}$ as equation (7)

$$\left(\mathrm{Re}m \cdot Ins\right)_{i,t} = g\left(G_{i,t}\right) + \mu_{i,t} \qquad\qquad 7$$

where, for simplicity, $g(G_{i,t})$ is assumed to be parametric, say $g(G_{i,t}) = b'G_{i,t}$.

We choose lagged explanatory variables as instruments (Arellano & Bover 1995). Thus, (7) can be written as

$$\left(\mathrm{Re}m \cdot Ins\right)_{i,t} = b'z_{i,t-1} + \mu_{i,t} \qquad\qquad 8$$

where Z represents all the explanatory variables in (6). We assume that $E(\varepsilon_{i,t}/Z_{i,t-1}, u_{i,t}) = E(\varepsilon_{i,t}/u_{i,t})$. It then follows that $E(\varepsilon_{i,t}/u_{i,t}) \neq 0$, since $E\left(\varepsilon_{i,t}/\mathrm{Re}m \cdot Ins\right) \neq 0$. Hence, one decomposed $\varepsilon_{i,t}$ into $\xi_i(u_{i,t}) + \varepsilon_{i,t}$, where $\xi_i(u_{i,t}) = E(\varepsilon_{i,t}/u_{i,t})$ and $\varepsilon_{i,t} = \varepsilon_{i,t} - E(\varepsilon_{i,t}/u_{i,t})$. Equation (6) then becomes (9)

$$y_{i,t} = \alpha y_{i,t-1} + \psi\left(\mathrm{Re}m \cdot Ins\right)_{i,t} + \beta'X_{i,t} + \xi_i\left(\mu_{i,t}\right) + \varepsilon_{i,t} \qquad\qquad 9$$

We replace the unobservable $\mu_{i,t}$ by the observable $\hat{\mu}_{i,t}$ $\left(\quad -n \cdot Ins\right)_{i,t} - \hat{\quad}_{i,t-1}$. Then equation (9) becomes equation (10)

$$y_{i,t} = \alpha y_{i,t-1} + \psi\left(\mathrm{Re}m/Ins\right)_{i,t} + \beta'X_{i,t} + \xi_i\left(\hat{\mu}_{i,t}\right) \quad {}_{i,t} \qquad\qquad 10$$

Where the error $\varepsilon_{i,t}^{*} = \varepsilon_{i,t} + \xi_i\left(\mu_{i,t}\right) - \xi_i\left(\hat{\mu}_{i,t}\right)$.

One can use Arellano and Bover (1995) weighting matrix estimator to obtain consistent estimation of parameters α and ψ in model (10), say $\hat{\alpha}$ and $\hat{\psi}$. Then substitute $\hat{\alpha}$ and $\hat{\psi}$ into the model (10)

$$y_{i,t} = \hat{\alpha} y_{i,t-1} + \hat{\psi}\left(\quad \quad \right)_{i,t} + \beta'X_{i,t} + \xi_i\left(\hat{\mu}_{i,t}\right) \quad {}_{i,t} \qquad\qquad 11$$

where $\varepsilon_{i,t}^{**}$ denotes the new composite error term that accounts for the estimation of α and ψ.

one crucial argument of Acemoglu *et al* (2005) hierarchy of institutions hypothesis is that, different institutions affect economic growth through different channels (Flachaire *et al* 2011 and Ivlevs & King 2015). Bettin and Zazzaro (2008) argue that quality non like stable political stem, respect for rule of law, effective policy implementations would generally influence motivation to remit through financial sector, that would eventually influence equilibrium growth rates; in particular, to the extent that intermediaries tend to promote capital investment, they also tend to raise rates of growth. We model these concerns by simultaneously examining the role of financial and non financial institutional quality based on equation 11

$$y_{i,t} = \hat{\alpha} y_{i,t-1} + \hat{\psi}_1 \quad {}_{i,t} + \hat{\psi}_2 \quad {}_{i,t} + \hat{\psi}_3 \quad {}_{i,t} + \psi_4\left(\mathrm{Re}m \cdot FD\right)_{i,t}$$
$$\psi_5\left(\mathrm{Re}m \cdot insq\right)_{i,t} + \beta'X_{i,t} + \xi_i\left(\hat{\mu}_{i,t}\right) \quad {}_{i,t} \qquad\qquad 11$$

To estimate the model above, we use the GMM weighting estimators proposed by Arellano and Bover (1995) and Blundell and Bond (1998) to obtain consistent estimates of $f\left(\operatorname{Re}m \cdot Ins\right)_{i,t}$ and $\xi_i(\hat{u}_{i,t})$, say $\widehat{f}\left(\operatorname{Re}m \cdot Ins\right)_{i,t}$ and $\hat{\xi}_i(u_{i,t})$. It is of course $\widehat{f}\left(\operatorname{Re}m \cdot Ins\right)_{i,t}$ the estimated function that we are interested in, since it captures the marginal impact of the remittances-institutional quality variable on per capita growth clean of any endogeneity.

