FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH: EVIDENCE FROM SOUTHERN AFRICAN DEVELOPMENT COMMUNITY COUNTRIES

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ABSTRACT

This paper examines causality between financial development and economic growth for 10 Southern African Development Community (SADC) countries for the period 1994 to 2013. We employed the vector autoregression (VAR) approach to conduct Granger causality tests to determine the direction of causality relationship between financial development and economic growth. Before conducting Granger causality tests, we performed the following prerequisite tests: unit root tests to test for data stationarity, and cointegration tests to examine short-and long-run relationships between financial development and economic growth. Our results provide evidence of two of the three main views on the link between financial development and economic growth: the supply leading theory (financial development causes economic growth or positive causality); and the demand following response (economic growth causes financial development or reverse causality). Specifically, our empirical results suggest that when broad money (BM) and direct credit (DC) are used as measures of financial development, there is evidence of the demand following response for 50% and 60% of the sample, respectively. Results also showed that financial development caused economic growth in 20% and 30% of the sample when BM and DC are used to measure financial development, respectively. No evidence of causality was recorded for 30% and 10% of the countries when BM and DC were used to measure financial development, respectively. In light of the dominance of reverse causality and the presence of no causality for some countries, we conclude that financial liberalization failed to increase economic growth for 80% and 70% of the sample when broad money and domestic credit were used to measure financial development, respectively. The differences in the direction of causality across SADC countries could be due to a wide variation in the policies governing the financial sector, colonial origin and other institutional factors which shape the laws governing how banks and other financial institutions operate in different countries. Our findings suggest different policy routes for countries within the SADC region with regard to how they can grow their economies. Specifically, countries for which the reverse causality result holds should direct more resources towards stimulating economic growth through channels other than financial development in order to develop their financial sectors. On the other hand, we recommend that countries for which the financial development leading to economic growth result holds should channel more of their resources towards growing their financial sectors in order to drive economic growth.

INTRODUCTION

A well-functioning financial system is the lifeblood for any economy in the world. Efficient financial institutions are associated with higher economic growth while inefficient financial institutions are usually associated with economic crises (Ang, 2008). Hicks (1969) flatly stated that the Industrial Revolution would not have been a possibility without an efficient financial sector. It is therefore not surprising that Southern African Development Community (SADC) countries have prioritized pro-economic development financial liberalization initiatives in order to raise the standards of living in each and every country in the region. In fact, many developing countries have since implemented financial reforms (Odhiambo, 2009).These countries believe that financial liberalization improves the efficiency of their financial institutions which in turn leads to positive economic development. Southern African countries have been exploring financial liberalization systems dating back to the 1990s. Among the initiatives included in the SADC financial sector liberalization model are: allowing the interest rates to fluctuate based on market value; reducing direct and subsidized credit; redrafting financial and bank statutes; adopting indirect instruments of monetary policy; privatizing banking systems; and easing conditions for participation in the stock markets.[1]

McKinnon (1973) and Shaw (1973) argued that financial liberalization initiatives lead to higher financial development. On the other hand, some studies argued that financial liberalization may not necessarily lead to financial development (Villanueva & Mirakhor, 1990; McKinnon & Pill, 1997). While this debate is not the focus of our study, it is important that we highlight the mixed role of financial liberalization on financial sector development. Financial liberalization initiatives have been at the height of developmental efforts in many countries and regions. Since the motivation behind financial liberalization in SADC countries was driven by the quest to achieve improved standards of living through enhanced economic development, an investigation on the link between economic growth and financial development would help shed light on how the changes in the financial sector in SADC countries have fared over the years, hence the focus of this study.

