

ECONOMIC GROWTH AND SOME SELECTED MACROECONOMICS VARIABLES IN SADC: ARDL BOUND TEST FOR COINTEGRATION APPROACH

*C. Njoku**

ABSTRACT

The paper used autoregressive distributed lag bounds testing approach to examine the relationship between economic growth and some selected macroeconomic variables in SADC from 1971-2012 and all the diagnostic tests were conducted. In the long-run, foreign direct investment inflows and trade openness have negative and positive significant effect on economic growth, respectively. In the short-run, lagged economic growth and contemporaneous government size have negative significant effect on economic growth. Foreign direct investment inflows, government size, and domestic investment have positive effect on economic growth. The paper recommends that government of SADC should reduce their participation and install policies that can encourage foreign investors to reinvest their profits if foreign direct investment inflows should have positive effect on economic growth in the long-run.

INTRODUCTION

This paper examines the relationship between economic growth (henceforth, EG) and some selected macroeconomic variables in Southern African Development Community (hence, SADC). One of the most important objectives for each SADC member states is to achieve a sustainable economic growth so that its people's standard of living will improve via creating sustainable employment. It is important for this growth to be achieved in more effective and efficient ways. SADC in this regard has formulated policies and strategies for regional integration to support the achievement of sustainable economic growth. Its benefit as highlighted by SADC secretariat includes increase in market size, improvement in intra-regional trade, investment flows and technology (SADC, 2014).

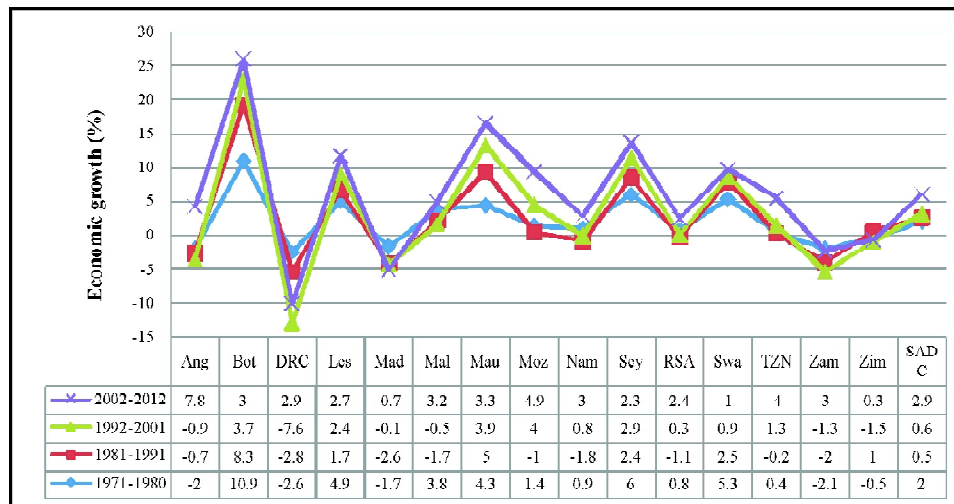
In addition, it has been argued that the gains accrued through sustainable economic growth extend beyond material gains from rising incomes, which was shown in White House report (2010: 35) that economic

* C. Njoku (PhD), BA ISAGO University, Gaborone, Botswana, *E-mail:* chidozie.njoku@baisago.ac.bw, chydox2002@yahoo.com

growth brings with it “the dignity that comes with the opportunity to pursue a better life”. Lewis (1995) said that, the main benefit of economic growth is that it “increases the range of human choice” and thus freedom. Sen (1999) equally views economic growth as a requirement for full human liberty, expanding individual choice and opportunity for self-realization. Friedman’s study on “*The Moral Consequences of Economic Growth* (2005)” showed that economic growth promotes liberty and tolerance while economic stagnation is highly related to dictatorship and violence. On the contrary, Blattman and Miguel (2010) study indicated a positive relationship between violence and economic stagnation in developing countries where civil wars have greatly affected their economies.

In SADC, economic growth trend has not been consistent over the years. For instance, within 1971-1980, Botswana had the highest economic growth of 10.8% among the SADC member states and the least was Zambia with -2.1% in the same period. Although most of the member states had negative economic growth between 1981-1991, Botswana still maintained the highest economic growth of 8.3%, followed by Mauritius and the least was DRC with economic growth of -2.8%. Generally, economic growth of the SADC member states reduced from 1971-1980 to 1981-1991 and hence decrease except for Mauritius. Also, SADC’s economic growth increased in 1992-2001 by 0.1% from 1981-1991 and increased to 2.9% in 2002-2012. Angola, DRC, Malawi, Namibia, South Africa and Zambia economies improved in 2002-2012 as they are in 1992-2001 (Figure 1).