Meanwhile Fd represent financial development index. It is proxied by domestic credit to private sector. This measure is a comparatively more appropriate measure of financial development in the current context since we are mainly concern about the role of bank as a maturity transformer. In this context, it captures the activities of commercial bank with regard to mobilizing savings for private entities economic activities (Beck *et al* 2000). Economists hold almost consensus opinions regarding the importance of the financial development economic growth process. In this study therefore, we test whether the marginal impact of financial development is significantly different from zero and whether there is a complementarity or substitutive relationship between the level of financial development and remittances.

Interacting remittances and institutions ($\operatorname{Re}m \cdot ins$), we test the marginal impact of institutional qualities on growth and on remittances impact on growth. A negative coefficient would indicate that remittances are more effective in boosting growth in countries with low quality of institutions. On the other hand, a positive interaction would indicate that remittances are more effective in inducing growth in sound institutional environments. The result for remittances and investment would be interested the same way.

4.3 Method of Analysis - System GMM

Data for 33 SSA countries from 1996 to 2015 are gotten from World Bank data base. This study adopts system GMM estimation based on Arellano and Bover (1995) and Blundell and Bond (1998) to confront issues of endogenity and adjust for dynamism at the same time. Arellano and Bover (1995) and Blundell and Bond (1998) propose the use of orthogonal deviations which handle very important modelling concerning: fixed effects, potential endogeneity of regression, reverse causality while avoiding dynamic panel biased (Nickel 1981, Baltagi & Levin 1986). The estimator corrects for the endogeneity in the lagged dependent variable and provides consistent parameter estimates even in the presence of endogenous right hand side variables. It also allows for individual fixed effects, heteroskedasticity, and autocorrelation within countries (Roodman 2009a). The Arellano-Bover/Blundell-Bond estimator augments Arellano-Bond by making an additional assumption that first differences of instrument variables are uncorrelated with the fixed effects. It builds a system of two equations – the original equation in levels and the transformed one in differences – and is known as system GMM. This method allows more instruments and hence leads to improved efficiency. Although Arellano-Bover/Blundell-Bond has one and two step variants, this study makes use of the two-step because it is more robust and asymptotically more efficient than the one step (Nickel 1981).

5 PRESENTATION, ANALYSIS AND DISCUSSION OF RESULTS

5.1 Summary Statistics

Table 5.1 presents the descriptive statistics of both the explained and the explanatory variables. The table shows that all the variables have positive mean values except institutional variables. This supports the average institutional low rank argument suggest in section two. As can be verified in the table, the mean log of remittance is less than that of FDI and ODA. The standard deviation of remittance is also lower than the two variables, suggesting that remittances are less volatile than FDI and ODA. The altruistic role of remittance may be responsible to the stability of remittances compared to other capital flows (FDI).

Table 5.1: Descriptive Statistics of the variables

VARIABLE	Mean	Maximum	Minimum	Std. Dev.	Sum	Observations
LGDPG	1.435	3.518	-2.302	0.724	865.62	603
FDI	3.595	54.062	-8.589	5.246	2168.33	603
LGFCF	2.903	3.762	0.092	0.4382	1750.80	603
LGGCON	2.630	4.157	1.521	0.3608	1586.30	603
LTPOEN	4.155	5.333	2.882	0.4354	2506.00	603
FD	23. 03	15.45	1.6151	26.786	9396.4	603
ODA	9.142	71.785	-0.260	8.386	5512.7	603
PG	2.539	7.988	-2.628	0.8294	1531.53	603
CPI	7.616	132.82	-35.83	9.519	4592.74	603
REM	2.892	22.767	0.0009	4.0284	1744.25	603
INSQ	-0.535	0.867	-1.715	0.5876	-322.88	603
PSAVT	-0.457	1.188	-2.654	0.886	-275.57	603
COC	-0.534	1.249	-1.5138	0.585	-322.26	603
ROL	-0.608	1.056	-2.0719	0.628	-366.73	603
RQ	-0.502	1.123	-1.616	0.557	-302.79	603
VA	-0.490	1.024	-1.883	0.690	-295.85	603
GEFF	-0.620	1.035	-1.806	0.6109	-374.11	603

Source: Author's calculation based on World Bank data

Table 5.2: Correlation Matrix

VARIABLES	LGDPG	FDI	LGFCF	LGGCON	LTPOEN	ODA	PG	CPI	WREM	INSQ
LGDPG	1	0.134	0.124	-0.016	-0.076	0.179	0.177	0.0403	-0.138	0.039
FDI		1	0.298	0.117	0.355	-0.046	-0.040	-0.010	-0.058	0.070
LGFCF			1	0.343	0.359	-0.184	-0.065	-0.100	-0.168	0.423
LGGCON				1	0.324	-0.089	-0.193	-0.321	-0.109	0.486
LTPOEN					1	-0.324	-0.446	-0.142	-0.043	0.413
ODA						1	0.431	0.165	-0.005	-0.293
PG							1	-0.019	0.115	-0.415
CPI								1	-0.151	-0.170
REM									1	-0.169
INSQ										1