The purpose of this study is to investigate the relationship between financial development and economic growth for SADC countries since the beginning of the SADC financial liberalization efforts to present. The examination of the link between financial development and economic growth has been ongoing for decades. While extensive research on the relationship between financial development and economic growth exists, the bulk of the research has focused on Asia and Latin America (Odhiambo, 2007). Until recently, Africa remained widely neglected in this area. Most of the existing studies on Africa are mainly based on single countries, (Akinboade, 1998; Ghali, 1999; Abu-Bader & Abu-Qarn, 2005; Odhiambo, 2005, 2007, 2009, 2010; Nyasha & Odhiambo, 2015). In addition, a handful of studies examined the link between financial development and economic growth for a group of African countries. Studies which investigated this link for a group of countries focused on selected Sub-Saharan African (SSA) countries (Spears, 1992; Agbetsiafa, 2003; Kelly & Mavrotas, 2003; Ghirmay, 2004; Acaravci, Ozturk, & Acaravci, 2009; Akinlo & Egbetunde, 2010; Ngongang, 2015) without taking into consideration that different subsets of SSA countries belong to completely different regional economic communities.

While the foregoing studies are important to our understanding of the link between financial development and economic growth, to the best of our knowledge, none of the existing studies have examined the relationship between economic growth and financial development on a regional economic community level in Africa. The current study will contribute to the existing literature by focusing on a specific regional economic community in Africa, SADC, which has embarked on financial liberalization reforms since the 1990s. The time frame of our study starts from the beginning of financial liberalization in the SADC region to present. Our study captures the link between financial development and economic growth during financial liberalization era which may be different prior to that period. Only one other study by Odhiambo (2009) addresses the importance of one of the financial liberalization tools, interest rate liberalization on causality between financial development and economic growth in Kenya. We also add to the understanding of the importance of financial liberalization to the current literature. Studies which investigated a group of SSA countries pooled together a few countries from different regional economic communities. On the other hand, single country studies mainly focused on economically well performing countries which may not be true representative of an average poor African country. There are eight regional economic communities recognized by the Organization of African Union (OAU).[2] Keeping in mind the heterogeneity of different regions in Africa, we posit that analyses that focus on specific African regions maybe be more informative when compared to a highly selective Africa wide studies. To bridge this gap, we investigate this relationship for SADC countries.

Specifically, we use the vector error correction modelling (VECM) and Granger causality techniques to examine the relationship between economic growth and financial development for 10 SADC countries for the period 1994 to 2013. Throughout this study we follow McKinnon (1973) and Shaw (1973) by maintaining the assumption that financial liberalization leads to higher financial development. If our results indicate that financial development caused economic growth, it follows that financial liberalization was instrumental in increasing economic growth. On the other hand, results showing evidence of economic growth causing financial development or no causality exists between economic growth and financial development, suggest that financial liberalization did not succeed in driving economic growth during the study period. The literature review is presented next.

LITERATURE REVIEW

The debate on the link between economic growth and financial development has been on-going dating back to the work of Bagehot (1873) who argued that the financial sector was important for England's industrialization, (Odhiambo, 2007). This argument was later popularized by Schumpeter (1912) who is widely credited for his work in which he argued that the financial sector is important for economic growth. According to Schumpeter (1912) the financial sector drives innovation which will in turn propel economic growth. This finance leading to economic growth theory is also referred to as the supply-leading theory or positive causality. Robinson (1952) disagreed with Schumpeter (1912) by arguing that economic growth leads to the development of the financial sector. She argued that, first an economy experiences economic growth and it is that economic growth which will then lead to the development of the financial sector. Robinson (1952)'s argument is also referred to

as the demand following response or reverse causality. In support of Robinson (1952)'s findings, Lucas (1988) also argued that financial development follows economic growth.

Unlike earlier studies which argued firmly in favor of positive causality (Bagehot, 1873; Schumpeter, 1912) and reverse causality (Robinson, 1952), Lewis (1955) found evidence in support of a two way relationship between financial development and economic growth. This implies that the financial market develops due to economic growth which in turn feeds back to stimulate economic growth. Patrick (1966) also believed that the direction of causality was not permanently one directional. Specifically, Patrick (1966) argued that the causality between financial development and economic growth changes over the course of economic development. Financial development will cause economic growth by spurring innovation prior to achieving sustained economic growth and after sustained economic growth has occurred, economic growth will cause financial development. The foregoing studies are among the early theoretical attempts to uncover the link between financial development and economic growth.