Figure 1: Economic Growth among SADC member states



Source: UNCTAD database

Although, the economic growth of SADC member states improved within 2002-2012 and fluctuated over the previous years, scholars have argued that there are some macroeconomic variables that contribute to such economic growth behavior. Therefore, there is a need to examine the relationship between those variables and economic growth in the context of SADC. The outcome of this finding is of paramount importance for policy makers. For instance, Chan and Dang (2010) study showed a long-run relationship between trade openness and economic growth for 111 countries. Constant and Yaoxing (2010) study indicated that FDI inflows and trade openness have long-run relationship with economic growth in Cote d'Ivoire. Still in Africa, Ezzo (2010) showed a positive long-run relationship between FDI inflows and economic growth in Angola, Cote d'Ivoire, Kenya, Liberia, Senegal and South Africa.

Outside African countries, Liu (2011) study indicated an existence of long-run relationship between domestic investment, trade openness and economic growth in Mainland China. Bahar *et al.* (2008) showed that there is a long-run and short-run positive relationship between trade openness and economic growth in Malaysia. There were short-run positive relationship and negative long run relationship between FDI and economic growth. Also, there were both the long-run and short-run positive relationship between exchange rate and economic growth in Malaysia. Chakraborty and Mukherjee (2012) result indicated the existence of long-run relationship between domestic investment, FDI inflows and economic growth in India. In Pakistan, Ahmad *et al.* (2012) showed a positive relationship between FDI inflows and economic growth. In Thailand, Yusoff and Nuh (2015) study indicated the presence of a long-run relationship between FDI inflows, trade openness and economic growth. Furthermore, Shahbaz *et al.* (2012) study showed a positive long-run relationship between electricity consumption and capital on economic growth in Romania.

In literature, there have been few studies for SADC relating to FDI and Economic growth (Mupimpila and Okurut, 2012) but none on the relationship between economic growth and some selected macroeconomic variables in SADC. This paper has bridge the gap in the literature by examining the relationship between economic growth and some selected macroeconomic variables in SADC. The outcome of this paper would enable the policy makers to understand the relationship between these macroeconomic variables with economic growth. This information would assist them to appropriate more efficient policies based on the behaviour of these macroeconomic variables relationship with economic growth.

THEORETICAL FRAMEWORK

The nature of relationship between some selected macroeconomic variables alongside with FDI inflows with economic growth are not clear, especially

in the context of an organised regional bloc, like SADC . Theoretical, economic growth does not exist in an isolation but their are other variables that can influence growth.

Neoclassical models of growth and endogenous growth models provide the basis for most of the empirical work on growth. The neoclassical growth theories argued that FDI is capable of channelling required resources to the productive sectors of the economy with shortage of capital. This effect can increase economic growth rate by increasing the marginal productivity of capital (Blomstorm *et al.*, 1994). Further, FDI inflows are more reliable and efficient sources of capital for developing economies, which can augment economic growth (Borensztein *et al.*, 1998; Balasubramanyam *et al.*, 1996; Lipsey 2000; Moosa and Cardak 2006).

In neoclassical growth analysis, FDI does not influence economic growth in the long-run. The model considers technological progress and human capital as exogenous, therefore, argues that FDI increases the level of income which may only have a short-run effect on economic growth if the technology does not improve (Solow, 1956). Solow's argument is that long-run growth can be achieved through FDI only if it is caused by an increase through technological and population growth. This implies that FDI positively influences technology. Contrary to restricted contribution that the neoclassical growth theory endorse to FDI, the endogenous growth theory pointed out that FDI can add to economic growth through capital formation and technology transfers. It can drive growth by intensification of the level of knowledge through labor training and skill acquisition (Dunning, 1988; Borensztein *et al.*, 1995; Blomstrom *et al.*, 1998; de Mello 1997, 1999). The endogenous growth theory also stipulates that FDI inflows increases domestic competition in the host country by overcoming entry barriers in existing monopoly in the economy. It further stated that apart from FDI and its channels, there are other factors that influence economic growth. In this paper, the FDI-led-growth hypothesis had been deliberated by elucidating the relationship between some selected macroeconomic variables alongside FDI inflows with economic growth in SADC.

DATA SOURCE AND METHODOLOGY

The data (Table 1) is sourced from the United Nations Conference on Trade and Development (UNCTAD), and World Bank Development Indicators (WBDI). The periods over which the data are collected is from 1971-2012 for panel analysis. The time period enables the researcher to review the changes in behaviour of the some selected macroeconomics and economic growth. Finally, Eviews 7 is used in the data analysis because of it user friendly and sufficiency in performing all the tests required in this study.

