Policy Interventions for Economic Development through Diaspora Remittances in Zimbabwe

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Abstract

The study investigated the relationship between diaspora remittances and economic growth for Zimbabwe. Time series data for the period from 1990 to 2019 were used. The study employed the error correction model (ECM) to determine the relationship between diaspora remittances and economic development. Real GDP was used as a proxy variable for economic development. Data from World Bank database was used. The study found diaspora remittance to be statistically significant in explaining economic growth. The study, therefore, recommend that Zimbabwe should put formal structures to tap in all flows from diaspora remittances. Furthermore, tax charged on remittances should not be discouraging for those who intend to send in their remittances. A clear policy must be put in place and opened to the public on the spending of income earned as a result of remittances. A significant share on expenditure of remittances earned must be directed towards social amenities. The Reserve Bank of Zimbabwe must endeavour to eliminate bottle necks in the processing of remittances as this act to the negative of remittances inflow.

Key words: Economic growth, Diaspora remittances, Error correction model

Introduction

Statistics on total remittances to Zimbabwe through both Money Transfer Agencies (MTAs) and informal channels have been a subject of intense debate (UNICEF, 2009). The predominant use of informal channels, and the fact that some of the remittances are in kind, creates immense problems of measurement. Makina (2007) posited that only 2% of Zimbabwean migrants in South Africa used formal channels to send money home, while the majority used a variety of informal channels. One reason for the poor capital inflows into the formal financial institutions was the policy shift displayed by the Reserve Bank of Zimbabwe (RBZ) on the receipt of remittances. When the MTAs where established in 2004, remittances could be received in foreign currency, but from 2005, recipients had to get their money in Zimbabwe dollars, at an exchange rate that was usually unfavourable relative to that on the parallel market. This naturally encouraged people to use informal channels, resulting in a decline in foreign-currency inflows through MTAs. What is required, therefore, are policies that improve remittance flows into formal channels in order to strengthen their developmental impact. This paper, therefore, sought to determine the nature of the relationship between diaspora remittances and economic development for Zimbabwe.

Background of the study

The crisis that hit the western financial markets in 2008 led to a severe global economic recession, which impacted and is still impacting migrants and migration policies worldwide. Despite the growing vulnerability of migrants, remittances have remained stable during and after the global economic downturn. Indeed, remittances continue to be a significant source of income for families and play a crucial role of co-insurance or risk mitigation in times of hardship. Moreover, remittances have proven to be a more sustainable source of foreign currency for developing countries than other capital inflows such as foreign direct investment, public debt or official development assistance.

However, the nexus between remittances and growth remains complex, especially with regards to the movement of people, which contributes to the spread of global interdependence at all levels; social, economic and political. Diasporas' remittances are a new economic occurrence and one of the core sources of incomes based on their size and economic effect in the world. Diasporas are now remitting back to their relatives in developing countries at levels above US$441 billion, a figure three times the volume of official aid flows. These inflows of cash constitute more than 10% of GDP in some 25 developing countries and lead to increased investments in health, education, and small businesses in various communities (World Bank, 2016).

In the Zimbabwean context, remittances are extremely important to household survival and sustainability (Bracking & Sachikonye, 2006). In the recent past, Zimbabwe has been concerned about the informal channels of diaspora remittances. This forced the government to devise ways of harnessing remittances even from the illegal emigrants through formal channels. Infact, the Zimbabwean government sought to reap the benefits of remittances through the Reserve Bank of Zimbabwe (RBZ)'s subsidiary, the Homelink, and other like Mukuru and World Remit. These institutions were established with the purpose of mobilizing remittances from both legal and illegal emigrants. For instance, through the Homelink, emigrants were to send remittances to the RBZ and in turn have houses built for them (Tevera & Chikanda, 2009). Despite all the government efforts to formalise the inflow of diaspora remittances, there is little evidence to suggest how diaspora remittances are related to economic growth. This paper's results would enable policy makers to come up with strategies that would enhance the increased inflow of diaspora remittances to Zimbabwe. The following figure 1 exhibits the trend followed by diaspora remittances in Zimbabwe for the period 2004 to 2019. This seeks to bring out a picture on how the flows of the remittances have been affected by the illegal channels.