In addition to these theoretical studies, several studies have attempted to empirically test the causality between financial development and economic growth. To date, there is no consensus on the direction of causality between financial development and economic growth. Like their theoretical counterparts, empirically three different views exist on the link between financial development and economic growth. There are three main views on this debate which divided along the same lines as their theoretical counterparts. The first view argues that financial development causes economic growth (McKinnon, 1973; Shaw, 1973; King and Levine, 1993a; Demetriades & Hussein, 1996; Christopoulos & Tsionas, 2004; Khadraoui & Smida, 2012), among others. This view argues that Schumpeter (1912) were right (King and Levine, 1993a). The second view which supports Robinson (1952)'s argument, contends that economic growth causes financial development (Rousseau, 1998) and others. Lastly, a third view maintains that there exists bidirectional causality between financial development and economic growth (Greenwood & Jovanovic, 1990; Wood, 1993; Greenwood & Bruce, 1997; Luintel & Khan, 1999; Al-Yousif, 2002; Ang, 2008).

Empirical studies that are specific to African countries are not immune to this debate. Findings from some of these studies are consistent with the finance leads to economic growth hypothesis (Spears, 1992; Ghali, 1999; Abu-Bader & Abu-Qarn, 2005; Eita, 2007; Ngongang, 2015). A handful of the African specific studies are consistent with the economic growth leads to financial development (Agbetsiafa, 2003; Odhiambo, 2004). Very few African studies have found evidence consistent with bi-directional causality between financial development and economic growth (Akinboade, 1998; Odhiambo, 2005).

Without doubt, the relationship between financial development and economic growth is among one of the most complex areas of endeavor as evidenced by the competing views of both the theoretical and empirical studies discussed above. Among the reasons behind this complicated relationship is the interplay of government policies that affect the finance industry, colonial origin[3], and the influence of peer countries with membership to the same regional economic community, among other institutional factors. All these reasons are applicable to the SADC countries where most of the countries are former British colonies.

Since the specific focus of this study is SADC economies, which are all classified as developing countries, it is important that we provide a more detailed review of studies that focused on the developing world. A detailed review of selected literature which focused specifically on developing countries is in order. Spears (1992) investigated the causal relationship between financial intermediation and economic growth for SSA countries. The study finds that financial intermediation caused economic growth in the early stages of development. Based on the Hsiao (1979) causal testing method, Wood (1993) found evidence of the demand-following hypothesis for Barbados for the period 1946-1990. The study which examined the link between financial development and economic growth, found no evidence of the supply leading hypothesis during the early stages of development. Demetriades & Hussein (1996) examined causality between financial development and economic growth for 16 less developing countries. Their results showed that the dominant result was that economic growth leads to financial development. In addition, results also showed considerable evidence of bi-directional causality. The study by Akinboade (1998) examined the causal relationship between financial development and economic growth for the case of Botswana for the period 1972-1995. Using the Granger causality test, this study found evidence of a bi-directional relationship between financial development and economic growth. Ghali (1999) used the vector autoregressive technique to investigate the relationship between financial development and economic growth. Empirical results suggest that there is a stable long-run relationship between financial development and economic growth. Results also show that causality runs from financial development to economic growth.

Using causality tests based on the error-correction model for 8 emerging in SSA economies. Agbetsiafa (2003) showed that financial development caused economic growth and economic growth caused financial development for 6 and 2 countries included in the study, respectively. Christopoulos & Tsionas (2004) used a multivariate cointergration model in panel setting to examine causality between financial development and economic growth for 10 developing countries. Their results showed that financial development caused economic growth in the long-run. Eita (2007) found evidence of causality running from financial development to economic growth for the case of Botswana. The study employed the Granger causality technique for the period 1977-2006. Odhiambo (2004) investigated the relationship between financial development and economic growth for South Africa. Findings from this study showed that the demand-following response prevailed in South Africa. This result holds in both a static long-run formulation and in the dynamic long-run formulation. Odhiambo (2005) dynamic causality test, found a bi-directional relationship between financial development and economic growth for the case of Tanzania and that the supply-leading hypothesis tends to predominate. The study by Abu-Bader & Abu-Qarn (2005) to examine causality between financial development and economic growth for Egypt during the period 1960-2001. Results support the supply-leading theory. The authors argue that this result is realized either through increasing investment efficiency or through increasing resources for investment.

