International Journal of Economics and Financial Issues
Vol. 3, No. 2, 2013, pp.435-446
ISSN: 2146-4138
www.econjournals.com

Financial Sector Development and Economic Growth: Evidence from Zimbabwe

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ABSTRACT: The relationship between financial system development and economic development has attracted interest of a number of researchers all over the world, however institutional differences and capital allocation variations between and within economies, make it very difficult to generalize findings and thus increasing the need for country-specific studies. This study examines the causal relation between financial system development and economic growth from a Zimbabwean perspective, based on two inter-related broad aims, the first being the established of cointegration relationship between the two and the ultimate direction of the causal relationship. Using multivariate Granger causality test the study finds existence of demand following financial development in Zimbabwe, there is unidirectional causality from economic growth to financial development. Financial system development is therefore an outcome of the pressure for institutional development in capital markets and introduction of modernized financial instruments. As such policy concern should focus on trade liberalization and other related activities in order to spur economic growth, since financial system development is a passive reaction to economic growth. Such policies might include investment promotion and removal of barriers for foreign investments.

Keywords: Financial system development; economic growth; poverty alleviation; granger causality
JEL Classifications: C22; E44; G10; O11; O40

1. Introduction

Debate on the relationship between financial system development and economic growth dates long (Kirkpatrick 2000) and has received significant attention in both theoretical and empirical literature (Esso, 2010). The role of financial markets in economic development has attracted and received increased attention from both academia and policy-makers (Ndikumana, 2001), and divergent views have emerged. Over the past decades, focus on this area has increased, with mixed findings, - and it still remains a theoretical and empirical controversy (Boulika and Trabelisi, 2002).

On the other extreme are those who suggest that financial system development is anti-growth (Van Wijnberg, 1983, Buffie, 1984). Development in financial system facilitates risk amelioration and efficient resource allocation; this may reduce the rate of savings and risk, consequently leading to lower economic growth (Levine, 2004). This follows, from the basic assertion that, where there is high risk there is high return.

On the other hand, Lucas (1988) and Stern (1989) suggest that there is no relationship between financial system development and economic growth. According to Lucas (1988) finance is an 'over-stressed' determinant of economic growth. Therefore, any strategies aimed at promoting financial system development would be a waste of resources, as it diverts attention from more relevant policies such as labour and productivity improvement programs, implementation of pro-investment tax reforms, encouragement of exports; amongst others.

The other school of thought is that, the financial system develops in response to improved economic growth. According to Robinson (1952) 'where enterprise leads finance follows'. As an economy grows the financial sector responds to the demands of the economy. A number of studies (Gurley and Shaw, 1955; Goldsmith, 1969; Jung, 1986; Kar and Pentecost, 2000; Boulika and Trabelisi, 2004; Islam et al., 2004; Guryay et al., 2007) suggest a unidirectional causality from growth to finance. Countries, whose economies grow faster, are forced to devote more investment on improving the financial system, in order to stabilize their economic environment (Padilla and Mayer, 2002).

Whereas there are some believe the relationship it 'too obvious to warrant serious discussion' (Miller, 1998), even postulate a bi-directional causality between the two (Demetriades and Hussein, 1996, Greenwood and Smith, 1997; Al-Yousif, 2002).

According to Bagehot (1873) and Hicks (1969) development in the financial system played a critical role in industrializing England by facilitating the mobilization of capital. Schumpeter (1912) harnesses the importance of the banking system in economic growth; financial institutions support innovation and creativity and thus enhance future growth by identifying and funding productive investments. Therefore, it facilitates the creation of wealth, trade and the formation of capital (Ahmed, 2006). One of the oldest, findings on the relationship between financial development and economic growth is based on Schumpeter (1912) who asserts that the services provided by the financial intermediaries are important for innovation and development. Fry (1978, 1980) and Galbis (1977) took this a step further to suggest that interventions to impose restrictions, on the banking system, such as credit ceilings and high reserve requirements have a negative impact on the development of the financial sector, which ultimately reduces economic growth. Literature suggests that financial system development can reduce the cost of acquiring information and thus enhance resource allocation and accelerate growth. (Ahmed and Malik, 2009) By aiding risk management, improving liquidity and reducing transaction costs, financial system development encourages investments (Levine, 1997).