Table 1
Types and Sources of data

<i>Variables</i>	<i>Measurements</i>	<i>Source</i>	<i>Period</i>	<i>Expected results economic growth</i>
Log Economic growth (LEG)	real GDP growth/ capita	UNCTAD	1971-2012	Dependent variable
Log FDI inflows (LFDI)	Net FDI inflows/GDP	UNCTAD	1971-2012	Ambiguous
Log Domestic investment (LDI)	Gross capital formation/ GDP	UNCTAD	1971-2012	Ambiguous
Log Inflation (LINFLA)	Inflation, consumer prices (annual %)	World Bank	1971-2012	Negative
Financial development 1	Domestic credit to private sector/ GDP (LDCP)	World Bank	1971-2012, except Angola (1992-2012) and Mozambique (1981-2012)	Positive
Log Government size (LGS)	Government expenditure/ GDP	UNCTAD	1971-2012	Negative
Financial development 2	Money supply (M2/GDP), (LGS)	World Bank	1971-2012, except Angola (1992-2012) and Mozambique (1981-2012)	Ambiguous
Log Trade Openness (LOPN)	(Export + import)/ GDP	UNCTAD	1971-2012	Ambiguous

METHODOLOGY

Modified ARDL Bounds Testing Method

Autoregressive distributed lag(ARDL) bounds testing method was first established by Pesaran and Shin (1999) and later extended by Pesaran *et al.* (2001). This method has several advantages as compared to other cointegration techniques such as Johansen and Juselius (1990) and Engle and Granger (1987). The Johansen and Juselius (1990) cointegration techniques depend on the strictly assumption that all the variables in the test must be I(1) variables, that is, all the variables must be stationary after first differencing. The condition of the I(1) variables make the estimate of the cointegration test subject to biases, since the order of integration of the variable depends upon the type of the unit root test and lag length selection that a researcher would want in order to get the expected outcome. This involves choosing lag length in the unit root test that will bring the expected result(s) and fails to incorporate the same number of lag length(s) while performing the cointegration test with the Johansen and Juselius (1990) cointegration technique.

However, the modified ARDL bound testing approach does not enforce the restriction that all variables under the study must be integrated in the same order. It means that the ARDL bounds approach can be used regardless of whether the order of integration is one, zero or even if it is fractionally integrated. Other cointegration techniques required large sample size, but the ARDL bound testing approach is relatively more efficient in either small or finite sample sizes. According to Harris and Sollis (2003), the ARDL method yields unbiased result, even in the presence of endogeneity. In this paper, the ARDL bounds approach for economic growth models alongside with other variables are specified in equation 1

$$\begin{aligned} \Delta \ln EG_{it} = & \beta_0 + \beta_1 \ln EG_{i,t-1} + \beta_2 \ln FDI_{i,t-1} + \beta_3 \ln X_{i,t-1} + \sum_{j=1}^p \psi_{1i} \Delta \ln EG_{i,t-j} \\ & + \sum_{j=0}^{q_1} \psi_{2i} \Delta \ln FDI_{i,t-j} + \sum_{j=0}^{q_2} \psi_{3i} \Delta \ln X_{i,t-j} + \varepsilon_{i,t} \end{aligned} \quad (1)$$

where, β_0 is the intercept in equations (1), ε_t is the white noise error term, β_1 , β_2 , and β_3 , are the long-run coefficients, Δ is the first-difference operator and p 's are optimal lag length. It also implied that the model takes the same lag length for all the variables in the model. The variable $\ln EG_t$ is the log of growth rate of GDP/capita (that is, economic growth) and FDI is foreign direct investment. The X 's variables include financial sector development indicators, government size, inflation, trade openness, export openness, infrastructure development, return on investment and domestic investment. The optimal lag selection in the unrestricted ARDL model is based on Akaike Information Criterion (AIC), and Schwartz Information Criterion (SIC).

The ARDL bounds testing method is based on the joint F-statistic of the coefficients of the lagged level of variables used to check for the existence of cointegration. This method involves the following steps. The first step involves estimating unrestricted ARDL model of equations (1) by using ordinary least squares (OLS) to test the null hypothesis that $\beta_1 = \beta_2 = \beta_3 = 0$ against the alternative hypothesis that $\beta_1 \neq \beta_2 \neq \beta_3 \neq 0$

Further, the critical bounds value tabulated by Pesaran *et al.* (2001) is compared with the computed F-statistic value. The authors have reported two sets of critical bound values, that is the upper bound and lower bound values to test the cointegration at different levels of significance and are generated base on sets of 500 and 1,000 observations and 20,000 and 40,000 replications. If the computed F-statistic is higher than the upper bound critical value, then the null hypothesis of no cointegration is rejected. Conversely, if the computed F-statistic is lower than the lower bound critical value, then the study fails to reject the null hypothesis of no cointegration.

The result becomes inconclusive if the computed F-statistic falls between the bounds for the critical values.