Ang & McKibbin (2007) examined causality between financial development and economic growth for Malaysia for the period 1960-2001. The study finds that financial depth (financial development) and economic growth are positively related. In addition their findings support Robinson's view that output growth leads to higher financial depth in the long-run. Results in Ang (2008) revealed that financial development leads to higher output

growth through two channels: private saving and private investment. Ang (2008) examined the link between financial development and economic growth for Malaysia. Odhiambo (2008) investigated the link between financial development and economic growth in Kenya using a dynamic Granger causality technique for the period 1969-2005. The study incorporates savings as a third variable in the finance-growth nexus. Results showed that economic growth Granger causes savings while savings Granger cause financial development. This confirms that there is an indirect link between financial development and economic growth. Odhiambo (2009) examined the impact of interest rate reforms on financial deepening and economic growth using two models: a financial deepening model and the dynamic Granger causality model. The study finds that financial depth Granger causes economic growth in Kenya. This study concludes that interest rate liberalization in Kenya succeeded in driving economic growth through its influence on financial depth.

Wolde-Rufael (2009) examined the financial development and economic growth nexus in Kenya for the period 1966-2005. Based on a quadvariate vector autoregressive framework, the study finds evidence of bi-directional causality: (1) between domestic credit and economic growth and; (2) between liquid liabilities and economic growth. Akinlo & Egbetunde (2010) employed a VECM to examine the long-run relationship between financial development and economic growth for 10 SSA countries. Their study showed that there is a long-run relationship between financial development and economic growth for all the countries included in their study. Results also show that financial development causes economic growth in Central African Republic, Congo Republic, Gabon, and Nigeria, economic growth causes financial development in Zambia and bi-directional causality in Kenya, Chad, South Africa, Sierra Leone and Swaziland. Ngongang (2015) employed the dynamic panel generalized method of moments (GMM) technique to analyze the link between financial development and economic growth for 21 SSA countries for the period 2000-2014. Results from this study showed that financial development leads to economic growth. The next section presents the empirical methodology and the results.

METHODOLOGY AND EMPRICAL RESULTS

This study investigates the causal relationship between financial development and economic growth using time series data for 10 SADC countries namely; Angola, Botswana, Lesotho, Madagascar, Malawi, Mauritius, Namibia, South Africa, Swaziland, and Tanzania. We make use of annual data obtained from the 2015 World Bank World Development Indicators (WDI) database.

The choice of the economic growth variable used in this research hinges heavily on the existing theoretical and empirical studies. We used the growth rate of real GDP (Y) to measure economic growth. Likewise, the selection of the financial proxy variables was carefully made by taking into account the current stages of development of SADC countries, availability of data, and suggestions proposed by previous research. We also excluded countries which did not exhibit cointegrating relationship between the variables used in this study. It is a well-established fact that the financial system facilitates savings and investment through financial markets and financial intermediaries. Based on the World Bank low-high income continuum, all the SADC countries included in this study are a combination of low and middle-income countries. These countries are all characterized by very low levels of financial market development. Consequently, time series data on

financial markets are very limited due to the low levels of financial sector development in the Southern African region.

Because of the foregoing arguments, we make use of bank-based measures of financial development rather than stock market-based financial measures. Specifically, two different measures of bank-based financial development are used. Following King and Levine (1993a), Levine & Zervos (1998), Beck, Demirguc-Kunt, & Levine (2009), and others, the ratio of M2 to GDP (broad money (BM)) is used to measure the role and size of official bank intermediation. Specifically, BM is defined as the sum of currency, demand, and interest bearing liabilities of banks and other financial intermediaries divided by GDP. Based on existing literature, a high M2 to GDP ratio has been found to be associated with high importance and intensity of official financial intermediation in an economy. In addition to BM, we use the ratio of domestic credit issued to the private sector to GDP (DC). DC is therefore defined as the sum of all credit issued to private sector by banks and other non-bank financial institutions divided by GDP. This ratio, DC, is designed to measure the important role of credit in economic development.