Despite the existence of extensive and seemingly contradictory literature on the relationship between financial system development and economic growth, it is generally agreed that financial development in key to economic growth (Apergis, Filippidis and Economidou, 2007; Jung, 1986; Calderon and Liu, 2003). According to the World Bank, financial development has a significant contribution to growth; it is fundamental to poverty alleviation and is associated with immense improvements in income distribution (World Bank, 2001).

The direction of causality between financial system development and economic development is clearly very ambiguity. This has posed a challenge on how specific policies promoting the financial sector interact with the decisions of economic agents at the micro-level. There are two main contending hypotheses; the first one is the *supply-leading hypothesis* which suggests economic growth is led by finance; the second is a *demand-following hypothesis* which asserts that economic growth leads to financial development. It is possible to get a positive, negative no association or negligible relationship between financial development and growth (Guryay et al., 2007). Therefore, knowing the direction of causality is important because it has different implications for policy development, both in the long-run and short-run.

In seeking to understand the relationship, a number of studies have used cross section analysis for example, Jung (1986), Rubini and Sala-i-Martin (1992), King and Levine (1993), Levine (1999), Luintel and Kan (1999), Levine et al (2000), Aghion et al., (2005), however, these have been blamed for failure to fully capture the relationship. Consequently, through implementation of econometrics time series; researchers have began to appreciate the need to understand direction of causality on a country level basis, and focus has shifted to country-specific studies, for example, Ghali (1999)-Ghana, Boulika and Trabelisi (2002)-Tunisia, Lee (2005)-Canada, Eita and Jordan (2007)-Botswana, Banda (2007)-Zambia, Guryay et al., (2007)-Northern Cyprus, Odhiambo (2008)-Kenya, Ozturk (2008)-Turkey, Kilimani (2009)-Uganda, Acaravci et al. (2009)-Sub Saharan Africa, Nowbusting et al. (2010)-Mauritius.

Therefore, in-line with other country-specific studies, this study seeks to assess the cointegration and causal relationship between financial system development and economic growth, from a Zimbabwean perspective, for the period 1980-2006. The study uses Granger causality test, to establish the relationship between financial system development and economic growth and thus assess effectiveness of financial intermediation and institutional reforms in promoting sustainable economic growth. Bearing in mind that, whichever way findings and conclusions may lead, they have important implications.

The paper is structured as follows: Section 2 provides an overview of the financial system in Zimbabwe, outlining the major policies and ideologies that have been followed. Section 3 outlines the methodological approach to the study and how the main variables were determined. Section 4 provides a discussion of the data and interpretation of results. Section 5 provides a summary of conclusions and recommended policy interventions.

2. Overview of the Zimbabwean Financial System

Due to macroeconomic imbalances and policy inconsistencies, the financial sector has faced many challenges over the past decades, which have led to pervasive collapse of the sector. Specifically, the Central Bank presided over quasi-fiscal activities, which subsequently fuelled hyperinflation, and posing a threat to financial intermediation. Ultimately, the general public lost confidence the sector, (it was safer to keep your money under the pillow than in a bank). This led to further deterioration in the robustness of the financial system

The Zimbabwean financial system dates back to the 19th century, when the first bank was established in 1872 under a free banking system, which was replaced by a currency board in 1940, and later replaced by the central banking system. The sector is regulated by the Ministry of Finance through the Reserve Bank of Zimbabwe (RBZ); however there is the Ministry of Economic Planning and Development and the Ministry of Industry and International Trade as well. According to Lyton-Edwards Stockbrokers (July, 2012), the Zimbabwean financial sector is 'relatively more developed, compared to other countries in the SADC in the region'.