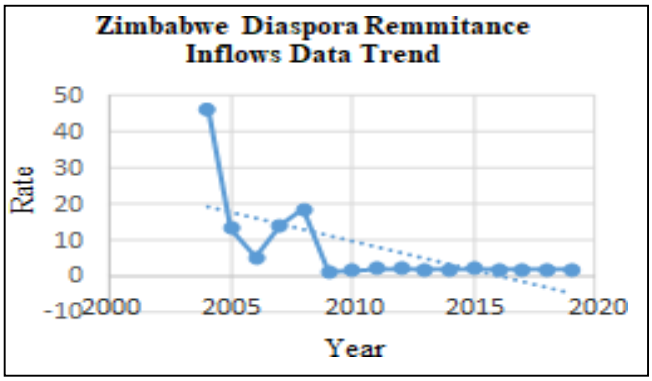

Figure 1: Zimbabwe remittance flows data trend (Adapted from Zimbabwe Statistical Agency database)

Information depicted above suggests a downward trend with the highest inflows recorded in 2004 and the least in 2009. This could be that during the period 2009, Zimbabwe was using United States dollar, which is one of the strongest currencies in the world, hence the currency could sustain the livelihood of citizens in the absence of diaspora remittances. Furthermore, it could be that people used informal means of sending remittances home due to the unfavourable laws during the time, regarding the management of diaspora remittances. Figure 2 below exhibits the trend followed by GDP data of Zimbabwe for the period 2004 to 2019. The real GDP data have been used as a proxy variable for economic development.

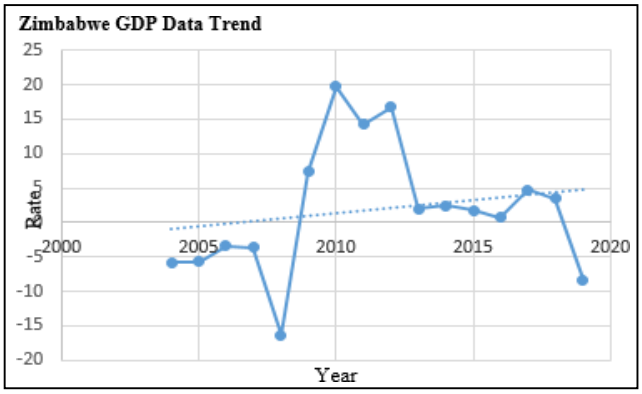

Figure 2: Zimbabwe GDP Data Trend (Adapted from Zimbabwe Statistical Agency Database)

The information depicted above suggests an upward trend of GDP though being insignificant. This maybe as a result that the country's economic soundness was heavily affected during the period. During the period 2009 to 2013, the country was using multi-currency, and this propelled growth. Considering that the study is premised on determining the relationship between diaspora remittance and economic development, Figure 3 exhibits trends for both diaspora remittances and real GDP of Zimbabwe for the period 2004 to 2009.

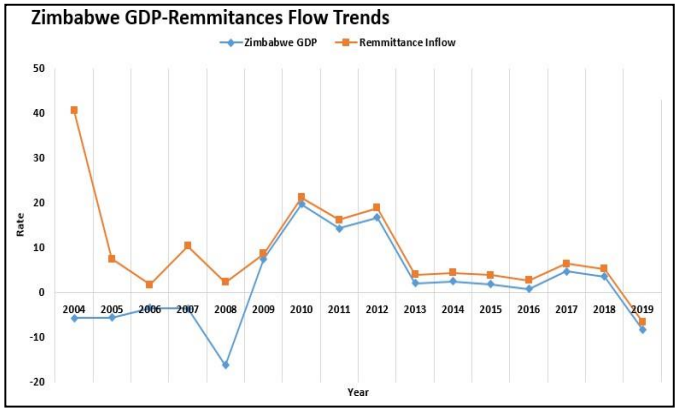

Figure 3: Zimbabwe GDP-remittance flows data trend (Adapted from Zimbabwe Statistical Agency database)

Information depicted in Figure 3 suggests that diaspora remittances and real GDP seem to be associated. For instance, from the period 2007 to 2019, when diaspora remittances increased, real GDP also increased and vice-versa. This brings us to an interesting conclusion that diaspora remittances may be related to economic development. This study, therefore, sought to determine the relationship between the two variables.