Once the long-run relationship was established in equations 1, the second step involves estimating the long-run coefficient based on the ARDL (p, q). The long-run model for ARDL is specified as:

$$\ln EG_{it} = \beta_0 + \sum_{j=1}^p \beta_{1i} \ln EG_{i,t-j} + \sum_{j=0}^p \beta_{2i} \ln FDI_{i,t-j} + \sum_{j=0}^p \beta_{3i} \ln X_{i,t-j} + \varepsilon_{i,t} \quad 2$$

The third step involves estimating error-correction model related to the long-run estimates. The model is specified as;

$$\Delta \ln EG_{it} = \alpha + \sum_{j=1}^p \psi_{1i} \Delta \ln EG_{i,t-j} + \sum_{j=0}^p \psi_{2i} \Delta \ln FDI_{i,t-j} + \sum_{j=0}^p \psi_{3i} \Delta \ln X_{i,t-j} + \lambda ECM_{i,t-1} + \varepsilon_{i,t} \quad 3$$

From equation 3, ψ_i 's are short-run coefficients of the model and λ is the associated ECM that allows the adjustment back to long-run equilibrium.

$ECM_{it} = \ln EG_{it} - \alpha_0 - \sum_{i=1}^p \alpha_{1i} \ln EG_{i,t-1} - \sum_{i=0}^p \alpha_{2i} \ln FDI_{i,t-1} - \sum_{i=0}^p \alpha_{3i} \ln X_{i,t-1} + ECM_{i,t-1}$ is the error correction term, obtained from equation (1). In addition, this paper uses a modified ARDL technique, which is called backward stepwise ARDL (BARDL) technique (Kleinbaum *et al*, 1998, p395-397). The BARDL technique is more efficient as compare to the normal ARDL test because it allows for the exclusion of redundant variables in model. It also increases the statistical significant of the variables and hence increases the adjusted r-square (for more information on the backward stepwise, see Kleinbaum *et al*, 1998, p 395-397). The results are presented below.

INTERPRETATION OF RESULTS

This section presents the empirical results of the relationship between economic growth and some selected macroeconomic variables using ARDL technique. In this presentation economic growth is the dependent variables while foreign direct investment (FDI) inflows, government size (GS), domestic investment (DI), inflation (INFLA), trade openness (OPN), money supply (MS) and credits to private sector (DCP) are the independent variables. All the variables are in logs. The models are presented for all SADC member states and member states excluding South Africa models. Furthermore, each of the models has two specifications. These are specification without LDCP and another without LMS. The separation is based on the presence of multicollinearity and they both the same measure of financial development.

The result of the ARDL models show that the null hypothesis of no cointegration is rejected at 1% level of significance because the calculated F-calculated for all the models are greater than the critical values presented by Pesaran *et al.* (2001) at 1% level of significance. The estimation of the ARDL is preceded because of the rejection of null hypothesis of no cointegration. The statistical significant of F-statistic at 1% level of significance for all the models show that the overall models are fit and can be used for meaningful inferences. In addition, the Breusch-Pagan (LM) statistic for all the models shows the absence of serial correction problem. The results of the ARDL model for economic growth are presented in Tables 2, 3 and 4.

Table 2
ARDL Bound test result for Economic Growth

Estimated equations: LEG = f(LFDI, LGS, LDI, LINFLA, LOPN, LMS, LDCP)				
Independent variables Optimal lag Structure Models	All SADC member states (1,1,1,1,1,1,1)		Without South Africa (1,1,1,1,1,1,1)	
	Without LDCP	without LMS	without LDCP	without LMS
Calculated F-statistics	6.25*	5.52*	5.87*	5.25*
Cross-sections	15	15	14	14
Number of Observations	178	175	168	165
Significant level	Pesaran <i>et al.</i> , (2001) Critical values for intercept and no trend K = 6			
	Lower bounds I(0)	Upper bounds I(1)	Lower bounds I(0)	Upper bounds I(1)
1 per cent level	3.29	4.56	3.29	4.56
5 per cent level	2.6	3.75	2.6	3.75
10 per cent level	2.27	3.36	2.27	3.36
Diagnostic tests	Statistics		Statistics	
R-square	0.36	0.36	0.36	0.36
Adjusted - R-square	0.30	0.31	0.30	0.30
F-statistics	6.53*	6.48*	6.07*	6.06*
Breusch-Pagan (LM) test	1.39[0.24]	1.33 [0.25]	1.25 [0.26]	0.99 [0.32]

The 1%, 5% and 10% significant are represented as *, ** and *** respectively

Table 2 present the results of an empirical estimation of the relationship between economic growth and some selected macroeconomic variables in SADC and SADC without South Africa. The ARDL calculated F-statistic of 6.25*, 5.52*, 5.87* and 5.25* for all the models are represented in Table 2, which showed the existence of cointegration between economic growth and some selected macroeconomics variables. This is because the calculated F-calculated for each of the models is greater than upper bound critical value of 4.56 at 1% level of significance tabulated by Pesaran *et. al* (2001). It then implied that the null hypothesis of no cointegration between economic growth and some selected variables is rejected. Having confirmed the presence of cointegration among the selected variables, the next step is to estimate the long-run coefficients. The result of this estimate is presented in Table 3.