Up to the 1990s, the financial sector had a sound history (Harvey, 1996) consequently financial sector reforms were not part of economic reforms, as evidenced by the fact that soon after independence a number of changes were introduced in the financial sector, but they 'disappeared fairly soon from the policy agenda' (ibid). The government had always valued the financial sector, and has not dared to interfere with it for fear of capital and skills withdrawal. Consequently, little attention was given to the financial sector in government economic and policy plans, for example, in 1982 and 1983 a Money and Finance Commission was proposed, but was never implemented, and by 1986, there was no mention of financial sector reforms; 'they were no longer part of government agenda' (Harvey, 1996).

Sophisticated levels of financial development in Zimbabwe have existed, even before the era of African independence of the 1960s, for example, the stock exchange was established in 1946 (years before independence), and by 1963 it had 98 quoted shares and 13 brokers, treasury bills were in circulation by 1952, the central bank was set-up in 1956; amongst others. Contrary to other African states, where the drive was to redress access to credit for Africans, the establishment of a central bank was driven more by a 'desire for greater monetary autonomy and recognition of the waste involved in 100% foreign exchange coverage against local currency' (Sowelem, 1967, as quoted in Harvey 1996). By 1960 there was a well developed financial system with a variety of financial institutions, and established markets in government paper and equities (Ibid). According to Makina (2009) during this period the country had a wide range of financial institutions (stock exchange, discount houses, accepting houses and a Postal Bank), but this did not translate into improvement in financial development, as financial depth(ratio of money supplied to GDP) declined from 27% to 21% between 1954 and 1963 (Makina, 2009, Harvey 1996). Nevertheless, bank lending as a percentage of GDP increased from 9% to 11% during the same period. However, in 1980, there was an improvement in financial deepening and the financial depth ratio increased to 35%.

Financial sector liberalization was introduced in the 1990s as part of the broad strategy of improving resource allocation and thus increases bank credit to the private sector; this led to an average growth of 3%per annum in the financial sector; despite the economic contraction in others sectors (Makina, 2006). Empirical evidence has shown that financial sector reforms would still have not resulted in improved financial deepening due to macroeconomic instability (Boyd *et al.,* 2001), as during that period inflation averaged 32% per annum against a critical threshold of 15% (Makina, 2006). Consequently, the reforms had no positive effect on financial sector development.

Over the last decade, there has been shift towards implementation of a strong regulatory oversight, amid a call for the development and growth of the financial sector through implementation of and introduction of modernized financial instruments, to improve resource mobilization and allocation and acceleration of institutional development in the stock market. On the other hand, some advocate for a need to focus on trade and related economic activities in order to spur economic growth.

Following a period of economic contraction, 1998-2008 and the ultimate adoption of multi-currencies, there has been, reportedly, an improvement in real economic growth, amid a myriad of economic challenges emanating from the continuing socio-political and the infrastructural and

regulatory deficiencies which has come along with it, leading to closure of a number of financial institutions due to various reasons. In addition, current pressure on indigenization and policy uncertainty that comes along with it is a threat to economic growth. It is therefore, imperative to understand the relationship between financial system development and economic growth, especially before the multi-currency era, as this has profound implications for regulatory and policy makers, researchers and other economic participants as they seek to develop short-term and long-term strategies to improve economic growth

As at January 2012, there were 17 –Commercial banks, 4 –Merchant Bank, 4-Building Societies, 1-Savings bank, 16-Asset Management Companies, 157-Microfinace Institutions (RBZ-MPS, January 2012); all discount houses and Finance houses have been closed.

3. Methodology

To test for causality between economic growth and financial development, the Ganger causality test is used. According to Granger (1969) a variable *X* causes *Y* if the predictability of *Y* increases when *X* is taken into consideration. Therefore *X* "Granger causes" *Y* if past values of *X* can help explain Y. However, if Granger causality holds this does not guarantee that *X* causes *Y*. But, it suggests that *X* might be causing *Y*.