In addition to the financial proxies, BM and DC, we use two more control variables: the ratio of trade to GDP (T), which measures the size of real sector and trade policy; and the ratio of capital formation to GDP (K), which measures the investment in physical capital. We include these two variables, T and K, to control for the potential indirect relationship between financial development and economic growth.

To investigate long-run relationship between economic growth and financial development, the following models are used:

$$Y_{it} = a_0 + a_1 BM_{it} + b_1 T_{it} + b_2 K_{it} + e_{it}, \tag{1}$$

$$Y_{it} = a_0 + a_1 DC_{it} + b_1 T_{it} + b_2 K_{it} + e_{it}, \tag{2}$$

where Y_{it} is a real GDP in country i and year t, BM_{it} is the ratio of broad money to GDP, T_{it} is the ratio of total trade to GDP, K_{it} is the ratio of capital formation to GDP, and e_{it} is an error term. In equations (1) and (2) we use BM and DC as measures of financial development, respectively.

When using time series data it is important to test for stationarity and any possibility that variables have a tendency to return to the long-term trend after a shock or if the variables follow a random walk process. If there is evidence that series follow a random walk after any shock, regression results are likely to be spurious and using the ordinary least squares (OLS) estimation procedure will produce inconsistent results. The popularly used method to test for stationarity of time series data is the augmented Dickey-Fuller (ADF). Likewise, the ADF test is employed in this study. Based on our ADF test results, almost all the variables are non-stationary at levels. After taking the first difference, results show that all series are stationary. In other words, the series are said to be integrated of order 1. The ADF test results are presented in Table 1 below.

TABLE 1. ADF UNIT ROOT TESTS

Country	Y	lags	*	K	lags	*	T	lags	*	DC	lags	*	BM	lags	*
Angola	-2.20	2	*	-1.96	2	*	-0.68	2	*	0.50	2	*	-0.94	2	*
Botswana	-2.97	2	**	-1.43	2	*	-1.96	2	*	-0.05	2	*	-1.92	2	*
Lesotho	-1.28	2	*	-2.22	1	*	-1.40	2	*	-1.02	2	*	-0.83	2	*
Madagascar	-2.85	2	**	-1.60	2	*	-1.45	2	*	-0.74	2	*	-1.43	2	*
Malawi	-2.10	2	*	-1.85	2	*	-0.12	2	*	-1.65	2	*	-0.21	2	*
Mauritius	-2.15	2	*	-1.92	2	*	-2.44	2	*	0.68	2	*	-1.56	2	*
Namibia	-2.04	2	*	-0.84	2	*	-1.39	2	*	-1.38	2	*	-0.93	2	*
South Africa	-2.09	2	*	-1.61	2	*	-1.47	2	*	-1.39	2	*	-1.69	2	*
Swaziland	-2.50	2	*	-0.46	2	*	-1.97	2	*	-0.67	2	*	-0.13	2	*
Tanzania	-1.59	2	*	-0.26	2	*	-1.72	2	*	-0.61	2	*	-2.60	2	*

*Note: 1) The hypothesis of ADF test as following: $H_0 : \rho=1$ (countain unit root, the data is not stationary), $H_A : \rho<1$ (do not contain unit root, the data is stationary). 2) Rejection of the hypothesis by the ADF test suggests the evidence of no unit root. 3) * and ** represent significance at 5% and 10% levels, respectively. 4) The critical values for t-statistics with 50 observations are -2.93 and -2.60 for 5 % and 10 % significance levels, respectively.*