Table 5.2 presents the correlation matrix of the variables. The pearson product moment correlation coefficients of the variables are significant at 5 percent level. As shown in the table, there exist a negative correlation between remittances and economic growth. This shows the possibility of countercyclical relationship between the phenomenon. The correlation result also shows that institutional variable is positively but weakly relate to growth indicator. This suggests that phenomenon may have positive effect on economic growth.

5.2   Empirical Results and Discussions

5.2.1   Remittances and Economic Growth

Table 5.4 presents the results for the remittances on economic growth using system GMM estimators. The results pass a battery of diagnostic tests. The Hansen J 27.73 percent statistics of over identifying restrictions confirms that the instruments employed are acceptable and healthy i.e., uncorrelated with the error term, and that the excluded instruments are correctly excluded from the estimated equation. Across all estimations, this study finds that initial income as a measure of past realisation of growth has positive impact on its current levels. As expected, the result indicates that increase in FDI leads to economic growth in SSA. This support the argument that, FDI especially if they are embodied in new machines, often acts as conduits for the transfer of modern technology to developing countries (Lucas 1988). The foreign aid result is similar to that of FDI. It shows that more foreign aid will improve economic growth in SSA. Population growth rate is positive and significant, though with very small magnitude on economic growth. This positive but very small relational impact could be as a result of the rapidly increasing population in SSA which adds a substantial number to the total population every year with low per capita income and low capital formation which implies 'a circular constellation of forces tending to act and react upon one another in such a way as to keep a poor country in a state of poverty'.

As expected, the coefficient of GFCF as a measure of domestic investment remains positive and significant. On average, 10 percent increase in gross fixed capital formation increases economic growth by 0.2 percent. This is in line with economic theories - classical, neo-classical and endogenous growth theories which posit that, domestic capital formation is generally a catalyst for rapid growth and development of any economy, be it developed, developing or under-developed. This supports the idea that rapid domestic investment is capable of increasing the pace of economic growth and ensuring swift structural transformation of the economy (Romer 1986, Fashola 1998; Easterly 2001, Barro & Sala-i-Martin 2003 & Aghion *et al* 2005). Accordingly, these results show that domestic capital formation plays crucial role in economic growth of SSA. However, trade openness has negative and significant impact on economic growth. Specifically, 10 percent increase in trade openness decreases economic growth by 0.15 percent. Over dependence of SSA on foreign states for most of their consumption and borrow to pay for the imports can be adduced to the negative relationship.

Table 5.4: System GMM: Remittances and Economic Growth

Variables	Coefficient	t-Statistics	Probability
LGDPG(-1)	0.0809*	3.5132	0.0005
	(0.0230)		
FDI	0.0616*	2.4672	0.0140
	(0.0047)		
LGCON	0.0366	0.1187	0.9055
	(0.3084)		
LGFCF	0.22545***	1.7570	0.0795
	(0.1283)		
CPI	-0.0480	-0.5205	0.6030
	(0.0922)		
ODA	0.0263*	2.5975	0.0098
	(0.0101)		
REM	**-0.0249****	**-2.0480**	**0.0414**
	(0.0212)		
PG	0.1175*	2.8575	0.0045
	(0.0411)		
LTOPEN	-0.1533***	-1.9960	0.0465
	(0.0768)		
Observation(panel)	500	500	500
Cross-sections		33	18
Periods			
Std error	0.61		
Instrument rank			33
Hansen J Stat	27.73		

Notes: * denote 1 percent levels, * * denote 5 percent levels and * ** denote 10 percent levels of significance Standard
error in parentheses. When performing the Hansen test for over-identification, the "collapse" option in Eview was used
to reduce the lag range and avoid instrument proliferation, in conjunction with the Windmeijer (2005) correction for
robust standard errors.

This result is definitely not supporting the view that, trade openness serves as an efficient resources allocative mechanisms where promotion of innovation and entrepreneurial activities result from competition and access to larger markets. The relationship between inflation rate and economic growth only exhibits negative relationship. The results indicate that remittances have negative and significant impact on economic growth SSA countries. These results indicate that the voluminous remittances are not a direct predictor of economic growth. The results favour the growth- retarded view of remittances espoused by Chami *et al* (2003), Acosta *et al* (2007), Baraja *et al* (2009) and Ahamada and Coulibaly (2013). In turn, the results are less consistent with those of Ratha (2003), Adams and Page (2005), World Bank (2006a) and Khadim & Mehmood (2016) and Lim & Hem (2017) that found that remittances have positive impact on economic growth. It is although argue that proper understanding of the role of remittances should not be limited on the direct impact. Based on Catrinescu *et al*. (2009) assertion that, the extent to which remittances contribute to economic growth may depends on the quality of institution of the recipient countries, this study therefore incorporate institutional quality in remittances-growth analysis in the next discussion.

