Remittances, Financial Development and Economic Growth: A Case of Southern African Development Community

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Abstract: Remittances play an important role in poverty reduction especially in developing countries. The goal of this research was to determine the association of remittances inflow with financial development and economic growth in Southern African Development Community (SADC). A sample period between 2006 and 2016 on 14 countries in the region was considered with the utilization of GMM dynamic panel techniques. The findings present evidence of a positive impact of remittances on economic growth, while a negative association between remittances and financial development is also found. The results are unique since many previous studies established a positive relationship between remittances and financial development. The negative relationship between remittances and financial development in SADC implies investment is mainly financed through remittances inflow since access to bank financing is very difficult. These results support the substitution hypothesis and they are in line with findings by Paola and Ruiz-Arranz (2009) and Calderon et al (2007) who found similar results. We recommend that inflows of remittances should be encouraged in SADC since they can be channeled to the most productive sectors of the SADC economies. Besides, the development of the financial sector would eventually shift the reliance of private financing on remittances in favour of banking services which ensure sustainable development in the long-run.

Keywords: Remittances; Financial Development; Economic Growth; SADC

JEL Classification: F24; O16; F43; N67

1. Introduction

The need to determine the association of remittances with economic growth and financial development is pivotal as remittances have become a major source of foreign exchange earnings for many nations. This need is particularly huge in low-middle income countries to which remittances represent a more stable and major part

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of private capital flows in relation to foreign direct investment and official development assistance as of 2017 (World Bank, 2018).

There has been contrasting evidence on the impact of remittances towards financial development which comprise the substitution and complementarity hypothesis. Those who argue for substitute hypothesis believe that remittances fill-in the gap on effectiveness of financial system by providing poor people with alternative financial resources for investment in high return projects. Calderon et al (2007), observed that the effect of remittances on growth is inversely related to financial development as remittances reduce credit problems in countries with weak credit markets. Paola and Ruiz-Arranz (2009), also confirmed evidence of positive impact of remittances inflow on growth and a negative association of remittances and financial depth. As such, remittances contribute significantly in countries with less developed financial system and their impact is strong in areas with well-developed financial system. Consequently, remittances act as a stabilizer of a failing financial systems on effective financial service provision to promote growth. The complementarity hypothesis, however, implies that there is a positive relationship between remittances and financial development. The developed financial sector helps migrants to send money home which stimulates the sector and brings competition in financial intermediaries and this ensures that that funds are channeled to the most productive investments (Mookerjee & Roberts, 2011). Aggarwal et al (2011), also show the positive impact of remittances inflow on financial development in recipient countries through the increased demand for banking services and the increase in loanable funds. Besides, a more developed financial sector attracts low costs of transferring money which increase the levels of remittance inflow (Freund & Spatafora, 2008). The confidence of migrants is also boosted by a well-developed financial sector which encourages them to remit more (Chami et al., 2005).

The need to determine the association of remittances and financial development is motivated by critical role which financial development plays in ensuring sustainable economic growth (King & Levine, 1993; Levine et al, 2000). Banking services are described as a perquisite for rapid economic growth as they provide credit to the most productive sectors. Behind this notion, remittances are believed to perform the same role as complement or to fill-in the gap of financial market ineffectiveness as substitute.

On the other hand, questions on whether remittances are a form of capital transfer or simply income are also discussed in the literature. Canales (2002), posit that remittances are mainly directed towards household consumption as the economic hardships in the receiving countries constraint the productive use of such funds. This means a less than expected impact of remittances on economic growth. Ahortor and Adenutsi (2009), also argued for a negative impact of the lost skilled workers from migration as well as over-dependence on external economies on economic growth.

As such, the level of remittance inflow from high migrants is associated with a negative economic growth. Contrary, Woodruff and Zenteno (2001), and Giuliano and Ruiz-Arranz (2009) established a positive impact of remittances on growth as remittances increase development through investment. Dustmann and Kirchamp (2001), also found that an important source of startup capital for microenterprises is through remittances. The evidence of the positive impact of remittances to economic growth is also paramount in studies by Catrinescu et al (2009), Mundaca (2009). This then implies a significant impact of remittance inflow on economic growth through investment.

Despite elementary evidence on remittances, financial development and economic growth in the literature, none of them have narrowed down their focus to economies in Southern Africa Development Community (SADC) alone. This study also considers the most effective financial development indicator (credit to the private sector by banks over GDP) which allows us to determine the level of dependence by local investors on banks with respect to inflow in remittances. This has provided us with the gap in the literature as many studies have not analyzed remittances, financial development and economic growth together.