Review of Related Literature

A recent study by Stratan et al., (2013) found that remittances contribute to reducing the severity of poverty as migrants' relatives directly receive remittances. Adams and Cuechuecha (2010a) indicate that international remittances have the greatest impact on reducing the depth and severity of poverty, rather than on reducing its scale., Adams and Page (2005) analysed 71 developing countries and established a relationship between remittances and poverty reduction, statistically demonstrating that a 10% increase in international remittances from each remitter will lead to a decrease of 3.5% in the share of people under poverty. Similarly, Anyanwu and Erhijakpor (2010), who analysed remittance flows for a sample of 33 African countries for the period 1990-2005, excluding Zimbabwe, found that the depth and severity of poverty were declining. Billmeier and Massa (2009) studied the relationship between remittances and stock market development using a fixed-effects model. They looked at data from 17 Middle East and Central Asia Regions and found a positive and significant relationship.

Demirguc-Kuntetal (2011) investigated the effect of remittances on banking sector depth and breadth in Mexico and found that remittances increased the number of bank branches and accounts and the amount of deposits. Other studies have found that remittances help households to set up small commercial enterprises and facilitate business activity (Yang, 2004; Woodruff & Zenteno, 2001), which eventually leads to an increase in private investment. This engagement in business activity has a direct effect on banking institutions, because banks offer households as place to store their liquidity (Demirguc-Kuntetal., 2011).

However, other scholars such as Aggarwal et al. (2006), are skeptical about the effect of remittances on the banking sector; they argue that remittances may help to relax financing constraints, which implies a reduced demand for bank credit that affects the development of the banking sector. Massey and Parrado (1998) studied the link between international remittances and business formation in Mexico and concluded that receipt of remittances increases the likelihood that a household will form a business and increases productive investment. However, the latter was more influenced by personal, household and community characteristics than remittances or migration as such. They also find that remittances received during a household migrant's absence had little impact on business formation, but rather, following the migrants' return, remittances increased business investment.

The World Bank (2006), through a panel data of 67 countries, with a data set over the period of 1991-2005, determined a presence of positive and significant relationship between remittances to GDP ratio and per capita GDP growth. The study further concluded that one of the main channels through which remittances work is through increasing domestic investment. The other question:

> '…does migration reshape expenditure in rural households?' were also attempted to be answered in a study by Mora and Taylor (2006)…'

Some authors suggested that this may occur through remittances but choose to separate their sample into households with a migrant and those without whilst controlling for any potential selection bias using Inverse Mill's Ratios. Results showed that households with international migrants dedicate a larger marginal budget share to investments than non-migrant households (0.21 compared with 0.10). Households with United States of America migrants also spend more at the margin on consumer durables than other households (0.22 against 0.12) and more on services than non-migrant households (0.23 versus 0.16). However, households with

internal migrants exhibit a lower marginal propensity to invest than non-migrant households (0.06 compared with 0.10). Udah (2011) in the paper '…Remittances, Human Capital and Economic Performance in Nigeria', revealed that remittances affect economic performance in Nigeria through its interaction with human capital and technology diffusion. Philippines study by Yang (2005) indicated that increased household's remittances enhance human capital accumulation by increasing the number of children going to school, reducing child labour and increasing expenditure on education in origin of households.

Similarly, a study by Aggarwal, Demirgüç-Kunt Asli, and Maria Soledad Martínez Pería (2010) on data of remittance flows for 109 developing countries during 1975-2007 were used to determine the link between remittances and financial sector development; a positive, significant, and robust link between remittances and financial development in developing countries was evident. Fullenkamp and Jahjah (2003) conducted a study on aggregate remittance data for a sample of 83 countries over a period from 1970-1998, to examine the relationship between workers' remittances and per capita GDP growth. It was found that, the investment to GDP and net private capital flows to GDP ratio were positively affecting growth but workers' remittances to GDP ratio either was not significant or negatively related to growth.