It is crucial to test for stationary in time series data to avoid spurious regression; i.e. finding a relationship where there is none. Stationarity of variables was investigated through unit root test as well a Johansen Cointegration test to check for cointegrated relationship between indicator of financial development and economic growth.

3.1 Unit Root Test

Stationary in time series implies that its mean and variance are independent of time, if a series has a mean and variance that changes overtime; and has a unit root. Non-stationary data can then be converted to stationary by differencing *k* times, it is said to be integrated of order *k,* denoted I(k); therefore a series that does not need to be differenced is donated by I(0). The most common test of integration is the Augmented Dickey-Fuller (ADF) test, however, Perron (1989, 1990), has proven that the ADF tends to be biased towards non-rejection of alternative hypothesis of a unit root in the existence of a structural change in the mean of a stationary variable. Since financial sector liberalization was introduced in the 1990s, there may be a break in the variables; therefore both ADF and Phillips-Perron (PP) tests were used. Both tests are used to check test the null hypothesis that a series has no unit root (non-stationary) against the alternative hypothesis of stationarity. If the calculated test statistic value is lower than the McKinnon's critical value the null hypothesis is rejected, and the variables are considered to be stationary.

3.2 Johansen Cointegration Test

If the variables are found to be integrated of same order then a test for cointegration can be done to check the existence of a long run relationship. Times series variables are considered to be cointegrated if they have a linear relationship and both are integrated of the same order.

3.3 The Granger causality test

The Granger causality has been widely used in testing for causality. The traditional Granger test for testing causality between financial system development (FD) and economic growth (GDP) can be represented as follows:

$$GDP_t = \sum_{i=1}^{n} \beta_i FD_{t-i} + \sum_{i=1}^{n} \lambda_i GDP_{t-i} + \delta_t \quad (1)$$

$$FD_t = \sum_{i=1}^{n} \mu_i FD_{t-i} + \sum_{i=1}^{n} \theta_i GDP_{t-i} + \varepsilon_t \quad (2)$$

where δ_t and ε_t are uncorrelated.

The test involves testing the null hypothesis that there is no Granger causality and any of the following conditions may prevail:

- If estimated coefficients on lagged FD are statistically different from zero, i.e. $\sum\beta_i \neq 0$, and set of coefficients on lagged GDP is not statistically different form zero, i.e. $\sum\theta_i = 0$, then there is unidirectional causality from, FD→ GDP
- If lagged GDP coefficients are statistically different from zero, i.e. $\sum\theta_i \neq 0$ and set of lagged FD

coefficients are not statistically different from zero, i.e. $\sum\beta_i = 0$. This implies unidirectional causality from GDP → FD.

- If both estimated coefficients on lagged FD and lagged GDP coefficients are statistically different from zero, i.e. $\sum\beta_i \neq 0$ and $\sum\theta_i \neq 0$, then there is bilateral causality or Feedback, GDP↔ FD
- Finally independence is implied when sets of GDP and FD coefficients are not statistically significant in both equations, i.e. $\sum\theta_i = 0$ and $\sum\beta_i = 0$

To test the hypothesis, the Granger causality uses the simple F-test statistic, namely;

$$F = \frac{(RSS_R - RSS_{UR})/m}{RSS_{UR}/(n-k)} \quad (3)$$

which follows the F Distribution with *m* and *(n-k)* degrees of freedom, where *m* is the number of lagged FD terms and *k* is estimated parameters in the unrestricted regression (number)? Therefore the null hypothesis is rejected if computed *F* value exceeds critical *F* value at a certain level of confidence; i.e. *FD causes GDP.*

