



*International Journal of Development and Sustainability*

ISSN: 2186-8662 – [www.isdsnet.com/ijds](http://www.isdsnet.com/ijds)

Volume 11 Number 10 (2022): Pages 327-347

ISDS Article ID: IJDS22080101



# Financial integration and economic growth: Long run, short run and causality relationships

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## Abstract

Modern national economic structures are becoming more open and integrated with neighboring, regional and international economies. The study examines the relationship between financial integration and economic growth as well the causal effects, focusing on the Southern African Development Community (SADC). The study used panel data covering the period 1980 to 2019. It employed the Autoregressive Distributed Lag (ARDL) Bounds and the Toda and Yamamoto and Dolado and Lütkepohl (TYDL) models to examine the relationship and the direction of causality respectively. Financial integration spurs economic growth only in the long run. The analysis reveals long run positive relationships between foreign direct investment net inflow, trade openness and real interest rate with economic growth whilst net foreign assets have a significant negative relationship with economic growth. The impact of financial integration, especially through foreign direct inflow, depends on the absorptive capacity of the host nation. Financial integration triggers economic growth for the low-income countries and it is economic growth that causes financial integration for the middle-income countries.

**Keywords:** Economic growth; Financial integration; Causality; Cointegration; ARDL; SADC

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**Cite this article as:** Chiwira, O. (2022), “Financial integration and economic growth: Long run, short run and causality relationships”, *International Journal of Development and Sustainability*, Vol. 11 No. 10, pp. 327-347.

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## 1. Introduction

The predominant objective of the Southern African Development Community (SADC), as stated in the SADC Treaty (1992), is to achieve sustainable economic growth, alleviate poverty and enhance standard and quality of living to all. Economic growth has been observed as the panacea towards poverty eradication and attainment of prosperity (SADC, 1992; Jones and Manuelli, 2005). In its quest to developing diversified sources of economic growth, SADC developed the Protocol on Finance and Investment (2006), thus embracing the fundamental role played by the financial sector in promoting economic growth.

The literature has varied definitions of financial integration. Baele et al. (2007), define financial integration with respect to markets for financial instruments and state that integration is achieved when market participants have equal characteristics. Equality is depicted in terms of the same level of accessibility by member states to financial services offered in the SADC countries, similar rules of trading of the financial instruments in the regions, and no segregation for players in the region.

The definition by Baele et al. (2007), has been challenged by other researchers (e.g., Xing and Abbott, 2007) who argue that it should never be too explicit. It should rather imply a circumstance where a given country's financial market is unified with any given group of other countries such as the SADC region (Xing and Abbott, 2007). Consequently, integration is proven by noticeable amounts of foreign direct capital inflows into a given country, with financial returns and prices in integrating partners converging (Yang, 2012).

The most difficult part of the definition of financial integration has been failure by researchers to reach a consensus on how to measure the degree of integration (Kraay, 1998). There are two commonly used proxies from a variety of potential measurements (Agenor, 2003; Yang, 2012). One measurement focuses on openness of capital flows into a country, while the other considers the real movement of capital flows. The former is prescribed by the International Monetary Fund (IMF) and commonly uses openness measurements based on the Chinn-Ito Index, which is an indicator of a given country's restrictions on foreign financial transactions (Naceur et al., 2017). This study uses both proxies to ameliorate the weaknesses in individual measurements. For instance, the Chinn-Ito Index is a good indicator of government restrictions on capital flow, but poor measure of integration magnitude. On the other hand, the actual movement of capital flows is a better proxy for countries that appear to have substantial restrictions, yet they have abundant volumes of capital movements.

The need to incorporate financial integration is attached to the affirmation that modern national economic structures are becoming more open and integrated with neighboring, regional and international economies. Therefore, an economic analysis that excludes the integrating forces of financial markets on the international front may not portray a complete picture of the extent to which a financial sector of a country is developed (Lawal et al., 2016; Malefane and Odhiambo, 2018). The extent to which financial markets are integrated regionally has become a major research theme amongst academia (Orlowski, 2020). Inopportunately, there appears to be no precise answer on the degree to which the SADC financial markets are integrated. This study is a step in this direction. On this basis, the current study embraces financial integration as one of the key components of financial and economic development in the SADC region.

The signing of the African Continental Free Trade Area (AfCFTA), the Kigali Declaration and the Free Movement of People Protocol at the 10th Extraordinary Summit of the African Union (AU) Assembly of Heads of State and Government on 21st March 2018, in the Republic of Rwanda in Kigali, is a clear indication of the

potential role played by economic integration. Economic integration is a priority issue as well in SADC (SADC Industrial Development Policy Framework, 2015 and SADC Regional Indicative Development Plan, 2003). The SADC Regional Indicative Development Plan (2003) drives the regional integration agenda of the block as the implementation framework guide over the period 2005 to 2020. It also provides a clear direction with respect to SADC programmes or Common Agenda and Strategic Priorities. These Common Agenda and Strategic Priorities are enshrined in the 1992 SADC Treaty. The 1992 SADC Treaty main mandate is to deepen the integration agenda (AllAfrica.com, 2015).

The main objective of the current study is to ascertain whether financial integration is a fundamental ingredient in achieving greater economic growth in SADC. The specific objectives are to examine the relationship between financial integration and economic growth as well as to explore the direction of causal effects between financial integration and economic growth.

The paper consists of six (6) sections. Section 1 provides background and motivation of the study. Section 2 gives a general and country-specific financial integration review of the SADC experience. Section 3 covers a review of related literature. Section 4 outlines the econometric modeling, description of financial inclusion and economic growth. Section 5 presents empirical findings and analysis of results. Section 6 summaries and concludes the main findings of the study. It further details the recommendations, policy implications.

## 2. Financial integration trends in SADC

The financial integration process is defined in the SADC Industrial Development Policy Framework (SADC, 2015). The pressure to adopt financial liberalisation policies from external bodies such as the World Bank and the IMF, and integration efforts, are further helping SADC to move towards full financial integration (Batuo et al., 2017; Edison et al., 2002). Today, SADC boasts of significant international financial institutions which have actually established themselves in the region as shown in Table 1. Despite the efforts being made by the SADC countries, there is concern about the speed of integration and financial openness mainly due to member countries belonging to several sub-regional organisations that may have conflicting interests (Malefane and Odhiambo, 2018). It could be asked whether this challenge could have any impact on economic growth. This current study adds value in providing possible answers to this question.

The equity market of the SADC is more integrated compared to some developed and even developing countries as shown in Table 1. SADC received more Foreign Direct Investment (FDI) when comparing periods 1980-2005 and 2006 - 2019 than other regions and blocks as shown in Table 2. The main contributing economies were Mozambique and Seychelles which attracted FDI of 19.81% from 1.88% and 17.23 from 6.82% respectively.