Now that we have confirmed that the series are stationary after taking the first difference, the next step is to check for long-run relationships between financial development and the growth rate of real GDP. To achieve this end, we use the VECM. Based on the ADF results above, a VECM can be performed. The VECM restricts the long-run behavior of the endogenous variables to converge to their cointegrating relationships. In addition, the VECM also allows for short-run adjustment dynamics. The following VECM specification estimates the potential short-run and long-run effects of these two variables on each other (Taivan, 2016):

$$x_t - x_{t-1} = a_0 + a_1 \hat{Z}_{t-1} + \sum_{i=1}^{m} b_i (y_{t-i} - y_{t-i-1}) + \sum_{j=1}^{m} c_j (x_{t-j} + x_{t-j-1}) + \varepsilon_t,$$
(3)

$$y_t - y_{t-1} = \alpha_0 + \alpha_1 \hat{Z}_{t-1} + \sum_{i=1}^{m} \phi_i (y_{t-i} - y_{t-i-1}) + \sum_{j=1}^{m} \theta_j (x_{t-j} + x_{t-j-1}) + \mu_t.$$
(4)

The VECM equations in (3) and (4) breakdown the dynamic adjustments of the dependent variables x_t (financial development) and y_t (economic growth) into two components. The first is a long-term component which is represented by cointegrating term $\alpha_1 \hat{Z}_{t-1}$ (error correction term) in both equations, and the second consists of short-term components which are given by the summation terms on the right hand side of each of the equations (3) and (4). If at least one of the coefficients α_1 or a_1 is different from zero, it follows that the variables y_t and x_t are cointegrated and also exhibit long-term movements. Coefficients b_i,

and θ_i provide information on short-run relationship between y_t and x_t. For example if b_i is different from zero but θ_i is zero, then we conclude that x_t is leading or causing y_t in the short term. Likewise, we can say that y_t is leading or causing x_t when b_i is zero and θ_i is not zero. However, in this study, we do not address short-run relationships. Instead, we focus on long-run relationships and the direction of causality between financial development and economic growth. Table 2 below provides the VECM results.

TABLE 2. VECTOR ERROR CORRECTION MODEL RESULTS Y=F(T, C, FINANCIAL PROXY)

countries	BM				DC			
	coefficient/ st. error	t-stat	P	*	coefficient/ st. error	t-stat	P	*
Angola	-0.18	-0.19	0.85		-0.52	-0.91	0.06	*
	(0.97)				(0.27)			
Botswana	-1.16	-1.68	0.09	*	-1.56	-2.47	0.01	**
	(0.69)				(0.63)			
Lesotho	-1.52	-3.76	0.00	***	-1.32	0.44	-3.02	***
	(0.41)				(0.37)			
Madagascar	-1.50	-4.74	0.00	***	-2.51	-1.77	0.08	*
	(0.32)				(1.41)			
Malawi	-0.01	-0.85	0.34		-0.98	-8.33	0.00	***
	(0.16)				(0.12)			
Mautitius	-1.46	-3.97	0.00	***	-1.56	(4.64)	0.00	***
	(0.37)				(0.34)			
Namibia	-1.19	-2.33	0.02	**	-1.30	-2.11	0.04	**
	(0.51)				(0.61)			
South Africa	-0.74	-6.01	0.00	***	-0.93	-3.16	0.00	**
	(0.12)				(0.30)			
Swaziland	-0.37	-0.83	0.41		-0.18	-1.65	0.09	*
	(0.45)				(0.11)			
Tanzania	-1.33	-4.23	0.00	***	-1.08	-3.97	0.00	*
	(0.31)				(0.27)			

The VECM results in Table 2 provide evidence of a long-run relationship between the growth rate of real GDP and financial development for Botswana, Lesotho, Madagascar, Mauritius, Namibia, South Africa and Tanzania when BM is used as the

measure of financial development. No long-run relationship exists for Angola, Malawi and Swaziland when BM is used as a proxy for financial development. However, when DC is used as a measure of financial depth all countries exhibit long-run relationships. The model which uses DC as a financial proxy, captures more relationships between financial sector and growth in SADC countries when compared to the model which uses BM to measure financial development. This finding suggests that the official banking sector plays a limited role in facilitating savings and investment when compared to direct credit in SADC countries. It is therefore safe to conclude that domestic credit issued by banks and all other non-bank financial institutions combined, plays an important role in mobilizing saving and promoting investment in SADC countries. Recall that our ultimate goal is to determine the direction of causality between financial development and economic growth. Neither the presence of correlation nor the presence of cointegration we confirmed earlier implies causality. We make use of the vector autoregression (VAR) analysis to test for Granger causality. According to the Granger (1969) method, a variable, financial development in this study, Granger causes another variable, economic growth in the current study, if past and present values help to predict economic growth (Eita, 2007). The Granger causality test investigates the following hypothesis:

H_0: Financial Development does not Granger cause Economic Growth
H_a: Financial Development Granger causes Economic Growth.