A study on the relationship between remittance and economic growth in China and Korea was done by Jawaid and Raza (2012) who used time series data from 1980 to 2009 and co-integration methodology. It was confirmed that there exists significant long-run relationship between remittances and economic growth in Korea, while significant negative relationship exists in case of China. The Error Correction Model showed that there is significant positive short-run relationship of workers' remittances with economic growth in Korea, while the result in China is insignificant.

Available empirical evidence is highly conflicted, some studies conclude on positive growth effects of diaspora remittances, some on negative growth effects of diaspora remittances, while some maintain that remittances have no impact on economic growth. Furthermore, there was little evidence to suggest that a study of this nature was done for Zimbabwe. In fact, this paper assumes that in the case of Zimbabwe, there is a positive effect of diaspora remittances on economic growth.

Methodology

The sample comprises of time series data for real GDP and Diaspora Remittances, Unemployment, Inflation and Foreign Direct Investment. The data covers period 1990 to 2019. The period was chosen on that basis that it gives the dynamic social-economic environment relevant to predict the current as well as the future economic trends. Data for the study were collected from World Bank database. This section explores the methodology applied in the study to determine the relationship between diaspora remittances inflow and economic growth. This study, therefore, adopted an Error Correction Model (ECM) after the data came stationary at different levels, as well as the short-run dynamics on the relationship between diaspora remittance and economic development. EViews Version (8) Statistical Package was used. Before, the ECM was conducted, diagnostic tests were carried out and the results of the test are presented below.

Results and discussion

- **Descriptive Test**

Table 1: Jacque-Bera Normality Test

	Real GDP	**Rem**	**Inflat.**	**Unemp.**	**FDI**
Mean	2.338333	4.052197	12.19567	5.177000	1.534000
Median	1.885000	0.633000	0.645000	5.130000	1.085000
Maximum	1.968000	1.361000	255.2900	6.930000	6.940000
Minimum	1.767000	0.000000	-72.73000	3.840000	0.030000
Std. Dev	8.561395	5.056762	61.56123	0.637009	1.714815
Skewness	0.066133	0.697524	2.615685	0.699797	2.047673
Kurtosis	2.862365	1.695803	10.20175	3.932665	6.840437
Jarque-Bera	0.045547	4.558859	99.04058	3.535906	3.940101
Prob.	0.977484	0.102343	0.000000	0.170682	0.000000
Obs.	30	30	30	30	30

In using the Jacque-Berra Probability test to determine if the data are normally distributed, the underlying assumption is that probability values greater than 0.05 are normally distributed. The results show that economic growth data for real GDP, diaspora remittances and unemployment are normally distributed as depicted by the Jarque-Bera p-values greater the 0.05. However, data for inflation and FDI are not normally distributed as shown by the Jarque-Bera p-value of less than 0.05. Given these results, the study proceeded to test for the correlation between the variables.

- **Correlation Test**

Table 2: Pearson Correlation Matrix

	Real GDP	**Remit**	**Unemp**	**Inflat**	**FDI**
Real GDP	1.000000	0.475673	0.195168	-0.373097	-0.061924
Remit	0.475673	1.000000	0.099011	0.097359	0.335524
Unemp	0.195168	0.099011	1.000000	-0.185898	0.315616
Inflat	-0.373097	0.097359	-0.185898	1.000000	0.358921
FDI	-0.061924	0.335524	0.315616	0.358921	1.000000

The results showED a relatively strong positive association between real GDP and diaspora remittances as indicated by the co-efficient 0.475673. Similarly, there was a positive linear association between real GDP and unemployment, though weak in nature as indicated by the coefficient 0.195168. Also, real GDP revealed a negative linear association with inflation as depicted by a coefficient of -0.373097. Furthermore, the results exhibit a negative linear association with FDI as shown by the coefficient of - 0.061924. The results depict a relatively strong positive association between diaspora remittances and real GDP as indicated by the co-efficient 0.475673. There was, however, a weak positive linear association between diaspora remittances and unemployment, as indicated by the coefficient 0.099011. This was the same with inflation where a coefficient of 0.097359 was recorded. Also, diaspora remittances revealed a negative linear association with FDI as shown by a coefficient of 0.335524. The results show a positive association between unemployment and real GDP as indicated by the co-efficient 0.195168.