The rest of the paper is organized as follows: Section 2 discusses the study background. Section 3 discusses the theoretical framework and literature review. Sections 4 and 5 focus on methodology and analysis of results, respectively. Section 6 discusses the conclusion and policy recommendations.

2. Study Background

The cost of remittance transfers reflects the level of financial development of the receiving nations. This idea is supported by Freund and Spatafora (2008), who observed that highly developed financial system will attract low costs of transferring money. This would consequently lead to increased level of remittance inflows. Over the period 2011Q1 and 2016Q1, the Southern Africa Development Community (SADC) region has been experiencing the highest level of remittances transfer costs relative to other regions as shown in Figure 1. This also reflects high levels of banking services exclusion which includes remittance transfers services through the formal channels. As such, there is high probability of losing so much money through the use of such expensive financial system with a consequent losing of the hard-earned foreign income. This leads to loss of confidence on the financial system which further weakens the level of financial development in such economies. Chami et al (2005), also supported the view by asserting that confidence of migrants on the use of formal financial system is increased by well-development financial sector.
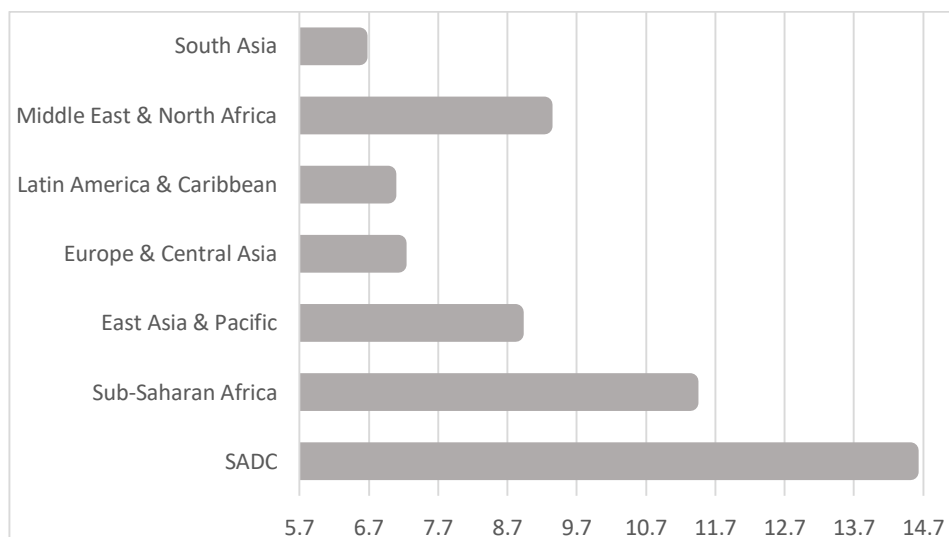
Figure 1. Average Regional Comparison of Remittance Price (2011Q1-2016Q1)

Source: Researchers' computations based on Remittance Price Worldwide Database (2018)

Figure 1 also shows that South Asia and Latin America and Caribbean exhibit the lowest average costs structures on remittance inflows of 6.57% and 6.98%, respectively. This demonstrates the high level of development in their financial sectors. Given that SADC and Sub-Saharan Africa exhibit the highest average remittance inflow transfer costs structure of 14.22% and 11.34%, respectively. This implies the existence of weak financial systems and hence weak complementarity with remittances, consistent with Tsaurai (2018a). The benefits of remittances inflow on financial development will not be fully realised in this condition. Instead, private investment would alternately source alternative financial services from remittance inflow which is in line with the substitution hypothesis. Remittances would then begin to perform the role of the failing financial system. Over the same period (2011Q1 to 2016Q1), Malawi, Botswana and Mozambique are the countries in SADC with the highest average remittance inflows of 19.98%, 19.21% and 18.88%, respectively. While the countries with better financial systems within the region are Congo Rep and South Africa which exhibit the lowest remittances inflows of 8.68% and 8.80%, respectively.