Table 3
Estimated Long-Run Coefficients using ARDL (1, 1, 1, 1, 1, 1) based on Akaike Information Criterion

Independent variables	Dependent variable : <i>LEG</i>			
	All SADC member states		Member states without South Africa	
	Without LDCP	Without LMS	Without LDCP	Without LMS
LFDI	-0.05***	-0.02	-0.06**	-0.02
LGS	0.01	0.03	0.03	0.06
LDI	0.07	0.04	0.09	0.05
LOPN	0.41*	0.39*	0.30***	0.33**
LMS	0.06	-	0.14	-
LDCP	-	-0.05	-	-0.03
C	0.73	0.99***	0.32	0.81

The 1%, 5% and 10% significant are represented as *, ** and *** respectively

In the long run, there is a positive significant relationship between LOPN and economic growth in SADC and SADC without South Africa. There is also a negative relationship between FDI inflows and economic growth but only in the models that has LMS that the FDI relationship with economic growth statistical significant. Table 4 presents the short-run results

Table 4
Error Correction Representation for Selected ARDL (1, 1, 1, 1, 0, 1) based on Akaike Information Criterion

Independent variables	Dependent variable : ΔLEG			
	All SADC member states		Member states without South Africa	
	Without LDCP	Without LMS	Without LDCP	Without LMS
ΔLEG_{t-1}	-0.16	-0.21*	-0.15**	-0.18**
$\Delta LFDI_t$	0.09	0.09***	0.09***	0.10***
$\Delta LFDI_{t-1}$	0.08	0.12***	0.09	0.13***
ΔLGS_t	-0.51	-1.21**	-	-
ΔLGS_{t-1}	1.31**	1.22***	1.19***	1.17***
ΔLDI_t	-	0.83***	0.76***	-
ΔLDI_{t-1}	0.79***	-	-	0.80***
$\Delta LINFLA_t$	-	-	0.09	0.16
$\Delta LINFLA_{t-1}$	-0.03	-0.04	0.04	0.05
ΔLMS_t	0.33	-	0.37	-
$\Delta LDCP_t$	-	0.46	-	0.61
$\Delta LDCP_{t-1}$	-	0.26	-	0.21
C	0.58*	0.55*	0.64*	-0.18**
ECT(-1)	-0.56*	-0.54*	-0.59*	-0.59*
Diagnostic tests	Statistics	Statistics		
R-square	0.40	0.43	0.42	0.44
Adjusted - R-square	0.37	0.39	0.39	0.40
F-statistics	12.20*	10.71*	12.25*	9.60*
Breuch-Pagan (LM) test	0.08 [0.78]	0.06 [0.80]	0.23 [0.63]	0.04 [0.85]

The 1%, 5% and 10% significant are represented as *, ** and *** respectively. The values in parentheses are the p-values

The coefficient of each of the lagged error-correction term for all the models are negative and statistically significant at 1% level of significance, which also supports the existence of long-run relationship between LEG and LFDI inflows along with some selected macroeconomic variables. Furthermore, the error-correction term coefficient is highly significant at 1% level of significance with the correct sign (negative), implying a high speed of adjustment back to long-run relationship given a deviation in the previous year (after a short-run shock). Approximately 55% of disequilibrium or shock from the previous year converges back to the long-run equilibrium in the current year for the economic growth. The speed of adjustment of 58% and 55% were found for SADC's economic growth with models with LMS and LDCP, respectively. For member states without South Africa, the speed of adjustment of 59% each for models with LMS and LDCP. It also implies that FDI inflows and all the selected macroeconomic variables are expected to Granger cause EG in the long-run.

In the short-run, LGS and LDI have positive significant relationship with economic growth in all the models. There is also positive relationship between FDI inflows and economic growth. The result shows negative relationship between lagged economic growth and contemporaneous government size with economic growth in all the models. Furthermore, the short-run models depict that the models are free from serial correlation problem with Breuch-Pagan (LM) test. Likewise, the overall model fit specifications for all the models show that all the models can be used for meaningful inferences, which is shown by statistical significant of the F-statistic at 1% level of significance.

DISCUSSION OF THE RESULTS

In the long run, the results show that a percentage increase in FDI inflows reduces economic growth (EG) by 0.05% and 0.06% for all SADC member states and member states without South Africa, respectively. Furthermore, it is only in the models with LMS that the effect is statistical significant. This negative effect of FDI inflows is related to a situation whereby FDI inflows lower the rate of growth through price distortions or misallocations of factors of production and natural resource depletion. This study's result support those of, Bos *et al.* (1974), which showed a negative relationship between FDI inflows and economic growth in U.S. The authors' reasons was, the expatriation of profits out of U.S. economy each year outweighs the new investment in the U.S. They further stated that most foreign investors were to raise capital from U.S. and such does not contribute much to its economy.