Given that economic performance of these regions and blocks is higher than that of SADC yet SADC has higher levels of FDI, the role of FDI on economic growth is worth investing. Although there was a significant improvement when considering the selected integration indicators of FDI and External Debt, SADC recorded the lowest CHINN-ITO index compared to some regions and blocks. The CHINN-ITO index, a De jure financial integration variable, measures the intensity of financial capital controls (Chinn and Ito, 2006, 2008, 2019). The CHINN-ITO index ranges between 0 (-2.5) (closed capital markets) and 1 (2.5) (totally open capital markets).

**Table 1.** Selected Financial Integration Indicators, 1980 - 2019

	<b>Foreign bank assets among total bank assets (%)</b>	<b>Gross portfolio equity liabilities to GDP (%)</b>	<b>Gross portfolio equity assets to GDP (%)</b>	<b>Gross portfolio debt liabilities to GDP (%)</b>	<b>Gross portfolio debt assets to GDP (%)</b>
<b>Angola</b>	52.50	0.07	7.32	0.30	0.11
<b>Botswana</b>	87.38	0.69	20.30	2.38	5.07
<b>Democratic Republic of Congo</b>	61.86				
<b>Lesotho</b>					
<b>Madagascar</b>	100.00				
<b>Malawi</b>	30.50	0.09	0.00	0.08	
<b>Mauritius</b>	64.75	110.38	4.58	148.14	43.81
<b>Mozambique</b>	98.00	0.01	0.04	1.64	0.65
<b>Namibia</b>	53.88	0.11	28.03	3.27	19.78
<b>Seychelles</b>	62.57	3.72	74.29	12.79	12.06
<b>South Africa</b>	22.63	34.03	33.53	12.39	2.41
<b>Eswatini</b>	83.88	0.18	14.04		5.16
<b>Tanzania</b>	57.63	0.08		0.08	0.01
<b>Zambia</b>	94.13	0.33	0.39	2.53	
<b>Zimbabwe</b>	39.75				
<b>SADC</b>	66.04	14.34	17.11	17.72	8.71
<b>East Asia and Pacific</b>		7.61	1.57	7.58	2.65
<b>Latin America and Caribbean</b>		1.19	0.27	9.29	2.18
<b>Middle East and North Africa</b>		3.80	0.32	2.72	0.88
<b>SSA</b>		0.33	0.65	1.58	2.50
<b>Euro Area</b>		16.75	17.97	62.21	50.13

Source: Global Financial Development (World Bank, 2021) and author's calculations

**Table 2.** Selected economic integration indicators

	FDI (% of GDP)		External Debt (% of GNI)		CHINN-ITO Index	
	1980-2005	2006-2019	1980-2005	2006-2019	1980-2005	2006-2019
<b>Angola</b>	8.785366	-0.46163	144.8007	23.95967	0.127459	0.01657
<b>Botswana</b>	2.779443	3.883488	15.87477	12.2822	0.420001	1
<b>Democratic Republic of Congo</b>	0.528676	7.002637	170.8799	44.06012	0.17094	0.165697
<b>Lesotho</b>	6.673705	2.628495	44.25335	32.21723	0.235966	0.165697
<b>Madagascar</b>	0.568306	8.21242	107.5231	29.50091	0.251826	0.364804
<b>Malawi</b>	0.958926	4.575913	105.9657	21.65645	0.175267	0.049709
<b>Mauritius</b>	0.822006	3.28703	<b>33.84446</b>	<b>61.29887</b>	0.422957	0.848993
<b>Mozambique</b>	<b>1.8811</b>	<b>19.80629</b>	138.461	42.89498	0.11967	0.165697
<b>Namibia</b>	2.132289	6.990233			0.151889	0.165697
<b>Seychelles</b>	<b>6.815024</b>	<b>17.23129</b>			0.815776	0.875421
<b>South Africa</b>	0.658851	1.597343	<b>19.6648</b>	<b>32.15177</b>	0.124304	0.165697
<b>Eswatini</b>	3.977179	1.866075	19.86487	13.58972	0.306069	0.165697
<b>Tanzania</b>	2.282541	4.051121	107.7084	27.78488	0.172914	0.165697
<b>Zambia</b>	3.399972	6.458816	185.6236	25.06907	0.405994	1
<b>Zimbabwe</b>	0.584547	1.894067	<b>52.70217</b>	<b>84.76544</b>	0.067785	0.215514
<b>SADC</b>	2.856529	5.934906	88.24361	34.7101	0.264588	0.368726
<b>EU</b>	1.897324	4.648325				
<b>East Asia and Pacific</b>	0.92409	2.722746				
<b>Latin America and Caribbean</b>	1.879923	4.46531				
<b>Middle East and North Africa</b>	1.066021	3.151115				
<b>SSA</b>	1.359192	2.786187				

Source: World Development Indicators (World Bank, 2021) and author's calculations

### 3. Literature review

There has been a plethora of literature (see Malefane and Odhiambo, 2018; Egbetunde and Akinlo, 2014; Osada and Saito, 2010; Grilli and Milesi-Ferretti, 1995) over the years on the nexus between economic growth and financial integration. It is evident from the empirical literature review under this section that mixed and inconclusive results are obtained across countries, regions, and time.

The study by Malefane and Odhiambo (2018) concludes that financial integration has a positive effect on economic growth. The study used South Africa data covering 1975-2014 and employed the ARDL method. Financial integration is proxied by trade openness ratio, export openness ratio, imports openness ratio and the trade openness index. The mentioned study also postulates that country size augments trade openness for

economic growth to be realised, though not significant. This study thus categorised SADC countries according to economic size (SADC low-income countries and SADC middle income countries) so as to ascertain its influence on economic growth. The same results are obtained by Ridzuan et al. (2018), using panel data for five Asian countries covering the period 1970-2013 and applying the ARDL method. Using FDI as proxy for financial integration, the study ascertains that though FDI positively affects economic growth as measured by real GDP per capita, its effect is less than that of the gross domestic investment. Using panel data for African countries and making use of the dynamic panel GMM method, Adu (2013) and Mougani (2012) assert the positive relation between financial integration and economic growth. Adu (2013) uses portfolio equity flows whilst Mougani (2012) uses net private capital inflow and net FDI inflow as proxies for financial integration. However, Chen and Quang (2014), though supporting the positive linkage between financial integration and economic growth, ascertain that for this linkage to be prevalent, certain thresholds should be satisfied. Using panel data for 80 countries made of 23 industrial, 20 emerging and 37 other developing economies, the study concludes that for financial integration to be growth enhancing, certain threshold conditions regarding level of economic growth, institutional and financial development as well as inflation level should be satisfied. The same results were also obtained by Mohamed (2020), who investigated the long run relationship between financial depth, FDI and economic growth in a sample of 5 FDI-receiving North African Countries (NACs) over the period 1980-2018. The study used both fixed effects and random effects models.