Besides, over the same period of analysis of 2006 to 2016, there has been a continuous decline in the levels of remittances received as a ratio of GDP as shown in Figure 2. This shows that the amount of foreign exchange generation through remittances has been on the decline. This could be attributed to the high costs of using formal channels or the general lack of confidence by migrants with the use of

domestic financial systems. This raise worries given that remittances occupies a significant part on the international capital generation for the SADC region.
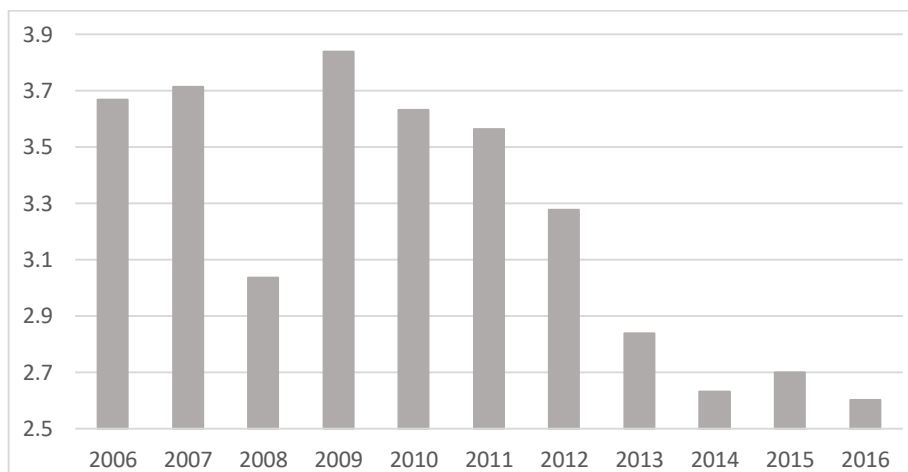

Figure 2. Average Personal Remittances Received in SADC (%GDP) over 2006-2016)

Source: Researchers' computations based on World Development Indicators (2018)

Within the SADC region, the highest earners of personal remittances received as a ratio of GDP by 2016 were Lesotho (15.0%), Zimbabwe (11.2%), Swaziland (2.6%), Madagascar (2.5%), Seychelles (1.5%) and Tanzania (0.9%). While Angola (0.004%), Congo Dem Rep (0.05%), Botswana (0.16%), Zambia (0.18%) and South Africa (0.26%) exhibits the least proportion of remittances on their GDP levels. Zimbabwe and South Africa reported the highest absolute values of personal remittances amounting to US$1856 million and US$755 million, respectively. In Zimbabwe this is related to its high migrating population in search for greener pastures while the general size of South Africa's economy and its migrating population also leads to high remittance inflows. Lesotho was the found to have relative high levels of remittances both as a share of GDP (15%) and in actual value (US$343 million). This is attributed to its high reliance on South Africa's labour market and other critical economic activities. In terms of actual remittances value, Angola, Congo Dem Rep, Seychelles, and Botswana received the lowest in SADC as of the year 2016 with US$3 million, US$15 million, US$22 million, and US$24 million, respectively.

Over the same period of analysis, we observe that the economic growth of the SADC region was continuously falling. This was closely conforming to the decline in the level of remittances received as a share of GDP over the same period 2006 to 2016, as shown in Figure 3. This might imply causation of the two indicators and hence the need to also analyze the relationship in this study. The Figure 3 shows that from the year 2010 both the economic growth and remittances as a ratio of GDP were

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gradually falling. The personal remittances received as a share of GDP are plotted on the secondary axis.
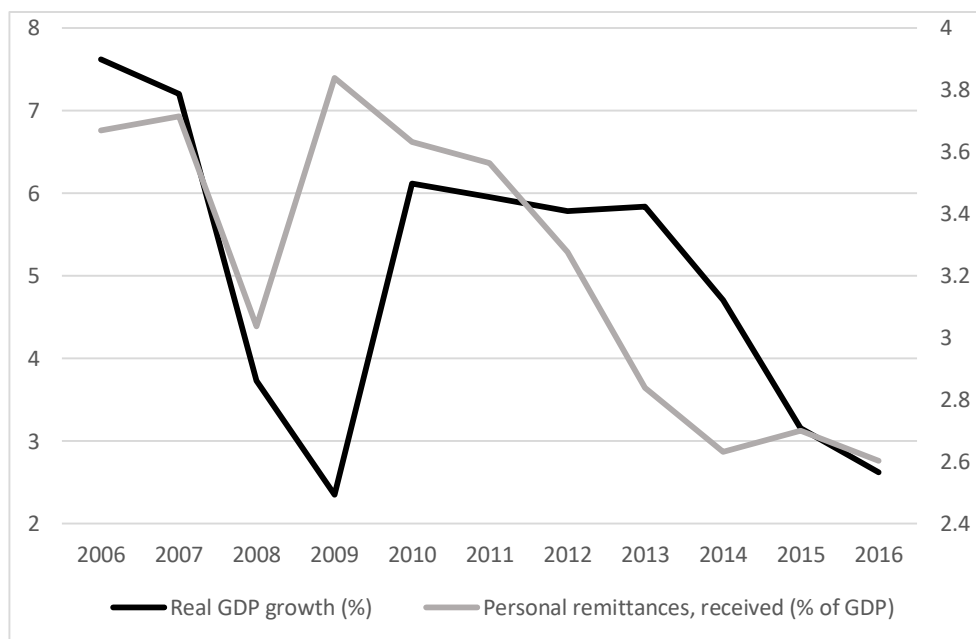