Similarly, there was a positive linear association between unemployment and diaspora remittances, though weak in nature as indicated by the coefficient 0.099011. Unemployment revealed a negative linear association with inflation as depicted by a coefficient of -0.185898.

Furthermore, the results exhibited a positive linear association with FDI as shown by the coefficient of 0.315616. The results showed a relatively strong negative association between inflation and real GDP as indicated by the co- efficient -0.373097. Similarly, there was a weak positive linear association between inflation and diaspora remittances as indicated by the coefficient 0.097359. Inflation revealed a negative linear association with unemployment as depicted by a coefficient of -0.185898. Furthermore, the results exhibit a positive linear association with FDI as shown by the coefficient of 0.358921. The results show a weak negative association between FDI, and real GDP as indicated by the co-efficient -0.061924. However, there was a positive linear association between FDI and diaspora remittances, as indicated by the coefficient 0.335524. FDI revealed a positive linear association with unemployed as depicted by a coefficient of 0.315616. Furthermore, the results exhibited a positive linear association with inflation as shown by the coefficient of 0.358921. Generally, the results suggest that the variables of the study have a linear association running from the positive to the negative. The section that followed explained the results of unit roots that were conducted to determine stationarity of data which was a prerequisite when dealing with time series data. Regressions carried out on data that were non- stationary results in spurious results.

- **Unit Root Tests**

Table 3: Augmented Dickey Fuller (ADF) Test Results after differencing

Variable	**t-ADF Statistic**	**Critical 1%**	**Critical 5 %**	**Critical 10 %**	**Concl.**
Real GDP	-4.392754	-3.679322*	-2.967767	-2.622989	I(0)
Remit	-5.601803	-3.689194*	-2.971853	-2.971853	I(1)
FDI	-6.783274	-3.689194*	-2.971853	-2.625121	I(1)
Unemp	-4.653361	-3.752946*	-2.998064	-2.638752	I(0)
Inflat	-4.646964	-3.679322*	-2.967767	-2.622989	I(0)

, **, * Indicates Significance at 1%; 5%; 10%*

In interpreting the data Augmented Dickey Fuller test technique was adopted. Real GDP data became stationary at levels that is [I(0)]. This was supported by the p-value of 0.017, which is less than 0.05. However, diaspora remittances failed to become stationary at levels. After differencing, that is, [I(1)], the data became stationary at 1% critical value of -3.689194, being greater than the t-statistic of -5.601803. This was supported by the p-value of 0.0001, which is less than 0.05. Similarly, foreign direct investment (FDI) data failed to become stationary at levels. After differencing, the data became stationary [I(1)], that is, at 1% critical value of -3.689194, being greater than the t-statistic of -6.783274. This was supported by the p-value of 0.0000, which is less than 0.05. Furthermore, unemployment data became stationary at levels [I(0)], that is, at 1% critical value of -3.752946, being greater than the t-statistic of -4.653361. This was supported by the p-value of 0.0013, which is less than 0.05. Lastly, inflation data also became stationary at levels [I(0)], that is, at 1%, with a critical value of -3.679322, being greater than the t-statistic of -4.646964. This was supported by the p- value of 0.0009, which is less than 0.05. The results suggested that all the variables' data are stationary though at different level. This has serious implications on the regression model that the study adopted. If the variables' data are all stationary at levels, ordinary least squares (OLS) is used, and when variables data are stationary at different levels, as is the case for this study, error correction model (ECM) is used. In fact, it is convention in estimation regression that variable data are subjected to cointegration test to determine the long-run relationship. Working with data that do not move together in the long-run results in false regressions, thus, giving incorrect results. The following section, therefore, presented results for cointegration tests.