Of the studies reviewed, only a few negate the positive role played by financial integration on economic development. Some studies report mixed results depending on the proxy used for financial integration (Debbiche, 2020) as well as the income level of the country (Tekin, 2021). Egbetunde and Akinlo (2014), postulate that financial integration, proxied by FDI, has a negative effect on economic growth. Their study used data covering the period 1980-2010 for 21 sub-Sahara African counties employing the dynamic panel system, referred to as the GMM model. Using the same method and the data for 70 countries (20 developed and 50 developing countries), Khadraoui (2011) ascertains that financial integration worsens macroeconomic volatility according to the level of financial development. This implies that the impact of financial integration on economic growth is dependent on the level of financial development. Mixed results were obtained in the study by Osada and Saito (2010) using data for 83 countries (West Europe and North America, Asia, Central and South America and Africa) covering the period 1974-2007. The study concludes that FDI and equity liabilities are positively related to economic growth and finds a negative relationship between debt liabilities and economic growth. It further reveals a weak negative relationship between FDI, equity assets and economic growth and a weak positive relationship between external assets and economic growth. The finding is similar to the studies of Khadraoui (2011) and Osada and Saito (2010) which concluded that financial integration had a more favourable impact on countries with solid institutions and well-established financial systems.

Adhikary (2011), using Bangladesh data covering the period 1986-2008, postulates that financial integration causes economic growth. Unidirectional causality from FDI to economic growth was established in this study. This is in line with the findings by Tang et al. (2008), that uses data covering the period 1988-2003 for China. Both studies used the VAR system with ECM, Variance Decomposition, and Impulse Response analysis models and FDI is used as proxy of financial integration. Tang et al. (2008), however further conclude that causality from FDI to economic growth is through domestic investment. Thus, FDI contributes to economic growth through domestic investment as well as the leveled financial development (Manucheher, 2021). The study by Njoku and Chiwira (2017) established two-way causality between financial integration and economic

growth for the 15 SADC countries using panel data covering the period 1971-2012. The study used the modified Toda and Yamamoto (1995) and the Dolado and Lutkepohl (1996) (TYDL) tests.

### 4. Methodology

The study used a panel regression method. The Fisher ( $\tilde{n}_e$ ) panel unit root test by Maddala and Wu (1999) was used to examine the null hypothesis of non-stationarity against alternative hypothesis that the series was stationary. After the unit roots test in the series were examined, the autoregressive distributed lag bounds testing approach were specified. The ARDL technique was used to test for both the long-run and short-run relationships between financial integration, and economic growth in SADC region.

#### 4.1. ARDL bounds testing method

The study used the ARDL bounds test technique which was first introduced by Pesaran and Shin (1999) and was later extended by Pesaran et al. (2001), for undertaking co-integration test. The ARDL bounds technique has numerous advantages over other co-integration techniques such as Johansen and Juselius (1992) and Engle and Granger (1987). The Johansen and Juselius (1992) co-integration techniques is contingent on the strict supposition that all the variables in the test must be stationary after first differencing, that is, all the variables must be I(1) variables. The condition of the I(1) variables make the estimate of the co-integration test subject to biases. The ARDL bound testing approach is also relatively more efficient in either small or large sample sizes compared to other co-integration techniques. The ARDL bounds test technique also yields unbiased result, even in the presence of endogeneity (Harris and Sollis, 2003).

The ARDL bound testing for financial Integration (FI) and economic growth (Y) along with other variables (Z) was specified as follows:

$$\ln FI_{it} = \hat{a}_0 + \hat{a}_1 \ln FI_{i,t-1} + \hat{a}_2 \ln Y_{i,t-1} + \hat{a}_3 \ln Z_{i,t-1} + \sum_{j=1}^p \hat{a}_{1j} \Delta \ln FI_{i,t-j} + \sum_{j=0}^{q_1} \hat{a}_{2j} \Delta \ln Y_{i,t-j} + \sum_{j=0}^{q_2} \hat{a}_{3j} \Delta \ln Z_{i,t-j} + \delta_{it} \tag{1}$$

$$\Delta \ln Y_{it} = \hat{o}_0 + \hat{o}_1 \ln Y_{i,t-1} + \hat{o}_2 \ln FI_{i,t-1} + \hat{o}_3 \ln Z_{i,t-1} + \sum_{j=1}^p \hat{o}_{1j} \Delta \ln Y_{i,t-j} + \sum_{j=0}^{q_1} \hat{o}_{2j} \Delta \ln FI_{i,t-j} + \sum_{j=0}^{q_2} \hat{o}_{3j} \Delta \ln Z_{i,t-j} + \vartheta_{it} \tag{2}$$

Where.  $\hat{a}_0$  and  $\hat{o}_0$  are intercepts in equations (1 and 2).  $\delta_{it}$  and  $\vartheta_{it}$  are the error terms for  $\hat{a}_1, \hat{a}_2, \hat{a}_3; \hat{o}_1, \hat{o}_2, \hat{o}_3$  which are related to the long-run coefficients,  $\Delta$  is the first-difference operator and  $p$ 's and  $q$ 's are optimal lag length. It means that the models can either take the same or different lag length for the variables. The  $Z$ 's variables include other variables.

The long-run ARDL coefficients are obtained by estimating equations 3 and 4.

$$\ln FI_{it} = \hat{a}_0 + \sum_{j=1}^p \hat{a}_{1j} \ln FI_{i,t-j} + \sum_{j=0}^{q_1} \hat{a}_{2j} \ln Y_{i,t-j} + \sum_{j=0}^{q_2} \hat{a}_{3j} \ln Z_{i,t-j} + \delta_{it} \tag{3}$$

$$\ln Y_{it} = \phi_0 + \sum_{j=1}^p \phi_{1j} \ln Y_{i,t-j} + \sum_{j=0}^{q_1} \phi_{2j} \ln FI_{i,t-j} + \sum_{j=0}^{q_2} \phi_{3j} \ln Z_{i,t-j} + \vartheta_{it} \quad (4)$$

The short-run dynamic parameters are obtained by estimating the error-correction-models specified as;

$$\Delta \ln FI_{it} = \delta + \sum_{j=1}^p \hat{\alpha}_{1j} \Delta \ln FI_{i,t-j} + \sum_{j=0}^{q_1} \hat{\alpha}_{2j} \Delta \ln Y_{i,t-j} + \sum_{j=0}^{q_{2i}} \hat{\alpha}_{3j} \Delta \ln Z_{i,t-j} + \ddot{e} ECM_{i,t-1} + \ddot{\theta}_{it} \quad (5)$$

$$\Delta \ln Y_{it} = \delta + \sum_{j=1}^p \hat{\alpha}_{1j} \Delta \ln Y_{i,t-j} + \sum_{j=0}^{q_1} \hat{\alpha}_{2j} \Delta \ln FI_{i,t-j} + \sum_{j=0}^{q_{2i}} \hat{\alpha}_{3j} \Delta \ln Z_{i,t-j} + \partial ECM_{i,t-1} + \ddot{\theta}_{it} \quad (6)$$

In equations 5 and 6,  $\hat{\alpha}_i$ s and  $\hat{\theta}_i$ s are short-run dynamic coefficients of the model and  $\ddot{e}$  and  $\partial$  are associated with error-correction terms lagged once ( $ECM_{t-1}$ ) for financial integration, and economic growth models, respectively.