5.2.2 Remittances and Institutions on Economic Growth

Table 5.5 shows the impact of remittances on growth through institutional quality. The Hansen J 27.73% statistics of over identifying restrictions also confirms that the instruments used are uncorrelated with the residuals, hence acceptable and healthy. As expected, the results show a strong positive relationship between past realization of economic growth and their current levels. FDI exhibits positive influence on economic growth as before. A government size measure in terms of government consumption has negative and insignificant relationship with economic growth. Population growth rate has the expected positive relationship with growth. Inflation and trade openness are found negative and insignificant. It is worth noting that the result of trade openness in table 5.4 is different from that of table 5.5. While that of 5.4 is negative and significantly related to growth, the result from Table 5.5 is negative and insignificant. This could be an indication that policies designed to promote trade openness are not yielding expected positive impact as a result of the dominance of imports over exports resulting in a chronic trade deficit. The insignificant relationship in table 5.5 might not be unconnected with the introduction of institutional qualities. Rodrik *et al*. (2002) point out that once institutions are introduced into an analysis, trade variables exert no direct effect on growth performance.

As shown in table 5.5, credit to private sector as a measure of degree of financial intermediation is positive and statistically significant. The coefficient for the credit to private sector is 0.36 at 1% level of significance. The results indicate that the degree of financial sophistication and quality is a predictor of economic growth in Sub-Saharan Africa countries on average. The results favour the growth-enhancing view of financial intermediation espoused by King and Levin (1993a) and the empirical works of King and Levin (1993b) and Levin *et al* (2000). In turn, the results are less consistent with those that minimize the positive role of financial intermediaries in the growth process (Lucas, 1988; Oluitan & Hakeem 2013). Similarly, these findings are consistent with theoretical models that predict that better functioning financial intermediaries accelerate economic growth. We find strong evidence of a positive interaction between remittances and financial depth. These findings suggest that the marginal impact of remittances on growth is increasing with the level of financial development. In other words, remittances have contributed to promote growth in countries with well developed financial systems. In contrast, in shallow financial systems, remittances do not seem to magnify their growth impact. This provides information regarding the complementarities nature of remittances and financial development in enhancing economic growth in SSA countries. These results which suggest that remittances affect economic growth positively within SSA financial system, and that the effect of remittances on growth becomes even stronger when this indicator of financial development is included, are novel, and in our view extremely interesting results. These results confirm the conclusions from our theoretical model: if remittances are properly canalized to and efficiently used by the financial sector, one should expect a greater effect of remittances on growth. This result is in consonance with the work of Ramirez & Shama (2008) on Latin American and Caribbean countries.

Table 5.5: System GMM: Remittances, Institutional Quality and Economic Growth

Variables	Coefficient	t-Statistics	Probability
LGDPG(-1)	0.2426* (0.0664)	3.6510	0.0003
FDI	0.0097** (0.0036)	2.7237	0.0067
LGCON	-0.0437 (0.0803)	-0.54450	0.5860
INV	0.14596** (0.0786)	1.8574	0.0638
REM*INV	0.0090* 0.0033	2.7072	0.0070
CPI	-0.0032 (0.0033)	-0.9749	0.3300
ODA	0.0074** (0.0033)	2.2530	0.0247
FD	0.00363* (0.0009)	3.7098	0.0002
REM*FD	0.0109* (0.0061)	1.7941	0.0733
PG	0.1036** (0.0479)	2.1591	0.0313
LTOPEN	-0.1277 (0.0869)	-1.4694	0.1423
INSQ	**0.7356** (0.3941)**	**1.8665**	**0.0626**
PSAVT	0.7550* (0.3446)	2.1909	0.0291
VA	1.2953* (0.3971)	3.2616	0.0012
RQ	1.1629* (0.4446)	2.6154	0.0093
GEFF	1.3718* (0.4598)	2.9831	0.0030
ROL	1.2466* (0.3495)	3.5661	0.0004
COC	1.2124 (0.4683)	2.5888	0.0100

REM*INSQ	**0.0423** 0.0188	**2.2581**	**0.0244**
REM*POLINSQ	**0.0082** (0.0117)	**0.6952**	**0.4872**
REM*ECINSQ	**0.0257*** (0.0074)	**3.4721**	**0.0006**
Observation(panel)	500	500	500
Cross-sections Periods Std error	0.62	33	18
Instrument rank Hansen J Stat	27.73		33

