

# WORKERS' REMITTANCES, INSTITUTIONAL QUALITY AND ECONOMIC GROWTH IN SUB-SAHARAN AFRICA

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## Abstract

This study examines the role of institutional quality (financial and non-financial) on the impact of workers' remittances on growth in SSA. The study also tests hierarchy of institutions hypothesis based on the arguments that different institutions exert different impact on growth. Based on macro-economic impact of remittances on economic growth in 33 SSA countries from 1996 to 2018, this study employs panel data regression analysis based on system GMM. The study finds that remittances have negative impact on growth. The study finds positive effect on financial development with strong evidence of a positive interaction between remittances and financial depth. Non-financial institutional factor as a whole has positive and significant impact on growth. Economic-institutions channel to growth is positive and significant but political-institution channel is only positive. The study, therefore, concludes that financial and non-financial institutions matter and matter a lot for remittance to impact on growth. Remittances can only have positive impact on economic growth in an environment with sound financial and non-financial institutional framework. Again, economic institutional channel is proximately related to growth, political institutional channel is deeply related, hence supports hierarchy of institution hypothesis.

**Keywords:** Workers' Remittances, Institutional Quality, Economic Growth, Sub-Saharan Africa

**JEL classification:** O11, E20, G30

## 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, 2018). 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 since 2015 (African Economic Outlook, 2018). 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 (2018) 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) asserted 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. 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 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 and the economy as a whole (North 1990, World Bank reports 1997c, Acemoglu *et al*, 2005, Igbal & Daly, 2014, Orayo, 2018). North (1990) asserted 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 (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 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 is 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. Section 2 reviews the literature. Section 3 describes the theoretical framework and methodology. Section 4 presents and discusses the results. The last section concludes with policy implications.

## 2. LITERATURE REVIEW

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) and Lim and Hem (2018) 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. In contrast however, Chami *et al* (2003) find that remittances have negative impact on growth for a sample of 113 countries. Other studies like Acosta *et al* (2007), 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.

Several 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. The result supports Giuliano & Ruiz-Arranz (2006), Ramirez and Sharma (2008) and Ojapinwa & Bashorun (2014) for 32 Sub-Sahara Africa countries, 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. 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). 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. 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 relate to 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 because 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. METHODOLOGY

#### 3.1. 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 (1) below

$$y_{i,t} = \beta_0 + \beta_1 y_{i,t-1} + \beta_2 \text{Rem}_{i,t} + \beta_3' X_{i,t} + \eta_i + \mathcal{G}_t + \varepsilon_{i,t} \quad 1$$

where  $\eta_i \square IID(0, \sigma_\eta^2)$ ,  $\mathcal{G}_t \square IID(0, \sigma_\mathcal{G}^2)$ ,  $\varepsilon_{i,t} \square IID(0, \sigma_\varepsilon^2)$   
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,  $\text{Rem}_{i,t}$  is a measure of remittances as a share of GDP,  $X_{i,t}$  represents a matrix of control variables,  $\eta_i$  is a country-specific fixed effect that allows considering unobservable heterogeneity across countries, and  $\mathcal{G}_t$  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; this study expects domestic investment to be positively correlated with economic growth.

FDI is foreign direct investment to GDP ratio; this is expected to contribute positively to economic growth.

GCON is government consumption: 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: Inflation is expected to have negative relationship with economic growth in general

Trade Openness is total trade to GDP ratio: the open version of Neoclassical theory states that trade openness contributes greatly to growth.

$\dot{P}$  is the population growth rates: 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.

Workers' 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' transfers. 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 behavioral 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.

### 3.2. 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 (2)

$$y_{i,t} = \alpha y_{i,t-1} + \psi_1 (\text{Rem} \cdot \text{Ins})_{i,t} + \beta' X_{i,t} + \varepsilon_{i,t} \quad 2$$

X is a set of explanatory variables as described earlier.

$\text{Rem} \cdot \text{Ins}$  refers to indicator of remittances-institution interaction. As mentioned earlier many theoretical models show that institutions are likely endogenous  $E(\varepsilon_{i,t} / \text{Rem} \cdot \text{Ins}) \neq 0$ . Estimating model (2) directly will generate biased estimators (Arellano & Bond, 1991). We handle this problem by introducing a set of instruments for  $\text{Rem} \cdot \text{Ins}$ . This study expresses  $(\text{Rem} \cdot \text{Ins})_{i,t}$  in terms of these instruments  $G_{i,t}$  as equation (3)

$$(\text{Rem} \cdot \text{Ins})_{i,t} = g(G_{i,t}) + \mu_{i,t} \quad 3$$

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, (3) can be written as

$$(\text{Rem} \cdot \text{Ins})_{i,t} = b'z_{i,t-1} + \mu_{i,t} \tag{4}$$

where  $Z$  represents all the explanatory variables in (2).