The next section presents the Toda and Yamamoto (1995) and Dolado and Lütkepohl (1996) (hence, TYDL) test for causality.

#### 4.2. Multivariate TYDL test for causality

Toda and Yamamoto (1995), Zapata and Rambaldi (1997) and Gujarati (1995) argued that the use of F-statistic for the causality test in Vector Error-Correction Model (VECM) and Error-Correction Model (ECM) are not valid if variables were integrated and co-integrated. Due to the problems associated with VECM, ECM and VAR models, the current study adopted a more flexible and efficient Granger causality test developed by Toda and Yamamoto (1995) and Dolado and Lütkepohl (1996).

The TYDL model for financial integration (FI), economic growth (Y) along with other variables (Z) is specified as follows:

$$\ln FI_{it} = \hat{\alpha}_{10} + \sum_{j=1}^k \hat{\alpha}_{11j} \ln FI_{i,t-j} + \sum_{j=1}^k \hat{\alpha}_{12j} \ln Y_{i,t-j} + \sum_{j=1}^k \hat{\alpha}_{13j} \ln Z_{i,t-j} + \sum_{j=k+1}^{k+dmax} \hat{\alpha}_{11j} \ln FI_{i,t-j} + \sum_{j=k+1}^{k+dmax} \hat{\alpha}_{12j} \ln Y_{i,t-j} + \sum_{j=k+1}^{k+dmax} \hat{\alpha}_{13j} \ln Z_{i,t-j} + \hat{\lambda}_{1i,t} \quad (7)$$

$$\ln Y_{it} = \hat{\alpha}_{20} + \sum_{j=1}^k \hat{\alpha}_{21j} \ln Y_{i,t-j} + \sum_{j=1}^k \hat{\alpha}_{22j} \ln FI_{i,t-j} + \sum_{j=1}^k \hat{\alpha}_{23j} \ln Z_{i,t-j} + \sum_{j=k+1}^{k+dmax} \hat{\alpha}_{21j} \ln Y_{i,t-j} + \sum_{j=k+1}^{k+dmax} \hat{\alpha}_{22j} \ln FI_{i,t-j} + \sum_{j=k+1}^{k+dmax} \hat{\alpha}_{23j} \ln Z_{i,t-j} + \hat{\lambda}_{4i,t} \quad (8)$$



The TYDL technique uses a modified Wald statistic in testing for the significance of the parameters of a VAR model. The modified Wald statistic is valid regardless of whether the variables are  $I(0)$ ,  $I(1)$ , fractional co-integrated, co-integrated or not-co-integrated.

### 4.3. Data and variable description

The study considered all the 15 SADC member states for the period from 1980 to 2019. Most SADC countries embraced the IMF Economic Structural Adjustment Programmes around the year 1980, hence the sample period starting from 1980. Data for most of the countries in SADC ended up to 2019, hence 1980 to 2019.

Economic growth was proxied by Real Gross Domestic Product growth rate (RGDP) in order to control for inflation terms of the countries in the sample and obtain more superior estimations (Ariuna and Gibson, 2016; Altaee and Ai-Jafari, 2015; Araç and Özcan, 2014).

Financial integration was proxied by an index of de jure and de facto determinants as well as government effectiveness (GEF) and rule of law (ROL) indexes. De jure variable is proxied by the CHINN-ITO index. De facto variables include 4 indicators: 1. The Gross Financial Globalization (GFG) was defined as the sum of total foreign assets and total foreign liabilities as a percentage of GDP. This measure has the advantage that it captures risk-sharing benefits of financial integration. 2. Foreign Direct Investment (FDI) as a percentage of GDP. 3. External Debt (EXD) as a percentage of GDP. 4. Difference between foreign assets and foreign liabilities (NFA) as a percentage of GDP. These four variables were also considered by Egbetunde and Akinlo (2014). Annexure 1 presents variables descriptions and the expected signs.

Data were obtained from the World Bank's World Development Indicators (WDI).

## 5. Empirical results and analysis

### 5.1. ADF-Fisher panel unit root test

The ADF-Fisher panel unit root test by Maddala and Wu (1999) is used to examine the null hypothesis of non-stationarity in levels against alternative hypothesis that the series is stationary in levels. The result shows mixed order of integration,  $I(0)$  and  $I(1)$ , for economic growth, financial integration and control variables. The mixed order of integration justifies the use of the ARDL model.

The next section presents the ARDL test for co-integration to check for both the long-run and short-run relationship between economic growth and financial inclusion variables.

### 5.2. ARDL bounds test approach

Table 3 gives the empirical results of the ARDL bounds test for co-integration whilst Table 4 gives the estimated short-run and long-run coefficients. The respective diagnostic tests are presented in both tables.

The results indicate that the computed F-statistics, using the Wald test, are greater than the upper critical bound at the 5% level of significance for both models and all categories. Thus, there is evidence for the existence of a long-run relationship between economic growth and financial integration along with some selected macroeconomic variables.





Table 4, Panel A shows the long-run results while Panel B gives the short-run results. Model 1 shows that in all SADC Countries, foreign direct investment net inflow has a statistically negative significant relationship with economic growth in the short run, -0.028099. However, in the long run, foreign direct investment net inflow (FDINI) and real interest rate (RIR) have positive and statistically significant effects on economic growth, 0.095159 and 0.190579 respectively. This result is comparable to the findings by Ridzuan et al. (2018) that entry of foreign banks and privatisation of state-owned banks reduce transaction cost and increase credit availability. The resultant improved efficiency of the banking sector spurs economic growth (Prasad et al., 2003; Prasad et al., 2007). Thus, rather than crowding out domestic investment, the results suggest that FDI is complementary, and assists in overcoming shortages of capital in SADC. The result concurs with the study by Tang et al. (2008) in China for the period 1988-2003. It should be noted however that the short run negative significant effect of FDI suggests that there exists repatriated capital flight in SADC countries which is detrimental to economic growth. Positive real interest rates encourage foreign investors, and thus capital flows, which in turn improves economic growth in SADC. As expected, NFA has a statistically significant positive relationship with economic growth in the short run, 0.232178. The result is in line with observations by Chia et al. (2014) that accumulation of net foreign assets is associated with increased consumption and ultimately economic growth. In contrast, trade openness, though insignificant, shows a negative effect on economic growth in the long run. This could suggest high levels of imports and depreciating exchange rates which have created negative trade balance positions in most of SADC countries.