Rejection of the null hypothesis implies that current and past lagged values of financial development help predict the current values of economic growth. In the same manner, this technique can also be used to investigate whether or not economic growth causes financial development. Table 3 provides the Granger causality results.

Granger causality results in Table 3 show that when BM is used as a measure of financial development, financial development causes economic growth in Mauritius and Swaziland, economic growth caused financial development in 5 out of the 10 countries included in the sample (Angola, Malawi, Namibia, South Africa and Tanzania) and no evidence of causality between financial development and economic growth was recorded for Botswana, Lesotho and Madagascar. Our results also show that when we use DC as a financial proxy, financial development causes economic growth in Mauritius, Namibia and South Africa, and economic growth causes financial development in 6 of the 10 countries included in the sample (Angola, Botswana, Lesotho, Malawi, Swaziland and Tanzania) and there is no evidence of causality between financial development and economic growth for Madagascar.

Our results are not globally consistent for all the countries when BM and DC are used as proxies of financial development. A possible reason behind this difference may be due to the fact that DC is a broader measure when compared to BM. For instance, no evidence of causality is recorded for Botswana and Lesotho when BM is the measure of financial depth and there is evidence of reverse causality in the two countries when DC is used in the study. Namibia and South Africa exhibit reverse and positive causality when BM and DC are used to measure financial development, respectively. Swaziland shows reverse and positive causality when we use MB and DC, respectively. On the other hand, results are not affected by the measure of financial development for Angola, Madagascar, Malawi, Mauritius, and Tanzania. To be specific, Madagascar and Mauritius show positive

causality and no causality in the two model specifications, respectively. This result suggests that financial development increased economic growth in Mauritius and that financial development did not affect economic growth in Madagascar. Sound financial liberalization initiatives may have been behind the result in Mauritius while the opposite could be true for the result in Madagascar.

TABLE 3. GRANGER CAUSALITY TEST RESULTS
Y=F(T, C, FINANCIAL PROXY)

countries	BM				
	finance to growth		growth to finance		direction
	χ^2 stat	p-val	χ^2 stat	p-val	
Angola	0.03	0.87	7.88	0.01	reverse
Botswana	2.48	0.12	0.34	0.56	none
Lesotho	0.00	0.98	0.28	0.60	none
Madagascar	0.02	0.89	0.18	0.89	none
Malawi	0.04	0.83	3.06	0.08	reverse
Mautitius	4.58	0.03	0.44	0.51	positive
Namibia	0.07	0.79	4.40	0.04	reverse
South Africa	0.30	0.58	3.30	0.07	reverse
Swaziland	4.16	0.04	0.15	0.70	positive
Tanzania	0.24	0.62	5.90	0.02	reverse
	DC				
	finance to growth		growth to finance		direction
	χ^2 stat	p-val	χ^2 stat	p-val	
Angola	0.09	0.76	4.95	0.03	reverse
Botswana	0.73	0.69	13.86	0.00	reverse
Lesotho	1.83	0.18	5.50	0.02	reverse
Madagascar	1.72	0.19	0.96	0.33	none
Malawi	2.03	0.16	6.71	0.01	reverse
Mautitius	2.71	0.10	0.01	0.91	positive
Namibia	3.28	0.01	1.20	0.27	positive
South Africa	5.78	0.02	1.56	0.21	positive
Swaziland	0.08	0.78	6.22	0.01	reverse
Tanzania	0.14	0.71	4.21	0.04	reverse