*Notes: * denote 1 percent levels, * * denote 5 percent levels and * ** denote 10 percent levels of significance Standard error in parentheses. When performing the Hansen test for over-identification, the "collapse" option in Eview was used to reduce the lag range and avoid instrument proliferation, in conjunction with the Windmeijer (2005) correction for robust standard errors.*

Table 5.5 reveals that non-financial institution quality (INSQ) has a significant impact on economic growth. On average, a unit increase in non-financial institutional quality suggests around a 0.74 percent point increase in economic growth. It should be noted that this coefficient is the most sensitive to growth in both models. Again, each of the non-financial institutional quality variables is found to be positively responsive to economic growth. The result supports Easterly and Levin (1997) idea that non-financial institutional factors fully explain Africa growth experience more than the conventional explanations (Aron 1999). The results favour the growth-enhancing view of non-financial institutional quality pioneered by Adam Smith 1776, reasoned by North 1990, World bank 2002 and more recently by the empirical works of (Keefer & Knack 1997, Hall & Jones 1999, Bruinshoofd 2016, Glaeser *et al* 2004) and supports the idea in growth literature that non-financial institutions define the 'rules of the game' and the conditions under which economic agents operate in an economy (Acemoglu & Robinson 2013, Bruinshoofd 2016). With respect to interactive coefficient of remittances and non-financial institutional quality, the results reveal positive impact on economic growth in SSA countries. The elasticity of economic growth with respect to remittances- non-financial institutional quality interaction is about 0.042, suggesting that if remittances- non-financial institutional quality channel improve by a unit on average, economic growth would improve by 0.042 percent. This implies that economic growth is responsive to remittances- non-financial institutional quality channel. These findings suggest that the marginal impact of remittances on growth is increasing with the quality of non-financial institutions. This provides information regarding the complementarities nature of remittances and non-financial institutional quality in enhancing economic growth in SSA countries.

The results implies that the impact of remittances on growth becomes stronger when indicator of non-financial institutional quality is included in our view are extremely interesting results. It

confirms the argument that, if remittances are properly canalized through efficient environment, it can lead to on growth.

While the coefficient of remittances-financial institution quality channel indicates that a 10 percent improvement would grow SSA economy by 0.01 percent, that of remittances-economic institutional quality channel indicates that a unit improvement would grow SSA economy by 0.026 percent on average while that of political channels is only positive but insignificant. This implies that remittances impact on growth is very responsive to well-organized economic than financial environment. This indicates that economic institution channel matters more than financial and political institutions channel. This provides information regarding the sensitive complementarities nature of remittances and quality of economic institutions in enhancing economic growth in SSA countries. This results support the argument that while economic and financial institution are proximate cause of remittances-growth linkages, political channel is a deep one. This result clearly confirm that, of most importance to remittances-economic outcomes are the structure of property right, and the presence of and perfection of market as argued by Adam Smith and others. The financial environment is also important but less than that of economic environment. It is possible that political institutions do not affect remittances impact on growth rates directly, but they determine the environment where economic and financial institutions can strive, hence they are central in the remittance growth process.

6   Conclusion and Policy Implications

Voluminous increase and stability of remittances to developing countries have heralded heated argument and controversial conclusions among researchers and policymakers. This study has traced the inconclusiveness in the literature to omission of variable that matter, and matter a lot - institutional quality variables in remittances analysis. The study argued that direct analysis of remittances and growth without controlling for quality of institutions-financial and nonfinancial might have revealed limited information leading to bias conclusion. The study also traced the diversity of the results to the lumping of different regions, and the adoption static analysis despite Baltagi argument that most macroeconomic variables are dynamic in nature. Using dynamic panel system GMM that solved heterogeneity issue while at the same time focused on SSA, this study analyzed the role of non-financial institutional quality and also controlled for financial institution in remittances impact on growth. The study found that (1) decades of remittances flow to SSA have not directly contributed to economic growth; (2) non-financial institutional factors have not only explained Africa growth process, but fully explained her growth experience more than the financial and other conventional explanations; (3) the coefficient of remittances–non-financial institutional quality was found positive and significant; (4) the coefficient of remittances–financial institution quality was found positive and significant; (4) economic-institutional channels was found positive and significant with growth while political- institutional channel was only positive. This mean,

non-financial institutional channel was more proximately related to growth than financial institution. Again economic institution channel are more fundamental to growth than political institutional channel which was deeply related, hence supported hierarchy institution hypothesis for SSA. The study concludes that remittances can only have positive impact on economic growth in an environment with sound institutional framework, which creates appropriate incentive structures for remittances proceeds to be efficiently allocated through financial system for investment purposes for long run growth.