Considering SADC Low Income Countries, in the short run financial integration, when proxied by DIJURE, statistically and negatively affects economic growth as indicated by a negative and statistically significant coefficient, -2.752162. The result is in line with the findings by Egbetunde and Akinlo, (2015) which show that poor institutional quality (captured by the CHINN-ITO index presented as DIJURE) negatively affects economic growth in the short run. The CHINN-ITO index measures the intensity of financial capital controls, in so far as that intensity is connected with the existence of other restrictions on international transactions as well as restrictions on the balance of payments financial account. The results suggest that in SADC low-income countries, absence of sound institutional frameworks and market failures such as incomplete financial markets result in sub-optimal capital allocation leading to capital moving from capital-poor to capital-abundant economies (the "Lucas paradox"; Lucas, 1990). However, if corrected (through revision of policies that facilitate cross border capital movements), it has potential of contributing to economic growth as evidenced by the positive significant coefficient of DIJURE in the long run, 1.890440 (Quinn and Toyoda, 2008). The effect of trade openness (TOP) on economic growth is positive and statistically significant. This implies that trade openness promotes economic advancements in SADC low-income countries in the short run, but its effect diminishes in the long run evidenced by statistically insignificant positive coefficient. The result corroborates with the findings by Malefane and Odhiambo (2018) where TOP is only significant in the short run for South Africa and insignificant in the long run. GFCF has a positive and statistically significant effect on economic growth in the long run. This suggests that the impact of financial integration on economic growth is through GFCF in the long run for SADC low-income countries. Consumer Price Index (CPI) has a negative effect on economic growth. Thus, macroeconomic instability negatively affects economic growth. The long run negative effect of FDI, though insignificant, suggests that there exists repatriated capital flight, inefficient capital allocation or implying a contagion risk detrimental to economic growth (Khadraoui, 2011; Chiwira and Tadu, 2013). This could also be caused by Multinational-Corporations (MNCs) advancing monopoly power over local industries (Gardiner, 2000; Egbetunde and Akinlo, 2014) or lack of absorptive capacity of the host nations

(SADC low-income countries), a pre-requisite condition for accelerated domestic capital formation (Arrow, 1962; Trevino, 2003; Lumbila, 2005).

Considering SADC Middle Income Countries, like for all SADC countries, financial integration only statistically affects economic growth in the long run. As expected, the effect of real interest rate (RIR) and TOP on economic growth is positive and statistically significant. The result is the same as that of SADC low-income countries. Net foreign assets (NFA) negatively affect economic growth. Though inflows offer local banks the opportunity to grow lending faster than domestic savings, strong conversions of capital inflows into domestic debt may fuel a challenge of financial fragility with the risk of leverage-driven booms (Gourinchas and Obstfeld, 2012).

Model 2 shows that in all SADC Countries, as expected, economic growth has a positive and statistically significant effect on financial integration (FDINI) only in the short run, 1.139971 but the effect diminishes in the long run. This is in line with the findings by Njoku and Chiwira (2017). In the short run, CPI supports financial integration. This could be because in boom state, inflation will be increasing, and as inflation goes up, interest rates will rise, hence attracting FDINI. However, in the long run, the effect of CPI on financial integration is negative and statistically significant. RIR has negative and statistically significant effect on financial integration in the long run. In the long run, Rule of Law (ROL) has a positive and statistically significant effect on financial integration, 0.934639.

Like the All SADC Countries, CPI statistically and negatively affects financial integration, and the effect of economic growth on financial integration is positive and statistically significant in the long run for SADC low-income countries. TOT promotes financial integration in the long run.

SADC Middle Income Countries have more or less the same type of statistical relationship between economic growth and financial integration compared with all SADC countries. There is a negative and statistically significant relationship between RIR and financial integration in the long run, -1.847825, as well as a positive and statistically significant relationship between economic growth and financial integration in the short run, 1.345548. ROL has a positive and statistically significant effect on FDINI in the long run. On the other hand, the CPI has a positive and statistically significantly effect on financial integration in the short run, 1.670892, and a negative and statistically significant relationship with financial integration in the long run. This suggests the existence of an inflation threshold rate, beyond which, inflation will be detrimental to financial integration.

### 5.3. Causality test: TYDL granger causality approach

Table 5 shows direct and indirect causalities between financial integration and economic growth, including some control variables. The results are for all SADC countries including both SADC low-income countries and SADC income countries.

Granger causality tests between economic growth and financial integration showed mixed results for ALL SADC countries. There was bidirectional causality between RIR and economic growth, TOP and economic growth as well as GEXP and economic growth. The findings showed that a unidirectional causality from NFA to economic growth is realised. In SADC low-income countries, financial integration measured by FDNI, NFA and DIJURE granger causes economic growth (Malefane and Odhiambo, 2018). There was also a unidirectional causality from economic growth to RIR. Furthermore, there was a unidirectional causality from RIR to

economic growth for SADC middle income countries. NFAF granger cause economic growth. Economic growth granger cause TOP and GEXP. Economic growth granger cause GFCF for both ALL SADC countries and SADC middle income countries. Figures 1, 2 and 3 in the appendix, presents the pictorial view of results in Table 5. The result is partially in line with the findings of Batuo et al. (2018), and Ariuna and Gibson (2016) who found mixed causal relationships between financial integration and economic growth.

**Table 5.** TYDL granger causality between economic growth and financial integration

All SADC Countries (K=1)		SADC Low Income Countries (k=2)		SADC Middle Income Countries (K= 1)	
Variables	Wald-statistic	Variables	Wald-statistic	Variables	Wald-statistic
LNFDINI↔ LNRGDP	0.584544	LNFDINI → LNRGDP	10.44987* *	LNFDINI↔ LNRGDP	0.343599
LNRGDP↔ LNFDINI	0.000921	LNRGDP↔ LNFDINI	1.564824	LNRGDP↔ LNFDINI	0.367660
LNRIR → LNRGDP	6.012727**	LNRIR → LNRGDP	2.210180	LNRIR → LNRGDP	4.154800**
LNRGDP→ LNRIR	4.425118**	LNRGDP→ LNRIR	14.68429* **	LNRGDP↔ LNRIR	0.532957
LNNFA→ LNRGPD	4.072299**	LNNFA→ LNRGPD	7.205282* *	LNNFA→ LNRGPD	3.435298*
LNRGDP ↔ LNNFA	0.001348	LNRGDP ↔ LNNFA	2.682032	LNRGDP ↔ LNNFA	0.278597
LNTOP→ LNRGDP	5.484895**	LNTOP→ LNRGDP	2.005073	LNTOP↔ LNRGDP	1.787689
LNRGDP→ LNTOP	3.472083*	LNRGDP↔ LNTOP	2.502360	LNRGDP→ LNTOP	4.905690**
DIJURE↔ LNRGDP	0.316253	DIJURE→ LNRGDP	5.270771* *	DIJURE↔ LNRGDP	0.022833
LNRGDP↔ DIJURE	0.014609	LNRGDP↔ DIJURE	0.150796	LNRGDP↔ DIJURE	0.020666
LNGEXP → NRGDP	3.460207*			LNGEXP ↔ NRGDP	1.803232
LNRGDP → LNGEXP	3.141026*			LNRGDP → LNGEXP	4.179799**
LNGFCF ↔ LNRGDP	0.937532	LNGFCF ↔ LNRGDP	0.631519	LNGFCF ↔ LNRGDP	0.158366
LNRGDP→ LNGFCF	4.141114**	LNRGDP↔ LNGFCF	3.761388	LNRGDP→ LNGFCF	2.789770*
LNRIR ↔ LNFDINI	1.121871	LNRIR → LNFDINI	7.470049* *	LNRIR ↔ LNFDINI	1.079700
LNFDI ↔LNRIR	0.460161	LNFDINI → LNRIR	4.558019*	LNFDI ↔LNRIR	0.079676

Table 5. Cont.