Despite the contribution that the basic Granger causality test has brought in causality testing, according to [15] 'Causality of the cointegration type will not be captured by a Granger test', Therefore the traditional Granger test should not be used if analyzed data are stationary after being first differenced, i.e. I (1) and cointegrated, under such circumstances causality should be analyzed using the Error Correction Model (ECM) represented as follows:

$$\log GDP_t = \sum_{i=1}^{n} \beta_i \log FD_{t-i} + \sum_{i=1}^{n} \lambda_i \log GDP_{t-i} + \gamma_1 \varphi_{1t-1} + \delta_t \quad (4)$$

$$\log FD_t = \sum_{i=1}^{n} \mu_i \log FD_{t-i} + \sum_{i=1}^{n} \theta_i \log GDP_{t-i} + \gamma_2 \varphi_{2t-1} + \varepsilon_t \quad (5)$$

where φ_{1t-1} and φ_{2t-1} are lagged error term values

Using an error correction model, a test is conducted to test the significance of the residual φ_{1t-1} to show existence of cointegration. In testing long-run relationship, the F-tests are used. The null hypothesis is that the coefficient of the residual is zero. Therefore if estimated φ_1 is statistically significant, then there is long run relationship from *FD* to *GDP*. In addition φ_1 should have a negative sign for error correction mechanism to exist; ECM helps to give the long run and short run dynamics.

4. Data Analysis and Interpretation of Results

The study uses data gathered, online from the World Bank Database, for the period 1980-2006, it would have been ideal to use data up to 2011, however due unavailability of some data over the period 2007-2009, the above was adopted. In addition, focus on this period will help to access the situation during a period when the economy was robust, and try to come up with projections for the future. However, this limitation therefore calls for use of simple models for data analysis.

The main variables of study; economic development and financial growth were determined as follows:

4.1 Economic growth

The study uses real Gross Domestic Product(GDP) per capita as a measure of economic growth, this therefore becomes the dependant variable; a widely used indicator of economic growth in most studies, for example King and Levine (1993), Demetriades and Hussein (1996), Levine et al (2000), Jalil and Ma (2008) , Kilimani (2009) and Johannes et al. (2011). If growth rate of GDP is higher than the population growth rate, average household income would increase and thus more resources would be allocated for investment and development

4.2 Financial system development

Financial system development is determined by the value of financial assets as a ratio of GDP, however because of missing data for some years this measure was not used. Instead, the study uses four indicators of financial system development:

4.2.1 Domestic Credit to Private Sector (DCPVT): it is a very common measure of allocative efficiency in the financial sector, as the financial system develops allocative efficiency is expected to improve. It is used as a proxy to credit to private sector (Jalil and Ma, 2008). Private credit as a ratio

of GDP a true indicator of volume of funds to the private sector and thus a good indicator of financial intermediation (De Gregorio and Guidotti, 1995; Akinboade, 1998). In addition credit to private sector creates productivity more than credit to public sector (Akinboade, 1998). ATherefore it indicates development in financial intermediation (Akinboade, 1998, Kar and Pentecost, 2000). Supply of credit to the private sector indicates the quantity and quality of investment (Demetriades and Hussein, 1996). According to Boulila and Trebelisi (2002), it is a good proxy of financial sector development in developing countries.

4.2.2 Stock Market Capitalization Ratio to GDP (MKTCAP): stock price multiplied by the number of shares outstanding, and is a widely accepted proxy for stock market development. Despite the general assertion that stock markets play a limited role in developing economies (World bank 1989; King and Levine, 1993) this variable was included as stock market development is considered to be key for economic growth. Though Broad Money to GDP Ratio (M2) is a widely used measure of financial development (World Bank, 1989; King and Levine, 1993; Demetriades and Hussein, 1996), an improvement in this ratio, implies an improvement in financial deepening (Boulila and Trebelsi, 2002). However this may mislead; especially if the currency consists of a high proportion of broad money, in this case a rise in M2 will not reflect financial depth as it will refer to monetization (Demetriades and Hussein, 1996). Thus M2 reflects more currency than rise in bank deposits (Ghali, 1999), for this reason liquid liabilities to GDP were used.