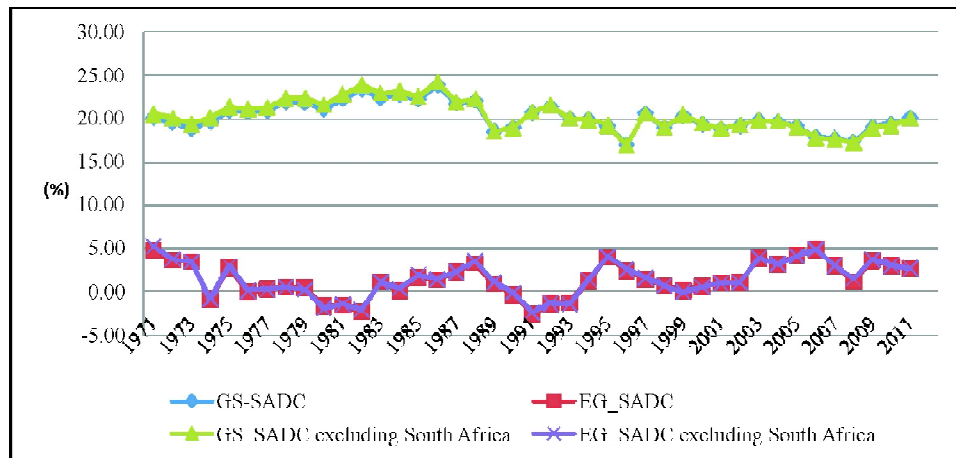
However, some studies have shown a long-run positive relationship between FDI inflows and economic growth. For instance, Constant and

Yaoping (2010) study showed that there exists a positive long-run between FDI inflows and economic growth in Cote d'Ivoire. Esso (2010) study indicated the existence of a long-run relationship between FDI inflows in Angola, Cote d'Ivoire, Kenya, Liberia, Senegal and South Africa. Campos and Kinoshita (2002) studied on 25 Central and Eastern European and Soviet Union transition economies, showed a long-run relationship between FDI inflows and economic growth. Similarly, Hooley *et al.* (1996) and Brouters and Bamossy (1997) studies showed the same relationship.

In addition, an increase in the level of trade openness (OPN) by a percentage increases the economic growth in all the 4 models by 0.41%, 0.39%, 0.30% and 0.33%, respectively in the long-run. These effects on economic growth are statistical significant. This implies that the trade liberalization policies among SADC member states contribute positively to the growth of its economy. Yusoff and Nuh (2015) study showed a long-run relationship between trade openness and economic growth in Thailand. In line with other studies, this paper shows that trade liberation plays a significant role in improving SADC's economic growth.

In the short-run, the results show that a percentage increase in contemporaneous government consumption expenditure (GS) in SADC reduces economic growth by 1.21% in the model with LDCEP. The effect is statistical significant at 5% level of significance. The result further shows that a percentage increase in government size increases economic growth by more than 1% in all the models, which are statistical significant. On the average, net effect of government size on economic growth to all SADC member states is positive and statistical significant at 10% level of significance. Figure 2 shows the graph of government consumption

Figure2: Government Size and Economic Growth



Source: UNCTAD database

expenditure and economic growth among SADC member states and SADC without South Africa.

Figure 2 shows the graph of GS and EG in SADC and SADC without South Africa. For example, economic growth in the graph from 1973-1975 reduces while at the same period the GS is growing. The same trend happens during 1984-1999 and so on. This negative relationship includes GS crowding-out effects, taxation, and market distortion (Landau, 1983; for 96 developing countries Bajo-Rubio, 2000). Similarly, Folster and Henrekson (2001) found a negative relationship between government consumption expenditure and economic growth in some European rich countries.

Moreover, the results show that a percentage increase in domestic investment (DI) increases the economic growth in both long run and short-run. For example, in the short-run, an increase in LDI increases economic growth approximately by 0.80%. This implies that domestic investment plays a critical role on the economic growth of SADC member states. Liu (2011) pointed that there is a positive long-run relationship between domestic investment and economic growth in Mainland China. In Nigeria, Osinubi and Liloyd (2010) showed a positive long-run relationship between domestic investment and economic growth. This implies that growth of domestic investment contributes positively to economic growth. The finding is in support of Shahbaz *et al.* (2012), which found a positive long-run relationship between domestic investment and economic growth in Portugal. The net effect of domestic investment on economic growth is positive in the short-run.

Furthermore, the results of this current shows that there is no differences in the direction of the independent variables on economic growth between the all SADC member states and SADC without South Africa models. This implied that although that South Africa economy is the largest among the SADC member states, its policy as regard to trade should not have effect on the rest of the member states in economy. The results also show that in terms of the magnitudinal effect, for instance, the LFDI will reduced the economic growth by additional 0.01% when South Africa is excluded from SADC member states. In terms of LOPN, an increase of it, increases economic growth in all SADC member states model than SADC without South Africa model. This implies that South Africa plays a significance role in promoting trade in SADC in the long-run. In the short-run, LFDI increases the economic growth of SADC without South Africa by 0.01% more as compares to all SADC member states model. This is a sign that South Africa places some restrictions in order to protect domestic industries. The results entail that government participation plays a pivotal role in increasing the economic growth of SADC member states model more by 0.14% as compares to SADC without South Africa model via LDGP in the short-run. This implies that

government borrowing from private sector to undertake developmental projects increases economic growth more in all SADC member states more. It further shows that such projects have more positive effect on economic growth of SADC, only in short-run.