All SADC Countries (K=1)		SADC Low Income Countries (k=2)		SADC Middle Income Countries (K= 1)	
Variables	Wald-statistic	Variables	Wald-statistic	Variables	Wald-statistic
LNNFA↔ LNFDINI	1.112443	LNNFA↔ LNFDINI	1.562110	LNNFA↔ LNFDINI	1.660604
LNFDINI ↔ LNNFA	0.079711	LNFDINI ↔ LNNFA	4.336789	LNFDINI ↔ LNNFA	0.045573
LNTOP↔ LNFDINI	1.872063	LNTOP↔ LNFDINI	5.314371*	LNTOP↔ LNFDINI	0.935840
LNFDINI → LNTOP	3.567774*	LNFDI ↔LNTOP	1.148726	LNFDINI → LNTOP	3.133549*
DIJURE↔ LNFDINI	0.359088	DIJURE→ LNFDINI	4.818726*	DIJURE↔ LNFDINI	0.032283
LNFDINI ↔ DIJRE	2.172571	LNFDINI ↔ DIJRE	1.896748	LNFDINI ↔ DIJRE	0.808768
LNGEXP ↔ LNFDINI	0.075478			LNGEXP ↔ LNFDINI	0.069373
LNFDINI→ LNGEXP	6.999652**			LNFDINI→ LNGEXP	5.035933**
LNGFCF ↔ LNFDINI	2.348185	LNGFCF ↔ LNFDINI	3.249659	LNGFCF ↔ LNFDINI	0.572222
LNFDINI → LNGFCF	3.098662*	LNFDINI → LNGFCF	4.434921*	LNFDINI → LNGFCF	3.160740*
LNNFA ↔ LNRIR	0.389601	LNNFA →LNRIR	7.317279* *	LNNFA ↔ LNRIR	0.003205
LNRIR ↔ LNNFA	0.010707	LNRIR ↔LNNFA	1.303188	LNRIR ↔ LNNFA	0.109312
LNTOP↔ LNRIR	0.001198	LNTOP→ LNRIR	16.03097* **	LNTOP↔ LNRIR	0.010239
LNRIR↔ LNTOP	0.097364	LNRIR↔ LNTOP	4.387665	LNRIR↔ LNTOP	1.224554
DIJURE↔ LNRIR	2.287346	DIJURE→ LNRIR	11.51367* **	DIJURE↔ LNRIR	0.642889
LNRIR ↔ DIJURE	0.238564	LNRIR ↔ DIJURE	0.034548	LNRIR ↔ DIJURE	0.600336
LNGEXP ↔ LNRIR	1.756756			LNGEXP ↔ LNRIR	0.166563
LNRIR → LNGEXP	16.27403***			LNRIR → LNGEXP	13.37217***
LNGFCF↔ LNRIR	0.088291	LNGFCF → LNRIR	9.893101* **	LNGFCF↔ LNRIR	0.119792
LNRIR ↔ LNGFCF	0.117366	LNRIR ↔ LNGFCF	2.498675	LNRIR ↔ LNGFCF	0.056260

Table 5. Cont.

All SADC Countries (K=1)		SADC Low Income Countries (k=2)		SADC Middle Income Countries (K= 1)	
Variables	Wald-statistic	Variables	Wald-statistic	Variables	Wald-statistic
LNTOP↔ LNNFA	0.832650	LNTOP↔ LNNFA	0.203607	LNTOP↔ LNNFA	2.383735
LNNFA ↔ LNTOP	0.130517	LNNFA ↔ LNTOP	3.481241	LNNFA ↔ LNTOP	0.672935
DIJURE↔ LNNFA	0.898310	DIJURE↔ LNNFA	3.992443	DIJURE↔ LNNFA	0.396091
LNNFA→ DIJURE	5.950347**	LNNFA ↔ DIJURE	2.336226	LNNFA→ DIJURE	2.273390
LNGEXP ↔ LNNFA	0.342238			LNGEXP ↔ LNNFA	0.007260
LNNFA↔ LNGEXP	1.897516			LNNFA↔ LNGEXP	0.721426
LNGFCF ↔ LNNFA	0.092991	LNGFCF → LNNFA	6.018623* *	LNGFCF ↔ LNNFA	0.575463
LNNFA ↔ LNGFCF	0.031427	LNNFA ↔ LNGFCF	1.519997	LNNFA ↔ LNGFCF	0.188825
DIJURE↔ LNTOP	0.113790	DIJURE↔ LNTOP	1.923646	DIJURE↔ LNTOP	0.085507
LNTOP ↔ DIJURE	0.424885	LNTOP ↔ DIJURE	0.395457	LNTOP ↔ DIJURE	0.769772
LNGEXP↔ LNTOP	1.310150			LNGEXP↔ LNTOP	0.111811
LNTOP↔ LNGEXP	0.155740			LNTOP↔ LNGEXP	1.191282
LNGFCF↔ LNTOP	0.638415	LNGFCF↔ LNTOP	0.680450	LNGFCF↔ LNTOP	0.055377
LNTOP ↔ LNGFCF	0.059745	LNTOP ↔ LNGFCF	0.288210	LNTOP ↔ LNGFCF	0.089094
LNGEXP ↔ DIJURE	1.981646			LNGEXP ↔ DIJURE	1.973080
DIJURE ↔ LNGEXP	0.114527			DIJURE ↔ LNGEXP	0.299793
LNGFCF ↔ DIJURE	0.009421	LNGFCF ↔ DIJURE	0.721327	LNGFCF ↔ DIJURE	0.023666
DIJURE ↔ LNGFCF	0.100692	DIJURE→ LNGFCF	4.594463*	DIJURE ↔ LNGFCF	0.129023
LNGFCF↔ LNGEXP	0.245982			LNGFCF↔ LNGEXP	0.025908
<b>LNGEXP↔ LNGFCF</b>	2.014806			LNGEXP↔ LNGFCF	0.238332

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

→ indicates direction of causality.