Figure 3. Real GDP Growth (%) and Remittances received (%GDP) for SADC over 2006-2016)

Source: Researchers' computations based on World Development Indicators (2018)

A continuous decline in GDP growth on the background of declining levels of remittances inflow as a ratio of GDP and a weak financial system as reflected by the high costs of remittances inflow, we are inspired to identify the association of these variables over this period under review. A stable positive economic growth is always healthy for sustainable development of any region.

3. Literature Review

Theoretical Framework: A strong theoretical framework has been built on the impact of financial development and economic growth over the years. Evidence on the significance of remittances on financial development and economic growth can also easily be linked. Financial development has been described as the engine to economic activities through credit creation and their allocation to the most productive sectors (Levine et al., 2000; King & Levine, 1993). Financial development provides a market for trading financial services which makes it easy to link financial resources with the areas they are needed the most for the successful

story of development (Modigliani & Miller, 1963). Besides, the credit creation and its economic allocation promotes innovation as stressed by Schumpeter (1982). As such, the development in the financial sector has a direct impact on economic growth. Given the compensation and substitution hypothesis of remittances and financial development, we can learn that remittances can improve the financial system, or they can work as alternative for financial services. This shows that the long-standing theory on financial development and economic growth can easily be related with remittances.

Taking advantage of the substitute and complementary hypothesis of remittances and financial development, we can fit the prominent growth models with remittances. The neo-classical growth theories which includes the Solow growth model and Harrod-Domar AK growth model shows that financial sector has a common channel through which economic growth is affected by speeding up of capital accumulation as well as by increasing the rate of technological progress (Solow, 1997). This works by promoting growth through mobilizing savings for investment, facilitating and encouraging capital inflows and allocating capital efficiently among competing uses. As such, high remittances inflows will translate into progressive development in the financial system of the economies which then feeds into sustainable economic growth.

Empirical Literature: There is an extended discussion on remittances, financial development and economic growth in the literature. Giuliano and Ruiz-Arranz (2009) determined the relationship that exist between remittances and economic growth with respect to levels of financial development. They considered a sample period from 1975 to 2002 on 100 developing countries utilizing OLS, Fixed Effects and SGMM methods. Their findings show that remittances are effective in increasing growth in countries with less developed financial system. This is so as there would be need for alternative way to finance investment and reducing the liquidity challenges. The study, however, did not consider a direct relationship between remittances and financial development. In this study we are considering the direct relationship between remittances and growth as well as remittances and financial development.

Besides, a positive impact of workers' remittances on financial development was also found by Aggarwal et al (2011) in 109 developing countries over the period 1975 to 2007. Bank deposits over GDP and bank credit over GDP were the financial development indicators used. The study utilized the fixed effect, system GMM and IV regression. The study, however, did not consider the most effective measure of financial development which is private sector credit over GDP. In this study we are therefore going to determine the relationship that exist on remittances and the availability of financial resources to the most effective private sector from the banks.

Aggarwal et al (2011) also observed a positive impact of remittances on financial development on 99 developing countries over the period 1975 to 2003. They considered bank deposits/GDP and ratio of bank credit to the private sector as indicators for financial development. The relationship was discovered by utilizing fixed effects, random effects and GMM techniques. In this study we are more concerned about activities in a homogenous region of SADC alone.