CONCLUSION WITH POLICY RECOMMENDATIONS

This paper used the ARDL bound approach to examine the relationship between some selected macroeconomic variables alongside FDI and economic growth in Southern African Development Community (SADC) from 1971-2011. The achievement of a sustainable economic growth has been seen as critical tool for economic development in SADC, as was noted by SADC secretariat. As such, it is a prerogative to prioritize policies based on macroeconomic needs, in other words macroeconomic goals. For this reason, the current paper has identified possible strategic policies that can help to achieve a sustainable economic growth, in an efficient way.

As the results indicate that FDI inflows have a negative effect on economic growth in the long-run and positive effect on economic growth in the short-run. This implies that policies that the government of SADC put in place toward attracting FDI has positive effect on SADC's economic growth only in the short-run. This paper recommends that the government of SADC should maintained policies that make the environment conducive for foreign investors to operate, without the fear of their business being taking away or other restrictive policies put in place. SADC secretariat should install policies that will encourage the foreign investors to reinvest their profits back to the economy and as well as encourage greenfield FDI investors. As such, FDI inflows increase will have positive effect on economic growth in the long-run.

Trade openness (OPN) has a significant positive relationship with economic growth in the long-run. This study recommends that SADC member states should take advantage of globalization to increase their participation in the global economy. The SADC member states government should put up policies and or strategies that encourage production of goods and services that are relatively cheap as compare to their trade partners. On the basis of aforementioned, this study recommends that the SADC member states should allow some of its capital investment to be managed by private sector and thereby receive rent from it. This approach will ensure the full utilisation of these facilities and hence contribute positively to economic growth in the long-run. The results depicted that the previous economic growth has a negative effect on the economic growth in the short-run. This implies that policies of economic growth is not a short-term policies. The paper recommends that for SADC to achieve a sustainable economic growth, policies of economic growth should target or made a long-term goal.

Although the results show that government size has a positive effect on economic growth in the short-run, this paper recommends that government should reduce their participation in the economy through privatising some of its activities. They should encourage a private driven economy in which in the long-run will contribute positive in sustainable growth. The government as notified by neoclassical school of thought, that is, they should engage in the provision of basic services that cannot be provided by the private sector. But in such provisions, they should sub-contract the private sector to assist in providing it.

The positive relationship of foreign direct investment and domestic investment with economic growth is associated with government policies that encourage citizens' empowerment and employment creation. This paper therefore recommends that policy makers in SADC member states should revisit those policies and see how it can contribute positively in the long-run as it would in the short-run. It is evident from the results of this paper that there is no differences in the direction of the explanatory variables between the all SADC member states and SADC without South Africa models. However, there are slight difference in the magnidinal effect, which is an evidence of some restrictive policies that South African government has place to promote the growth of its domestic industries. The restrictive policies can only be adopted by industrialise economy and this paper recommends that none of these member states should adopt such policies now if they need to grow. This recommendation is guided by the theory of comparative advantage.

References

- Ahmad, N., Hayat, M. F., Luqman1, M. & Ullah, S. (2012), The causal links between foreign direct investment and economic growth in Pakistan. *European Journal of Business and Economics*, 6, 20-21.
- Baharom, A.H., Muzafar, S. H. & Royfaizal, R. C. (2008), The relationship between trade openness, foreign direct investment and growth: Case of Malaysia. Online at <http://mpr.ub.uni-muenchen.de/11928/> MPRA paper No. 11928.
- Bajo-Rubio, O. (2000), A further generalization of the Solow growth model: the role of the public sector, *Economic Letters*, 68, 79-84.
- Balasubramanyam, V.N., Salisu, M., & Sapsford, D. (1996), 'Foreign direct investment and growth in EP and IS countries', *Economic Journal*, 106: 92-105.
- Blattman, C. & Miguel (2010), Civil war. *Journal of Economic Literature*, 88(48), 3-57.
- Blomström, M., Lipsey, R. E., & Zejan, M. (1994), "What explains developing country growth", NBER Working Paper No. 4132.
- Borenztein, E. J., De Gregorio, J., & Lee, J.W. (1998), 'How does foreign direct investment affect economic growth', *Journal of International Economics*, 45, 115-135.
- Bos H., Sanders, M., & Secchi C. (1974), *Private Foreign Investment in Developing Countries: A Quantitative Study on Macro-Economic Effects*, D. Riedel Publishing.