## **6. Conclusion and policy implications**

The results of the current study have confirmed that financial integration has positive long run relationship with economic growth. In the short run there is mainly a negative relationship. This is not surprising since financial integration, especially through foreign direct inflow, depends on the absorptive capacity of the host nation, a pre requisite condition for accelerated domestic capital formation (Trevino, 2003; Lumbila, 2005; Ahmad et al., 2018).

The current study reveals a possibility of Multinational-Corporation advancing monopoly power over local industries. Thus, SADC countries should ensure that there are relevant national trade policies, export-oriented strategies as well as the robust investment strategies that promotes global competitiveness and regional and international integration. Though most SADC countries advocate for financial integration, the existing policies, strategies, rules and regulations should ensure that it assists in overcoming capital shortages, transfer of productive technologies and building of human capital in host countries. SADC countries should create conducive environment for both domestic and foreign firms to invest and flourish as well as improving efficiency and international competitiveness of their industries.

Like other studies that include Batuo et al. (2018), the current study found that financial integration, when measured by the CHINN-ITO index has no desired impact on economic growth. However, unlike these studies, the current study reveals that the same index, together with trade openness, is relevant for low-income countries evidenced by positive significant relationship between the CHINN-ITO index, trade openness and economic growth for SADC low-income countries. Thus, SADC low-income countries should review their financial capital controls to have economic benefits from financial integration in the long run. Policies that promote trade openness like bilateral and multilateral trade agreements, export-oriented policies, investment strategies that promote efficiency and international competitiveness of industries should be pursued by SADC countries.

Furthermore, SADC governments should prioritise development of legal and governance frameworks so as to benefit from financial liberalisation/integration.

### **6.1. Limitations of the study and areas for further studies**

Most SADC countries trade with Britain and the BREXIT debate is most likely to affect them. In September 2019 SACU and Mozambique signed a deal that entails maintenance of some preferential trade agreements with Britain after BREXIT. A study that would look into financial integration dynamics after BREXIT will possibly assist in ascertaining its impact on economic growth and possibly coming up with solid policy and strategy recommendations. Cross-specific and cross-country studies are encouraged for more targeted policy implications.

## References

- Adhikary, B.K. (2011), "FDI, trade openness, capital formation, and economic growth in Bangladesh: A linkage analysis", *International Journal of Business and Management*, Vol. 6 No. 1, pp. 16-28.
- Adu, S.O. (2013), "Financial integration and economic growth; A case study of sub-Saharan Africa", Thesis (MPhil), University of Ghana, Ghana.
- Agenor, P.R. (2003), *Benefits and costs of financial integration: Theory and facts*, Blackwell Publishing Limited, Oxford, UK.
- Ahmad, F., Draz, M.U. and Yang, S.C. (2018), "Causality nexus of exports, FDI and Economic growth of the ASEAN5 Economies: Evidence from panel data analysis", *Journal of International Trade Economics Development*, Vol. 27 No. 6, pp. 685-700.
- AllAfrica.com (2015), *Regional Integration – SADC Developments Industrial Strategy*. SyndiGate Media Inc, Washington DC.
- Altaee, H.H.A. and Al-Jafari, M.K. (2015), "Financial development, trade openness and economic growth: A trilateral analysis of Bahrain", *International Journal of Economics and Finance*, Vol. 7 No. 1, pp. 241-254.
- Araç, A. and Özcan, K. (2014), "The causality between financial development and economic growth: The case of Turkey", *Journal of Economic Cooperation and Development*, Vol. 35 No. 3, 171-198.
- Ariuna, T. and Gibson, N. (2016). "Financial development and economic growth: evidence From Southern African Development Community countries", *Journal of Developing Area*, Vol. 50 No. 4, pp. 81-95.
- Arrow, K. J. (1962), "The economic implications of learning by doing", *Review of Economic Studies*, Vol. 29 No. 3, pp. 155-173.
- Bale, L. Pungulescu, C. and Horst, J. T. (2007), "Model uncertainty, financial market integration and the home bias puzzle", *Journal of International Money and Finance*, Vol. 26 No. 4, pp. 606-630.
- Batuo, E., Mlambo, K. & Asongu, S. (2018) "Linkages between financial development, financial stability, financial liberalization and economic growth in Africa", *Research in International Business and Finance, Elsevier*, Vol. C, pp. 168-179.
- Chen, J. and Quang, T. (2014), "The impact of international financial integration on economic growth: New evidence on threshold effects", *Economic Modeling*, Vol. 42 (C), pp. 475-489.
- Chia, W., Jinjarak, Y., Rana, P.B. and Xie, T. (2014), "Net foreign assets and macroeconomic Volatility", *Journal of Asian Economics*, Vol. 34 (C), pp. 42-53.
- Chinn, M.D. and Ito, H. (2019), *The Chinn-Ito Index – A de jure measure of financial Openness*, International Monetary Fund, Washington, D.C, United States.
- Chinn, M.D. and Ito, H. (2008), "A new measure of financial openness", *Journal of Comparative Policy Analysis*, Vol. 10 No. 3, pp. 309-322.
- Chinn, M.D. and Ito, H. (2006), "What matters for financial development? Capital controls, institutions, and interactions", *Journal of Development Economics*, Vol. 81 No. 1, pp. 163-192.

- Chiwira, O. and Tadu, R. (2013), "Financial integration and the risk of financial contagion in Africa, Empirical Review", *Journal of Research in International Business and Management*, Vol. 3 No. 4, pp. 128-138.
- Debbiche, I. (2020), "Foreign capital inflows and economic growth in GCC Countries", *International Journal of Economics and Financial Issues*, Vol. 10 No. 5, pp. 203-210.
- Dolado, J.J. and Lütkepohl, H. (1996), "Making Wald tests work for co-integrated VAR System", *Econometric Reviews*, Vol. 15 No. 4, pp. 369-386.
- Edison, H.J., Levine, R., Ricci, L. and Slok, T. (2002), "International financial integration and economic growth", *Journal of International Money and Finance*, Vol. 21 No. 2, pp. 749-776.
- Egbetunde, T. and Akinlo, A.E. (2015), "Financial globalization and economic growth in sub-Saharan Africa, evidence from panel Co-integration Tests", *African Development Review*, Vol. 27 No. 3, pp. 187-198.
- Egbetunde, T. and Akinlo, A.E. (2014), "Financial integration and economic growth in sub-Saharan Africa", *Journal of Sustainable Development in Africa*, Vol. 16 No. 6, pp. 83-96.
- Engle, R.F. and Granger, C.W. J. (1987), "Co-integration and error-correction: Representation, estimation, and testing", *Econometrica*, Vol. 55 No. 2, pp. 251-276.
- Gardiner, R. (2000), "FDI: A lead driver for sustainable development? Towards Earth summit 2002", in: *Economic Briefing Series No.1*, London, UNED International.
- Gourinchas, P.O. and Obstfeld (2012), "Stories of the twentieth century for the twenty-first", *American Economic Journal: Macroeconomics*, Vol. 4 No. 1, pp. 226-265.
- Grilli, V. and Milesi-Ferretti, G.M. (1995), "Economic effects and structural determinants of capital control", *IMF Staff Papers*, Vol. 42 No. 3, pp. 517-551.
- Gujarati, D. N. (1995), *Basic econometrics*. McGraw-Hill. New York, USA.
- Harris, R. and Sollis, R. (2003), *Applied Time Series Modelling and Forecasting*. West Sussex, Wiley.
- Johansen, S. and Juselius, K. (1992), "Testing structural hypothesis in a multivariate co-integration analysis of the PPP and UIP for UK", *Journal of Econometrics*, Vol. 53 No. 1, pp. 211-244.
- Jones, L.E. and Manuelli, R.E. (2005), "Neoclassical models of endogenous growth", in: Aghion, P., and Durlauf, S.N. (Eds), *Handbook of Economic Growth*, Elsevier, North-Holland, Amsterdam.
- Khadraoui, N. (2011). "Financial integration and economic growth; Empirical evidence of the threshold effect of financial development from dynamic panel data", *Journal of Business Studies Quarterly*, Vol. 3 No. 1, pp. 201-217.
- Kraay, A. (1998), "In Search of the Macroeconomic Effects of Capital Account Liberalization", World Bank, Mimeo.
- Lawal, A. I., Nwanji, T. I., Asaley, A. and Ahmed, V. (2016), "Economic growth, financial development and trade openness in Nigeria: An application of the ARDL bound testing approach", *Cogent Economics and Finance*, Vol. 4 No. 1, pp. 1-15.
- Lucas, R. (1990), "Why doesn't capital flow from rich to poor countries", *American Economic Review*, Vol. 80 No. 2, pp. 92-96.