A study in European countries (Austria, Greece, Finland, Norway, Sweden, Hungary, Italy, Spain and Portugal) over the period 1870 to 1913 shows that remittances contributed positively on financial development (Esteves & Khoudour-Casteras, 2011). The period was associated with mass migration. They utilized pooled OLS with robust standard errors and they also consider deposits/GDP and M1/GDP as measures of financial development. They concluded that remittances were channeled into financial sector mainly through longer maturity accounts. This study, however, may not effectively reflect the current activities in the developing and emerging countries in SADC and hence the need for us to undertake this research.

In panel analysis of 25 countries from Latin America and the Caribbean, Mundaca (2009) found that workers' remittances have a positive impact on economic growth. Controlling for fixed time effect and country effect, they also found that the financial intermediation is more likely to increase the responsiveness of growth to remittances. The sample period was from 1970 to 2002 and domestic credit from banks over GDP was the financial indicator used. As such, they conclude that making financial services available leads to effectiveness of remittances. In this study we are, however, aiming at determining the direct impact of remittances on financial development as well as on economic growth.

Agir et al (2011) also investigated the relationship between remittances, financial development and economic growth in the 9 MENA countries over the period 1980 to 2007. Their findings supported unidirectional relation from economic growth to financial development. They also found that workers' remittances provide a channel to improve financial development. The study uses a financial development index made up of ratio of money to income, the ratio of quasi money to income, ratio of broad money, ratio of deposit money bank liabilities to income, ratio of private sector credit to income and ratio of domestic credit to income. In our study we are, however, considering the private sector credit provided by banks separately.

A time series analysis in Bangladesh was also carried out by Chowdhury (2011) on the relationship between workers' remittances and financial development. Vector Error Correction Model was utilized with the annual data for the period 1971 to 2008. Private domestic deposits to GDP, bank credit/GDP and M2/GDP were the financial development indicators used. The findings supported the positive impact of remittances on financial development. This study, however, did not consider the

most critical indicator of credit availability to the most productive private sector. Tsaurai (2018b) revealed that remittances were a panacea for poverty reduction and economic growth in emerging markets.

Kumar (2011) also utilized bounds test over the period 1980 to 2009 to determine the relationship between remittances, exports and financial development on economic growth in Pakistan. A positive impact of remittances on economic growth was found in long-run only. This was attributed to the flowing of remittances through the informal channels and accumulated at home for later investment. This study, however, pay attention on the impact of remittances on financial growth and economic growth.

4. Methodology and Data

One step difference and system Generalized Methods of Moments (GMM) approach was utilized in this panel analysis of Southern Africa Development Community (SADC) region. The model specification takes the form:

$$y_{it} = \propto + y_{it-1} + \omega_k \sum_{k=1} x_{it} + year + \emptyset \dots \dots \dots \dots \dots \dots \dots \dots \dots \dots (1)$$

Where; y_{it} is the dependent variable, $\propto$ represents the constant, y_{it-1} is the lag of the dependent variable, x_{it} is the vector of explanatory variable, $year$ represents the year dummy, $\emptyset$ represents the composite error term.

To avoid the problems associated with the conventional Arellano and Bond (1991) difference GMM, the study also reported the results from the system GMM perfected by Blundell and Bond (1998). The original Arellano and Bond estimator produces poor instruments for first difference when the variables are random walk and when autoregressive parameters are large. The system estimator is also more efficient as it does not have a downward bias as compared to the difference GMM (Blundell & Bond, 1998). There may be loss of necessary information by using only differenced equation in difference GMM in relation to system which includes the equation in levels.

Personal remittances received as a share of GDP (REM%GDP) was the main indicator representing remittances inflow used in the analysis. The variable is the widely used indicator for remittances inflow in the literature (Aggarwal et al., 2011; Giuliano & Ruiz-Arranz, 2009). We are expecting it to have a positive impact on economic growth. The variable comprises personal transfers and compensation of employees. Alternately, we also consider the personal remittances received in current US dollars (REM$US) and the variable also comprises personal transfers and

compensation of employees. Domestic credit to private sector as a ratio of GDP (FD) is the financial development indicator used in this study. The variable has been proved to be the best indicator in studies by Levine et al (2000) and King and Levine (1993). On the control variable, exports of goods and services as a share of GDP (EXPORTS) was also used. A positive impact on economic growth is expected. A negative impact of depreciating official exchange rate in local currency units per US dollar (EXCHANGE) is expected in this study. The annual percentage inflation (GDP deflator) is also expected to have a negative impact on financial development. Real GDP in local currency unit (GDP) is also expected to have a positive impact on financial development. The measure of economic growth used is Real GDP growth rate (GDP growth). All the dataset used were obtained from the World Development Indicators.