- **Cointegration Test**

Table 4: Johansen Technique Results (Trace)

	Hypothesized No of CE(s)	Trace Value	% Critical Value	Prob**
None*	0.683319	70.43014	69.81889	0.0447
At most 1	0.560945	38.23408	47.85613	0.2919
At most 2	0.323304	15.18644	29.79707	0.7679
At most 3	0.140375	4.251498	15.49471	0.8822
At most 5	0.000580	0.016244	3.841466	0.8784

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Trace test indicates three cointegrating equation(s) at the 0.05 level. denotes rejection of the hypothesis at the 0.05 level.*

***MacKinnon-Haug-Michelis (1999) p-values.*

The null hypothesis of no cointegration amongst variables was tested against alternative hypothesis of existence of cointegration. In interpreting the data Trace values were used. The results for the study variables' data confirmed existence of cointegration amongst variables, as supported by Trace value of 70.43014, with a calculated p-value of 0.0447, falling within the 5% significance level, making it statistically significant. These results are enough to motivate the study to conduct its estimation using the error correction model (ECM). The choice for the estimation procedure was as a result that data became stationary at different levels as well as to determine the short-run dynamics on the relationship of the variables as alluded to in the preceding sections of this paper.

- **Error Correction Model (ECM)**

Table 1.5. Error Correction Model Results

Table Indep-Variable	Coef.	Std. Error	t- Statistic
Remittances	0.027481	0.07386	0.37205
Inflat	-3.127307	1.17461	-2.66243
Unemp	-0.002046	0.00848	0.24115
FDI	-0.069789	0.05012	-1.39254
C	0.142046	0.52337	0.27141

R-Squared = 0.8643

According to the estimated model, the relationship between variables is both positive and negative. This was shown by a negative and positive coefficients. For the variable of interest, the diaspora remittance results showed a positive relationship as depicted by a coefficient of 0.027481. This suggests that a unit increase in diaspora remittance inflow results in 0.027% increase in real GDP in Zimbabwe. Basing on the theoretical assumptions on real GDP-diaspora remittances relationship, the figure of 0.027 was a small. This could have been attributed by the dominants of informal or illegal channels of remittances in Zimbabwe, resulting in the government failing to tap the flows. This assertion is in support of Orozco and Lindley, (2007) who stated that informal channels of remittance flows impact negatively on economic growth. The value of the R-squared for the model was 86%, suggesting that 86% variations in dependent variable are accounted for by the independent variables, which is highly commended. Having presented the results of the study, stability tests are carried out to determine if the model used was well specified. This was done to find out the extent to which the results can be validated and relied upon. To that end, Cholesky Lutkepohl normality test,

Breusch-Godfrey Serial Correlation LM Test and Breush-Pegan-Godfrey Tests Residuals heteroskedastic tests were undertaken.

- **Stability Test Results**

Table 6: Stability Tests

	F-Statistic	Prob
Serial Correlation: Breusch-Godfrey Serial Correlation LM Test	0.117453	0.831924
AR Conditional Heteroscedasticity (ARCH): Breusch -Pagan-Godfrey	0.108753	0.913823
Normality: Jacque-Bera	0.164298	0.873017

The results in table 6 suggest that the model used for this study is well specified given the p-values which are greater than 0.05.

Conclusion and Recommendations

The aim of this paper was to determine the relationship between diaspora remittances and economic growth for Zimbabwe. The tests confirmed that there exists relationship between diaspora remittances and real GDP. The results finally confirmed the positive relationship between diaspora remittances and real GDP for Zimbabwe. The stability tests conducted confirmed that the ECM is well specified.

- Zimbabwe must put in place formal structures to tap in all flows from diaspora remittances. Not much has been done on this area considering the increased remittances that find their way in the country through informal channels. The introduction of formal channels seeks to enhance increased accountability and better use of remittances.
- Tax charged on remittances should not be discouraging for those who intend to send in their remittances. High taxes scare away those in the diaspora as they feel robbed of their hard-earned income.
- A clear policy be put in place and be made open to the public on the spending of revenue earned through remittances. This must be the responsibility of the Zimbabwe Reserve Bank to provide for such briefs during their monetary budgets.
- A significant share of expenditure of remittances earned must be directed towards social amenities. This will go a long way in drumming support from both those in the diaspora and recipients of the remittances. This would eliminate wastage of resources as has been the case where remittances are spent on recurrent expenditure.
- The Reserve Bank of Zimbabwe must endeavour to eliminate bottle necks in the processing of remittances as this acts to the negative of remittances inflow.

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