- Brouthers, K.D., & Bamossy, G.J. (1997), The Role of Key Stakeholders in International Joint Venture Negotiations: Cases Studies from Business Studies, 2, 285-297.
- Campos, N. F., & Kinoshita, Y. (2002), "Foreign Direct Investment as Technology Transferred: Some panel Evidence from the Transition Economies, *Centre for Economic Policy Research. Discussion Paper No 3417*. Paper also available at www.cepr.org/pubs/dps/DP3417.asp.
- Chakraborty, D., & Mukherjee, J. (2012), Is There Any Relationship Between Foreign Direct Investment, Domestic Investment and Economic Growth in India? A Time Series Analysis. *Review of Market Integration*, 4(3), 309-337.
- Chan, K. S., & Dang, V. Q. T. (2010), Multilateral trade and export-led growth in the world economy: Some post-war evidence. *Empirical Economics*, 38(3), 689-703.
- Constant, N. B. S., & Yaoxing, Y. (2010), The Relationship between Foreign Direct Investment, Trade Openness and Growth in Cote d'Ivoire. *International Journal of Business and Management* 5(7), 99-106.
- De Mello, Luiz R & Jr. (1997), Foreign Direct Investment in Developing Countries and Growth: A Selective Survey. *The Journal of Development Studies* 34: 1, 1-34.
- De Mello, L., & Jr. (1999), Foreign Direct Investment-led Growth: Evidence from Time Series and Panel Data. *Oxford Economic Paper* 51, 133-151.
- Dunning, J. H. (1988), "The Eclectic Paradigm of International Production: A Restatement and Some Possible Extensions." *Journal of International Business Studies* 19 (1), 1-31.
- Engle, R. F., & Granger, C. W. J. (1987), Co-Integration and Error Correction: Representation, Estimation, and Testing. *Econometrica*, 55(2), 251-276.
- Esso, L. J., (2010), Long-Run Relationship and Causality between Foreign Direct Investment and Growth: Evidence from Ten African Countries. *International Journal of Economics and Finance*, 2(2), 168-176.
- Folster, S., & Henrekson, M. (2001), Growth effects of Government Expenditure and Taxation in rich countries. *European Economic Review*, 45(8), 1501-1520.
- Friedman, B., M. (2005), The Moral Consequences of Economic Growth. *International Economy*, 40-45.
- Harris, R. & Sollis, R. (2003), *Applied Time Series Modelling and Forecasting*. Wiley, West Sussex.
- Hooley, G., Cox, T., Shipley, D., Fahy, J., Beracs, J., & Kolos, K. (1996), Foreign Direct Investment in Hungary: Resource Acquisition and Domestic Competitive Advantage, *Journal of International Business Studies*, 4, 683-709.
- Johansen, S., & Juselius, K. (1990), "Maximum Likelihood Estimation and Inference on Cointegration with Applications to the Demand for Money", *Oxford Bulletin of Economics and Statistics*, 52:169-210.
- Landau, D. (1983), Government expenditure and economic growth. A cross - country study, *Southern Economic Journal*, 49:783 - 792.
- Lewis, D. (1995), Infrastructure and Economic Growth. In *Infrastructure and Competitiveness*, ed. J. Mintz. Kingston: John Deutsch Institute, Queen's University.

- Lipsey, R. E. (2000), Inward FDI and economic growth in developing countries *Transnational Corporations*, 9: 61-95.
- Liu, L. (2011), FDI and Economic Development: Evidence from Mainland China. *Journal of Service Science and Management*, 4, 419-427.
- Moosa, I. A., & Cardak, B. A. (2006), "The determinants of foreign direct investment: An extreme bounds analysis." *Journal of Multinational Financial Management*, 16: 199-211.
- Mupimpila, C. & Okurut, F N. (2012), Determinants of Foreign Direct Investment in the Southern African Development Community (SADC), *Botswana Journal of Economics*, 9 (13), 57-70.
- Pesaran, M. H., Shin Y. (1999), An autoregressive distributed lag modelling approach to cointegration analysis. Chapter 11 in *Econometrics and Economic Theory in the 20th Century: The Ragnar Frisch Centennial Symposium*, Strom S (ed.). Cambridge University Press: Cambridge.
- Pesaran, M., Shin, Y., & Smith, R. (2001), "Bounds Testing Approaches to the Analysis of Level Relationships", *Journal of Applied Econometrics* 16, 289-326.
- Sen, A. (1999), *Development As Freedom*, Oxford: Oxford University Press.
- Shahbaz, M., Mutascu, M., & Tiwari, A. K. (2012), Revisiting the relationship between electricity consumption, capital and economic growth: cointegration and causality analysis in Romania. *Romanian Journal of Economic Forecasting*, 3, 97-120.
- Solow, Robert (1956), A Contribution to the Theory of Economic Growth," *Quarterly Journal of Economics*, 70: 65-94.
- Southern Africa Development Community (SADC, 2014), "Towards A Common Future" Retrieved on May 8, 2015, from <http://www.sadc.int/member-states>.
- Yusoff, M. B., & Nuh, R. (2015), Foreign Direct Investment, Trade Openness and Economic Growth: Empirical Evidence from Thailand. *Foreign Trade Review*, 50(2), 73-84.