The reverse causality result holds for the following countries in all model specifications: Angola, Malawi, and Tanzania. Economic growth increased financial

development in these countries during the study period. The heavy dependence on foreign investment may have propelled economic growth in these countries causing financial development to follow economic growth. These countries are indeed characterized by high economic growth rates due to the catch up effect. In general, we found more evidence of causality between financial development and economic growth in SADC countries, positive or reverse, when DC is used to measure financial development when compared to results obtained when BM is used as the proxy for financial development. Since DC is broader than BM, sources of funds other than the banking system could be playing a major role in the financial systems of most countries thereby making the link between financial development and economic growth more apparent. In addition, the banking sectors in most African countries are not completely privatized. Driven by the fear of being exploited by foreign bank ownership, most African governments believe in shared ownership of banks with the government controlling a significant share. Without doubt, this compromises the efficiency of the banking system. Corruption continues to be a big problem in most SADC countries. In addition to corruption, crony capitalism by lenders, is another problem hindering the smooth functioning of the financial sector.[4] It is evident from our results that the relationship between financial development and growth in SADC countries was dominated by reverse causality during the study period. In sum, financial liberalization did not succeed in increasing economic growth in most of the SDAC countries during the period 1994 to 2013. The following section concludes the paper.

CONCLUSIONS

The purpose of this study was to examine the link between financial development and economic growth for 10 SADC countries during the period 1994 to 2013. The current study is motivated in part by the pro-economic development financial liberalization initiatives which were unanimously endorsed by all the SADC countries in the early 1990s. Our empirical results show that economic growth caused financial development for 50% and 60% of the sample when broad money and domestic credit were used to measure financial development, respectively. Results also indicate that financial development caused economic growth for 20% and 30% of the sample when BM and DC were used to measure financial development, respectively. No causality was found for the rest of the countries. These results suggest that financial liberalization failed to increase economic growth for 80% and 70% of the sample when broad money and domestic credit were used to measure financial development, respectively. Financial liberalization contributed positively to economic growth in Mauritius and Swaziland when BM is used as the measure of financial development. When DC is used as the financial development proxy, results show that financial liberalization had a positive impact on economic growth in Mauritius, Namibia and South Africa. The slight edge that DC has over BM in positive causality could be due to the dominance of foreign investment over local investment in most of these countries.

The dominance of reverse causality in our results may be due to the pro-economic development contributions by foreign investors to local African economies through means that are not directly linked to the banking sector and other local financial institutions. Such foreign investments may have been at the heart of most of the economic growth in these countries which allowed economic growth to dictate the pace rather than financial development causing economic growth. A majority of these countries have also failed to

fully implement financial liberalization initiatives. Complete privatization of banks and other financial institutions which was at the heart of the financial liberalization initiatives, is yet to be realized in most of the SADC countries. The continued government ownership of banks could be negatively affecting the efficiency of the banking sectors in these countries. At the same time their financial development is very slow. Other possible contributing factors to the sluggish financial industry include corruption, crony capitalism, and other unethical behaviors that lead to failures in the financial sector. SADC countries should therefore take financial liberalization initiatives seriously in order to improve economic growth. Countries for which financial development caused economic growth should direct resources towards growing the financial sector in order to drive economic growth. Alternatively, countries for which the reverse causality result holds should emphasize on stimulating economic growth through channels other than financial development in order to propel financial development. Emphasis on economic growth will help improve financial development which may in turn drive economic growth in these countries. Future work will focus on the role played by interest rate liberalization on the link between financial development and economic growth in the SADC countries.

ENDNOTES

[1] More information on financial liberalization in SADC is documented on the following SADC website: http://www.sadc.int/themes/economic-development/finance/financial-sector-liberalisation/
[2] African regional economic communities include: Arab Maghreb Union, Common Market for Eastern and Southern Africa, Community of Sahel-Saharan States, East African Community, Economic Community of Central African States, Economic Community of West African States, Intergovernmental Authority on Development, and Southern African Development Community.
[3] Colonial origin is tied the legal origin which shapes national approaches to laws concerning creditors and how these laws are enforced (La Porta et al., 1998).
[4] Crony capitalism by lenders refers to preferential treatment that banks give certain customers.

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