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  $E(\varepsilon_{i,t} / \text{Rem} \cdot \text{Ins}) \neq 0$ . 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 (2) then becomes (5)

$$y_{i,t} = \alpha y_{i,t-1} + \psi (\text{Rem} \cdot \text{Ins})_{i,t} + \beta' X_{i,t} + \xi_i(\mu_{i,t}) + \varepsilon_{i,t} \tag{5}$$

We replace the unobservable  $\mu_{i,t}$  by the observable  $\widehat{\mu}_{i,t} = (\text{Rem} \cdot \text{Ins})_{i,t} - \widehat{\psi}' Z_{i,t-1}$ . Then equation (5) becomes equation (6)

$$y_{i,t} = \alpha y_{i,t-1} + \psi (\text{Rem} / \text{Ins})_{i,t} + \beta' X_{i,t} + \xi_i(\widehat{\mu}_{i,t}) + \varepsilon_{i,t}^* \tag{6}$$

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

One can use Arellano and Bover (1995) weighting matrix estimator to obtain consistent estimation of parameters  $\alpha$  and  $\psi$  in model (6), say  $\widehat{\alpha}$  and  $\widehat{\psi}$ . Then substitute  $\widehat{\alpha}$  and  $\widehat{\psi}$  into the model (6)

$$y_{i,t} = \widehat{\alpha} y_{i,t-1} + \widehat{\psi} (\text{Rem} \cdot \text{Ins})_{i,t} + \beta' X_{i,t} + \xi_i(\widehat{\mu}_{i,t}) + \varepsilon_{i,t}^{**} \tag{7}$$

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

One crucial argument of Acemoglu *et al* (2005) hierarchy of institutions hypothesis is that, different institutions affect economic growth through different channels (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 7

$$y_{i,t} = \hat{\alpha}y_{i,t-1} + \hat{\psi}_1 \text{Rem}_{i,t} + \hat{\psi}_2 \text{Fd}_{i,t} + \hat{\psi}_3 \text{insq}_{i,t} + \psi_4 (\text{Rem} \cdot \text{FD})_{i,t} + \psi_5 (\text{Rem} \cdot \text{insq})_{i,t} + \beta' X_{i,t} + \xi_i (\hat{\mu}_{i,t}) + \varepsilon_{i,t}^{**} \quad 8$$

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  $f(\text{Rem} \cdot \text{Ins})_{i,t}$  and  $\xi_i(\hat{u}_{i,t})$ , say  $\hat{f}(\text{Rem} \cdot \text{Ins})_{i,t}$  and  $\hat{\xi}_i(u_{i,t})$ . It is of course  $\hat{f}(\text{Rem} \cdot \text{Ins})_{i,t}$  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 about 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 ( $\text{Rem} \cdot \text{ins}$ ), 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.

### 3.3. METHOD OF ANALYSIS - SYSTEM GMM

Data for 33 SSA countries from 1996 to 2018 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 endogeneity and adjust for dynamism at the same time. 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.

## 4. PRESENTATION, ANALYSIS AND DISCUSSION OF RESULTS

### 4.1. REMITTANCES AND ECONOMIC GROWTH

Table 1 presents the results for the remittances on economic growth using system GMM estimators. The results pass a battery of diagnostic tests. 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 like 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 can increase the pace of economic growth and ensuring swift structural transformation of the economy (Easterly, 2001). 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 1:** System GMM: Remittances and Economic Growth

Variables	Coefficient	t-Statistics	Probability
LGDPG(-1)	0.0809* (0.0230)	3.5132	0.0005
FDI	0.0616* (0.0047)	2.4672	0.0140
LGCON	0.0366 (0.3084)	0.1187	0.9055
LGFCF	0.22545*** (0.1283)	1.7570	0.0795
CPI	-0.0480 (0.0922)	-0.5205	0.6030

ODA	0.0263* (0.0101)	2.5975	0.0098
<b>REM</b>	<b>-0.0249**</b>	<b>-2.0480</b>	<b>0.0414</b>
PG	(0.0212) 0.1175* (0.0411)	2.8575	0.0045
LTOPEN	-0.1533*** (0.0768)	-1.9960	0.0465
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 not supporting the view that, trade openness serves as an efficient resources allocative mechanism 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 favor the growth- retarded view of remittances espoused by Chami *et al* (2003) and Acosta *et al* (2007). In turn, the results are less consistent with those of Ratha (2003), Adams and Page (2005), World Bank (2006a) and Lim & Hem (2018) 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.

#### 4.2. REMITTANCES AND INSTITUTIONS ON ECONOMIC GROWTH

Table 2 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 1 is different from that of table 2. While that of 1 is negative and significantly related to growth, the result from Table 2 is negative and insignificant. This could be an indication that policies designed to promote trade openness are not yielding expected positive impact because of the dominance of imports over exports resulting in a chronic trade deficit. The insignificant relationship in table 2 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 2, 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 favor 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). 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 complementarity's 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 2:** 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

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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 4.2 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. The results favor 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 complementarity’s nature of remittances and non-financial institutional quality in enhancing economic growth in SSA countries.

The results imply 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. These 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 confirms 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.

## 5. 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, this 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 in a well-organized economic and political environment 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.

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 can entice migrants to remit for investment purposes in their home countries - Sub-Saharan African countries.

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## Appendix 1:

**Table 1:** Country list, 33 SSA country-samples

<p>Angola; Botswana; Cameroon; Cape Verde; Congo Rep; Cote de'Ivoire; Djibouti; Equatorial Guinea; Gabon; Mauritius; Namibia; Nigeria; Senegal; Seychelles; Sudan; South Africa, Swaziland; Benin; Burkina Faso; Burundi; Central African Republic; Chad; Congo Dem. Rep; Eritrea; Ethiopia; Ghana; Gambia; Guinea; Kenya; Lesotho; Liberia; Madagascar; Malawi; Mali; Mozambique; Niger; Sierra Leone, Mauritania; Togo; Uganda; Zambia and Zimbabwe.</p>
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