The main policy implication of this study is that both financial and nonfinancial institutional quality can complement remittances impact on growth in SSA. Another implication is that, saving from remittances and their intermediation through the financial sector lead to a more efficient allocation of resources. This presupposes that if remittances flows are well mobilized, properly canalized to and efficiently used by the financial sector, one should expect a greater effect of remittances on economic growth. This supports the notion that remittances transferred through formal system paves the way for recipients to demand and gain access to other financial products and services. This further implies that remittances capital can boost the credit channel through various pass-through effects and ultimately affect monetary policy goals. It however, implies that the more remittances that pass through the informal channel, the less the effectiveness of monetary policy which follows the Radcliffe thesis and Gurley and Shaw thesis.

Meanwhile, regions in which non-financial institutional qualities are strong tend to exhibit positive impact of remittances on economic growth through quality financial system. Another implication is that, nations with strong economic and financial institutions could convert remittances to growth more than countries with strong political institutions. Policies geared towards creating quality financial system, vibrant regulatory qualities, strong rule of law and control of corruption so as to encourage migrants to remit money for investment activities which can lead to economic growth should be strengthened. Even in the absence of solid evidence that establish the link between institutions and remittances, policies aimed at reducing the cost of sending remittances to SSA should be paramount to the government of both the origin and (SSA) the receiving countries. For instance, while the global average cost of sending $200 in remittances (including all fees and charges) according to remittance prices worldwide (RPW) was 7.4 percent in the fourth quarter of 2015, the average cost of sending the same amount to Sub-Saharan Africa remained 9.5 percent, the highest-cost region in the world. Lowering the cost of sending remittances to SSA would increase the impact of the phenomenon on growth and also encourage more remittances to flow through the formal channel, hence improved the data.

Collaborative arrangements should be encouraged among telecom operators and money-transfer operators. Major players in this market include G-Cash and Smart in Philipines, M-PESA in Kenya and Tanzania, and Digicel in Fiji, Samoa and Tonga. Sadly, these services have yet to take-off in a substantial way in most SSA countries. These deals are likely to lower remittances costs and make services more efficient and viable.

Finally, and just as crucial, government should keep in mind that remittances to SSA may only lead to economic growth when quality non-financial (economic) and financial institutions are established with competitive monetary policies that entice migrants to remit for investment purposes in their home countries - Sub-Sahara African countries.