5. Results and Discussion

The summary statistics in Table 1 shows that we are working with unbalanced panels since there are varying numbers in observations from the variables considered. Real GDP growth rate and inflation are the only variables with negative values and hence they their logarithms are not generated in the regressions.

Table 1. Summary Statistics

Variable	Obs	Mean	Std. Dev	Min	Max
GDP growth	154	5.027839	4.344507	-17.66895	22.59305
GDP	154	3.55e+12	9.15e+12	5.61e+09	4.72e+13
REM%GDP	149	3.21677	6.842325	0.000197	35.04764
REM$US	149	2.74e+08	4.49e+08	162358.5	2.11e+09
FD	143	23.02727	17.88575	2.069764	78.29413
EXPORTS	151	40.45843	18.24911	17.10083	107.9944
Inflation	154	8.714948	8.67452	-7.418799	74.29818
EXCHANGE	146	4.60e+07	5.56e+08	3.603072	6.72e+09

The variables in logarithm are prefixed with "ln". The data was tested for unit root test before it was incorporated in model specifications. Different panel unit root test was used and only the Fisher type chi-squared based on the Augmented Dickey Fuller (ADF) tests were able to compute data which is not strongly balanced. Findings shows that all the variable are stationary in levels. The lnEXCHANGE become stationary after subtracting cross section means and lnGDP become stationary with a trend.

Table 2. Panel Unit-root Test Results

Variable	Levin-Lin-Chu (p-values)	Im-Pesaran-Shin (p-values)	Breitung (p-values)	ADF-Fisher chi-squared (p-values)
GDP growth	0.0000	0.0042	0.0199	0.0000
lnGDP	0.0000	0.1654	0.5400	0.0000
lnREM%GDP	-	-	-	0.0000
lnREM$US	-	-	-	0.0000
lnFD	-	-	-	0.0000
lnEXPORTS	-	-	-	0.0108
Inflation	0.0001	0.0001	0.0001	0.0000
lnEXCHANGE	-	-	-	0.0004

The model specifications were also tested for multicollinearity using VIF. Given that the acceptable level for no multi-co should be less than 10 according to Kennedy (2008), we conclude that the majority of the models are valid. As shown in Table 3 the inclusion of lnEXCHANGE in economic growth regression and the inclusion of lnGDP in financial development regression renders the models being affected by problems of multicollinearity. This is attributed to the strong association between the exchange rate and exports in the growth regression. The relationship between GDP and remittances also causes multicollinearity problems in the financial development regressions. The results for all model specifications are, however, presented despite the existence of multicollinearity for the analysis' sake. The regression results shown in Table 4 are showing more of less the same results

Table 3. Multi-collinearity Test Results

Variable	VIF GDP	VIF lnFD	VIF GDP	VIF lnFD	VIF GDP	VIF lnFD
lnGDP	-	-	-	-	-	256.02
lnREM%GDP	7.79	6.83	-	-	6.73	6.88
lnREM$US	-	-	4.85	4.03	-	-
lnEXPORTS	7.44	-	7.44	-	8.23	-
Inflation	-	1.21	-	1.24	-	1.28
lnEXCHANGE	-	-	-	-	61.40	-
Mean VIF	6.67	4.99	4.39	2.87	14.64	44.42

Table 4. The One-step Difference GMM Results (Robust Regressions)