- Lumbila, K. N. (2005), "What makes FDI work? A panel analysis of the growth effect of FDI in Africa", Africa Region Working Papers, No. 80, World Bank. Washington DC.
- Maddala, G. S. and Wu, S. (1999), "A comparative of unit root tests with panel data and new simple test", *Oxford Bulletin of Economics and Statistics*, Vol. 61 (Special Issue), pp. 631-652.
- Malefane, M. R. and Odhiambo, N. M. (2018), "Trade openness and economic growth: Empirical evidence from Lesotho", Working Paper 23787, Department of Economics University of South Africa, South Africa.
- Mohamed, S. E. (2020), "FDI, financial development and growth in host countries: The case of North African Countries (NACs)", *International Journal of Business Management and Economic Research (IJBMER)*, Vol. 11 No. 3, pp. 1779-1788.
- Manuchehr, I. (2021), "FDI and financial development: evidence from eight post-communist Countries", *Studies in Economics and Econometrics*, Vol. 45 No. 2, pp. 102-116.
- Mougani, G. (2012), "An analysis of the impact of financial integration on economic activity and macroeconomic volatility in Africa within the financial globalization context", Working Paper Series No. 144, African Development Bank, Tunis, and Tunisia.
- Naceur, S. B., Blotevogel, R., Fischer, M. and Shi, H. (2017), "Financial development and sources of growth; New evidence", IMF Working Paper, WP/17/143. IMF, Washington, D.C.
- Njoku, C. and Chiwira, O. (2017), "Unbiased technique in identifying appropriate variables for FDI inflows model: A role of economic growth in SADC", *Applied Economics and Finance*, Vol. 4 No. 3, pp. 141-154.
- Orlowski, L.T. (2020), "Capital markets integration and economic growth in the European union", *Journal of Policy Modeling*, Vol. 42 No. 4, pp. 893-902.
- Osada, M. and Saito, M. (2010), "Financial integration and economic growth: An empirical analysis using panel international data from 1974-2007", Research and Statistics Department, Bank of Japan.
- Pesaran, M. H. and Shin, Y. (1999), "An Autoregressive Distributed Lag modelling approach to co-integration analysis, Econometrics and Economic Theory in the 20th Century", in: The Ragnar Frisch Centennial Symposium, Strom, S. (ed.), Cambridge University Press, UK.
- Pesaran, M.H., Smith, R.J. and Shin, Y. (2001), "Bounds testing approaches to the analysis of level relationships", *Journal of Applied Econometrics*, Vol. 16 No. 3, pp. 289-326.
- Prasad, E.S., Rajan, R G. and Subramanian, A. (2007), "Foreign capital and economic growth", Working Paper 13619, National Bureau of Economic Research, Cambridge, Massachusetts, USA.
- Prasad, E.S., Rogoff, K., Wei S. and Kose, M.A. (2003), "Effects of financial globalization on developing countries: Some empirical evidence", International Monetary Fund, Washington, D.C.
- Quinn, D.P. and Toyoda. M.A. (2008), "Does capital account liberalization lead to economic Growth?", *Review of Financial Studies*, Vol. 21 No. 3, pp. 1403-1449.
- Ridzuan, A.R., Ismail, N.A., Hamat, A.F.C., Razak, M.I.M. and Pardi, F. (2018), "The impact of foreign direct investment, domestic investment, trade openness and population on economic growth: Evidence from ASEAN-5 countries", *International Journal of Academic Research in Business and Social Sciences*, Vol. 7 No. 6, pp. 163-182.

- SADC (2015), *SADC Industrial Development Policy Framework*, Gaborone, Botswana.
- SADC (2003), *SADC Regional Indicative Plan*, Gaborone, Botswana.
- SADC (1992), *The Treaty of the Southern African Development Community*, Gaborone, Botswana.
- Tang, S., Selvanathan, E.A. and Selvanathan, S. (2008), "Foreign direct investment, domestic investment and economic growth in China, a time series analysis", *The World Economy*, Vol. 31 No. 10, pp. 1292-1309.
- Tekin, B. (2021), "Modeling the relation of financial integration - economic growth with GMM and QR methods", *Economic Studies (Ikonomicheski Izsledvania)*, Vol. 30 No. 8, pp. 32-47.
- Toda, H.Y. and Yamamoto, T. (1995), "Statistical inference in Vector Auto-Regressions with possibly integrated processes", *Journal of Econometrics*, Vol. 66 No. 1, pp. 225-250.
- Trevino, L. (2003), "Foreign aid, FDI and economic growth: evidence from Asian countries", *Transnational Corporations*, Vol. 12 No. 2, pp. 119-135.
- World Bank. (2021), *World Development Indicators*, World Bank, Washington DC.
- Yang, X. (2012), *Essays on Financial Integration, Financial Development and Economic Growth*, Vanderbilt University, USA.
- Xing, T. and Abbott, A. (2007), "The effects of trade, specialisation and financial integration of business cycle synchronization", Working Paper, Department of Economics and International Development, University of Linkopings, Sweden.
- Zapata, H.O. and Rambaldi, A.N. (1997), "Monte Carlo evidence on co-integration and Causation", *Oxford Bulletin of Economics and Statistics*, Vol. 59 No. 2, pp. 285-298.