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APPENDIX
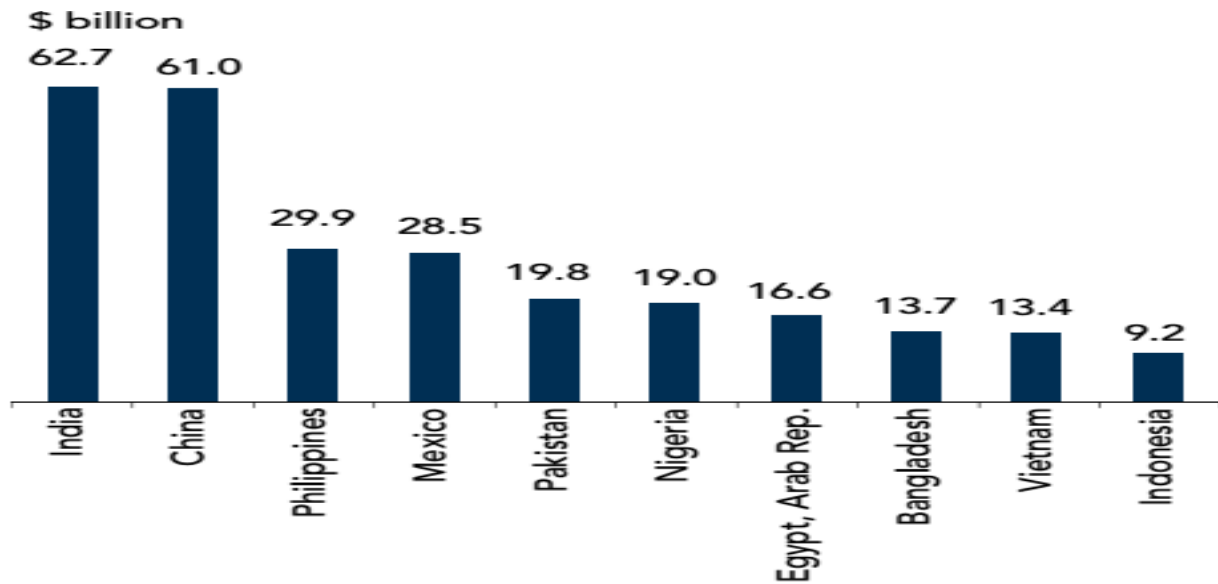
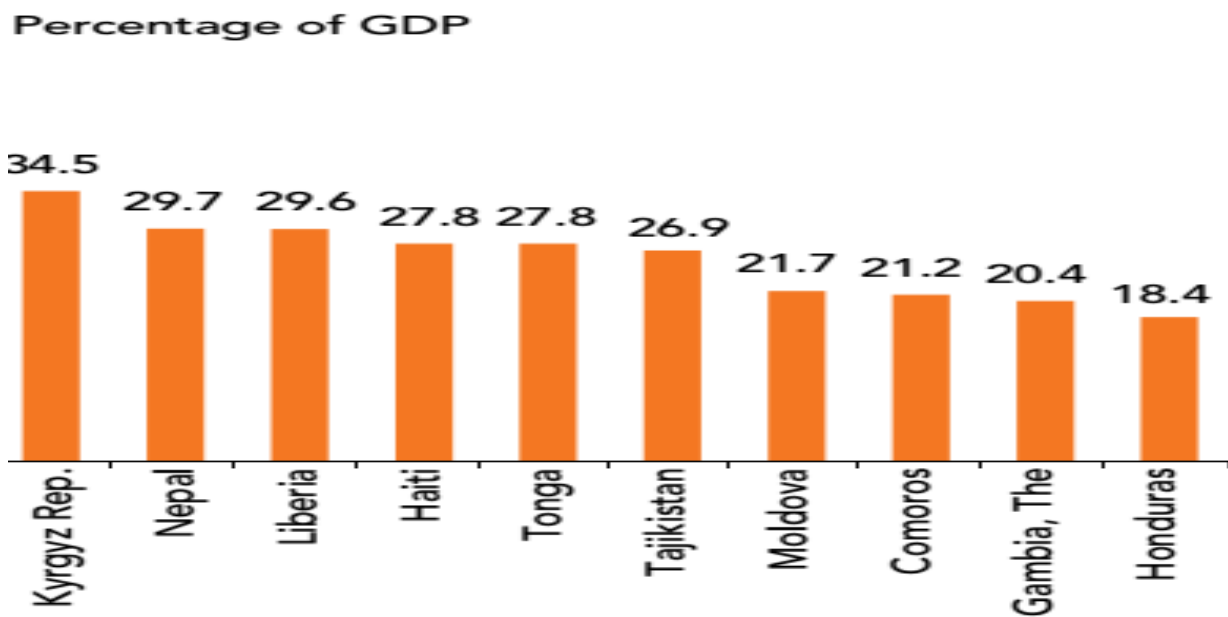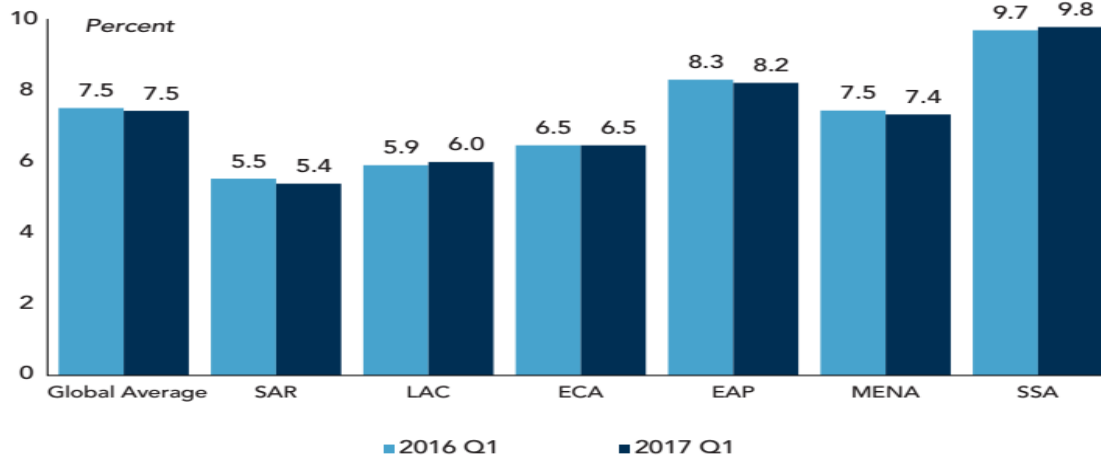**Figure 2.A: Top Remittances Receivers in 2016**