Variables	GDP growth	GDP growth	GDP growth	GDP growth	LnFD	lnFD	lnFD	lnFD
Lag GDP growth	0.1118 (0.463)	0.0849 (0.458)	0.1129 (0.461)	0.0800 (0.480)	-	-	-	-
Lag lnFD	-	-	-	-	0.6619*** (0.000)	0.6685*** (0.000)	0.6066*** (0.000)	0.6106*** (0.000)
lnREM %GDP	0.5558*** (0.009)	0.5330** (0.025)	-	-	-0.0200** (0.029)	-	-0.0209*** (0.013)	-
lnREM $US	-	-	0.5680*** (0.005)	0.6665*** (0.001)	-	-0.0165 (0.123)	-	-0.0187* (0.050)
lnEXPORTS	8.8314*** (0.001)	8.1011*** (0.010)	8.6411*** (0.001)	7.8578*** (0.010)	-	-	-	-
lnEXCHANGE	-7.5269*** (0.001)	-	-7.1164*** (0.002)	-	-	-	-	-
lnGDP	-	-	-	-	-	-	0.3573* (0.066)	0.3785* (0.060)
Inflation	-	-	-	-	-0.0078*** (0.000)	-0.0079*** (0.000)	-0.0071*** (0.000)	-0.0072*** (0.000)
Year	0.4104* (0.060)	-0.2772* (0.051)	0.3514 (0.105)	-0.3138** (0.022)	0.0019 (0.743)	0.0021 (0.703)	-0.0111* (0.097)	-0.0115* (0.096)
Wald Statistic	Wald chi2(5) =338.79 Prob > chi2= 0.0000	Wald chi2(4) =151.97 Prob > chi2= 0.0000	Wald chi2(5) = 367.38 Prob > chi2= 0.0000	Wald chi2(4) = 160.29 Prob > chi2= 0.0000	Wald chi2(4) = 403.52 Prob > chi2= 0.0000	Wald chi2(4) = 372.47 Prob > chi2= 0.0000	Wald chi2(5) = 392.29 Prob > chi2= 0.0000	Wald chi2(5) = 359.40 Prob > chi2= 0.0000
AR (1)	z=-2.4745 Prob > z=0.0133	z=-1.9345 Prob > z=0.0531	z=-2.4763 Prob > z=0.0133	z=-1.9663 Prob > z=0.0493	z=-1.9785 Prob > z=0.0479	z=-1.9712 Prob > z=0.0487	z=-1.9254 Prob > z=0.0542	z=-1.9188 Prob > z=0.0550
AR (2)	z=-1.1653 Prob > z=0.2439	z=-1.5341 Prob > z=0.1250	z=-1.1638 Prob > z=0.2445	z=-1.4809 Prob > z=0.1386	z=-0.48974 Prob > z=0.6243	z=-0.48782 Prob > z=0.6257	z=-0.53055 Prob > z=0.5957	z=-0.52853 Prob > z=0.5971
Observations	114	121	114	121	116	116	116	116
N of Countries	13	14	13	14	13	13	13	13

The *p-values* in parentheses; *, ** and *** represents significance at 10%, 5% and 1%, respectively.

The dynamic results following the one-step difference GMM by Arellano and Bond (1991) and system GMM (Arellano & Bover, 1995; Blundell & Bond, 1998) are shown in Table 4 and Table 5, respectively. On the diagnostic checks, Wald statistic with the null hypothesis that all the coefficients except the constant are zero is rejected implying model significance. Arellano-Bond test for first order serial correlation also fails to reject the null hypothesis of no second order autocorrelation in all specifications. The first-differenced errors are serially correlated in second order which implies that the moments are valid since the idiosyncratic errors are independently and identically distributed (Arellano & Bond, 1991).

Table 5. The One-step System GMM Results (VCE-Robust Regressions)

Variables	GDP growth	GDP growth	GDP growth	GDP growth	LnFD	lnFD	lnFD	lnFD
Lag GDP growth	0.2053 (0.209)	0.1878 (0.107)	0.2045 (0.225)	0.1797 (0.103)	-	-	-	-
Lag lnFD	-	-	-	-	0.7798*** (0.000)	0.7832*** (0.000)	0.7284*** (0.000)	0.7326*** (0.000)
LnREM %GDP	0.9154*** (0.007)	0.7027*** (0.008)	-	-	0.0001 (0.996)	-	-0.0147 (0.164)	-
LnREM $US	-	-	1.1122*** (0.003)	0.7794*** (0.001)	-	-0.0044 (0.793)	-	-0.0101 (0.426)
LnEXPORTS	1.3922 (0.632)	4.1709** (0.049)	1.5751 (0.511)	4.1031** (0.043)	-	-	-	-
lnEXCHANGE	0.5238 (0.420)	-	0.5032 (0.372	-	-	-	-	-
LnGDP	-	-	-	-	-	-	-0.0589* (0.052)	-0.0470 (0.188)
Inflation	-	-	-	-	0.0087*** (0.000)	-0.0088*** (0.000)	-0.0075*** (0.000)	-0.0075*** (0.000)
Year	-0.2392* (0.043)	-0.3072* (0.052)	-0.2892*** (0.007)	-0.3469** (0.019)	-0.0079 (0.074)	-0.0079* (0.069)	-0.0017 (0.769)	-0.0020 (0.730)
Wald Statistic	Wald chi2(5) = 107.96 Prob > chi2= 0.0000	Wald chi2(4) = 139.95 Prob > chi2= 0.0000	Wald chi2(5) = 244.98 Prob > chi2= 0.0000	Wald chi2(4) = 173.68 Prob > chi2= 0.0000	Wald chi2(4) = 513.22 Prob > chi2= 0.0000	Wald chi2(4) = 620.99 Prob > chi2= 0.0000	Wald chi2(5) = 310.98 Prob > chi2= 0.0000	Wald chi2(5) = 259.36 Prob > chi2= 0.0000
AR (1)	z= -2.6487 Prob > z= 0.0081	z= -1.8737 Prob > z= 0.0610	z= -2.707 Prob > z= 0.0068	z= -1.9225 Prob > z= 0.0545	z= -2.2023 Prob > z= 0.0276	z= -2.1932 Prob > z= 0.0283	z= -2.2029 Prob > z= 0.0276	z= -2.225 Prob > z= 0.0261
AR (2)	z= -1.074 Prob > z= 0.2828	z= -1.4901 Prob > z= 0.1362	z= -.97565 Prob > z= 0.3292	z= -1.4552 Prob > z= 0.1456	z -.437 Prob > z= 0.6621	z= -.44978 Prob > z= 0.6529	z= -2.2029 Prob > z= -.50044	z= -.48733 Prob > z= 0.6260
Observations	137	135	127	135	129	129	129	129
N of Countries	13	14	13	14	13	13	13	13