Figure 2.B: Top Remittances/GDP ratio in 2016
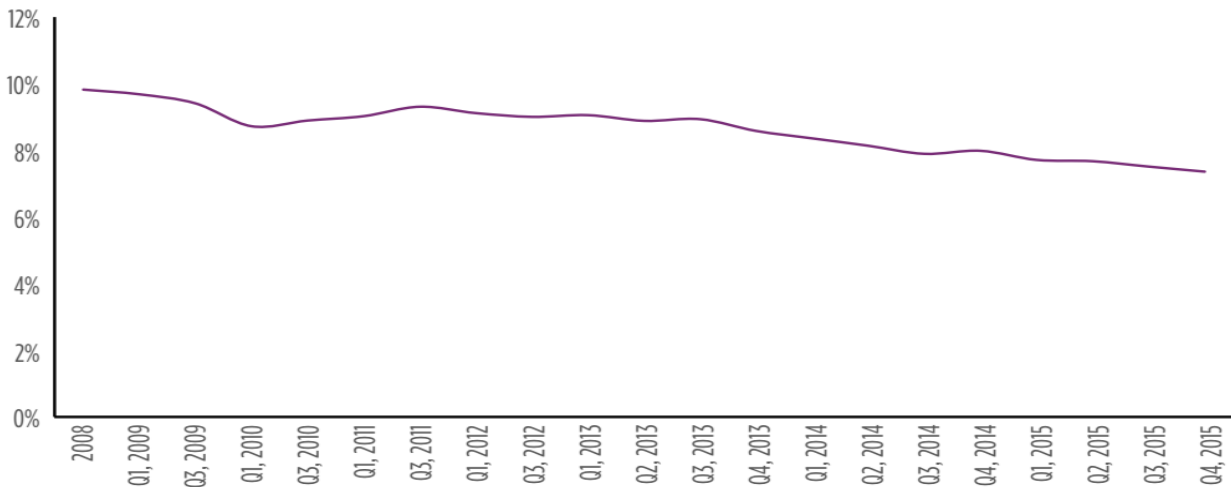

Sources: World Bank 2016

Figure 2. *C:* Trends in the Cost of Remittances, 2016q1/2017q1

Sources*:* World Bank 2016

According to Remittance Prices Worldwide (RPW), the global average cost of sending $200 in remittances (including all fees and charges) was 7.4 percent in the fourth quarter of 2015 (Figure 2.C). Despite a two percentage point decline in the average cost of sending $200 over the course of 2015, Sub-Saharan Africa remained the highest-cost region (9.5 percent in the fourth quarter of the year. Remittances costs have declined since the 8 percent level in the fourth quarter of 2014 and 9 percent in 2008. Nevertheless, average remittance costs remain far above the targets in recent documents prepared for the Sustainable.

Figure 2.D   Worldwide Trends in the Cost of Remittances, 2008 to 2015

Source: Remittance Prices Worldwide, the World Bank.

Table 2.A: Sub-Saharan Africa: Real GDP growth (percentage change)

	2004–08	2009	2010	2011	2012	2013	2014	2015	2016	2017
Sub-Saharan Africa	**6.6**	**3.9**	**7.0**	**5.0**	**4.3**	**5.2**	**5.1**	**3.4**	**1.4**	**2.9**
Of which:										
Oil-exporting countries	8.7	6.7	9.2	4.7	3.9	5.7	5.9	2.6	-1.3	0.9
Of which: Nigeria	7.7	8.4	11.3	4.9	4.3	5.4	6.3	2.7	-1.7	0.6
Middle-income countries	6.7	3.6	6.9	4.6	4.3	4.7	4.6	2.7	0.4	2.0
Of which: South Africa	4.8	-1.5	3.0	3.3	2.2	2.3	1.6	1.3	0.1	0.8
Low-income countries	6.2	5.1	7.0	6.6	4.5	7.1	6.6	5.6	4.7	5.4
Memorandum item:										
World economic growth	4.9	-0.1	5.4	4.2	3.5	3.3	3.4	3.2	3.1	3.4
Sub-Saharan Africa other resource-intensive countries[1]	4.9	0.6	4.8	5.2	4.1	4.2	3.4	2.5	2.1	3.0
Sub-Saharan Africa non-resource-intensive countries[2]	6.0	4.8	6.4	5.4	5.8	6.3	6.5	6.5	5.6	6.2
Sub-Saharan Africa frontier and emerging market economies[3]	6.8	4.2	7.3	5.1	4.5	5.1	5.1	3.6	1.3	2.8

Source: IMF, World Economic Outlook database.

Table 5.A: Correlation Matrix of Institutional Qualities

VARIABLES	COC	GEFF	PSAVT	RQ	ROL	VA
COC	1					
GEFF	0.852	1				
PSAVT	0.697	0.654	1			
RQ	0.778	0.887	0.642	1		
ROL	0.849	0.879	0.793	0.847	1	
VA	0.71	0.768	0.697	0.744	0.808	1

Source: Author's calculation based on data from World Governance Data Base

Table 5.B: Principal Components Analysis

	Principal components	Eigen values	Proportion	Cumulative values	Cumulative Proportion
Aggregate	1	4.881	0.813	4.881	0.813
	2	0.433	0.072	5.314	0.885
	3	0.294	0.049	5.608	0.934
	4	0.202	0.033	5.811	0.968
	5	0.102	0.017	5.913	0.985
	6	0.086	0.014	6.000	1.000

Source: Author's Computation

Figure 3.A: **The interplay of remittances, institutional quality and economic growth**