The *p-values* in parentheses; *, ** and *** represents significance at 10%, 5% and 1%, respectively.

Findings from both the difference and system GMM approach suggests a positive impact of remittances on economic growth. This is attributed to the increase in domestic credit for investment and the general increased domestic consumption which supplies into the aggregate national income. The results are in line with the majority of findings in the literature which include Giuliano and Ruiz-Arranz (2009) and Mundaca (2009). Domestic investment of remittance receiving countries are highly developed as these earnings are used as capital transfers to the most productive private sector (Woodruff & Zenteno, 2001). As such, remittances are critical for sustainable economic growth. On the other hand, the difference GMM presented a negative and significant relationship between remittances and financial development. Even though the system GMM also exhibited a negative association between remittances and financial development, the results were not significant at any level of significance. The negative association results are unique to this region as many studies have established a positive relationship. The negative relationship in SADC implies the resorting of private financing for investment purposes on remittances as access to banking services is tight. These results are in line with findings by Giuliano and Ruiz-Arranz (2009) who suggested a positive impact of remittances inflow on growth and a negative association of remittances and financial

depth. The substitution hypothesis holds in this case as private investors are opting for readily available and cheap non-banking services through remittances.

On the control variables, a positive impact of exports on economic growth is also established. This coincide with the evidence provided by Ajmi et al (2015) in South Africa. The depreciation of the domestic currency against the greenback is also supported which also concur with the observations in MENA region by Ncube et al (2013). Inflation rate as measured by the deflator shows a negative impact on financial development. This is supported by the readily available literature which include the work by Boyd et al (2001). There was also evidence of a positive impact of GDP on financial development. This reflect the demand following hypothesis by Patrick (1966) which states that the level of economic development would attract the demand of financial services and their improvement.

6. Conclusion and Recommendations

The research aims to determine the link between remittances inflow, financial development and economic growth in Southern Africa Development Community (SADC). A sample period between 2006 and 2016 on 14 countries in the region was considered with the utilization of GMM dynamic approach. Findings presented evidence of a positive impact of remittances on economic growth while a negative association between remittances and financial development was also observed. The results are unique to this region as many studies have established a positive relationship on remittances and financial development. The negative relationship in SADC implies the resorting of private financing for investment on remittance inflow as access to banking services is tight. These results suggested an inverse association between financial development and remittances. The substitution hypothesis holds in this case as private investors are opting for alternative credit sources which are non-banks.

Given that remittances are strong and positively contributing to the increase in economic growth in the region under study, it's recommended to put remittance incentives through cheap remittance charges. A negative relationship between remittances and financial development implies the existence of financial markets failure as private investors shift from banking services to the remittance earnings. High cost structures, lack of banking sector confidence and lack of bank access may be the major contributing factors. The authorities are then recommended to restore the primary role of the banking sector through provision of credit to the private sector. In order to fully benefit from the positive contribution of remittances, there must be well developed financial system in place.

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