4.2.3 Liquid Liabilities to GDP Ratio (LLY): this is generally considered as the main indicator of financial depth; it shows the proportionate size of the financial sector to the whole economy (Johannes, et al., 2011). It is a broader measure of monetary aggregate (Islam et al., 2004) and an increase in this ratio may be interpreted as an improvement in financial deepening in the economy (Boulila and Trabelis, 2002) it is alos a measure of the size of the financial intermediaries (Nowbusting et al., 2010).

4.3 Control variables: these are made up of the main determinants of economic growth

4.3.1 Inflation (INFL) - used in a number of studies and is expected to negatively affect growth

4.3.2 Real Interest Rate (RIR) - expected to positively affect growth

4.3.3 Openness of economy (OPEN): this expected to have a positive impact on growth (Yanikkaya, 2002; Andersen and Babula, 2008; Johannes et al., 2011; Osei-Yeboah et al., 2012; Ahmadi and Mohebbi, 2012) it is measured as the sum of exports and imports of goods and services as a share of GDP. The smaller the country the more open it should be to and if there is a high degree of protection the degree of openness will be smaller (Rodriquez, 2000).

All variables were expressed in logarithm to smoothen the data, (thus were changed to LGDP, LDCPVT, LLLY, LMKTCAP, LINFL, LRIR, LOPEN). To ensure the variables used in the model are stationary, they were all tested for unit root using the Augmented Dickey-Fuller (ADF) and Philips Perron (PP) test. Therefore a lag one with first differencing was used, after which all variables become stationary except for LRIR, which was non-stationary using ADF test with no trend,. However as alluded to above the results of PP test would be considered to be more valid due to existence of break in variables, the results were as presented below:

Table 1. Unit Root Test Results: First Difference

Variable	ADF	PP	ADF	PP
	Intercept		Intercept and Trend	
LGDP	-4.205850*	-4.178441*	-4.546287*	-4.128533**
LDCPVT	-3.337326**	-4.912128*	-3.826959**	-6.259601*
LLLY	-10.35321*	-7.149761*	-10.35038*	-6.996667*
LMKTCAP	-4.708309*	-4.102459*	-4.553761*	-3.919996**
LINFL	-4.779849*	-4.779849*	-4.761323*	-4.761323*
LRIR	-2.256124	-4.693854*	-5.259898*	-10.51754*
LOPEN	-4.672127*	-4.667814*	-4.577349*	-4.567242*

*/**/*** Indicates stationarity at 1%/5%/10% respectively

4.4 Cointegration Test

Since all variables are integrated with order one, i.e. I (1), the Johansen cointegration, test can be applied, cointegration implies existence of long-run equilibrium relationship; thus help predict stable

long-run relationship between indicators of financial development and economic growth. According to Granger (1986) testing for cointegration helps to avoid spurious regression. Non-stationary variables can lead to spurious regression unless at least one cointegrating vector is present (Nowbutsing, Ramsohok and Ramsohok, 2010).

Test for cointegration was conducted using the maximum likelihood method (Jahansen, 1988); the results are shown in Table 2, below. Based on the Eigen value statics, we reject the null hypothesis of no cointegrating vectors; the test indicates two long-run relationships among the variables.

Table 2. Johansen Cointegration Test Results

Hypothesized		Trace	0.05	0.01	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Critical Value	Prob.***
None */**	0.985685	316.2008	150.5585	161.7185	0.0000
At most 1 */**	0.970217	210.0391	117.7082	127.7086	0.0000
At most 2 */**	0.814950	122.1940	88.80380	97.59724	0.0000
At most 3 */**	0.702325	80.01585	63.87610	71.47921	0.0012
At most 4 */**	0.602222	49.72199	42.91525	49.36275	0.0091
At most 5 **	0.560535	26.67548	25.87211	31.15385	0.0397
At most 6	0.217157	6.120563	12.51798	16.55386	0.4451

Trace test indicates 5 cointegrating eqn(s) at the 1% level and 6 cointegrating eqn(s) at the 5% level
*/** denotes rejection of the hypothesis at the 1%/5% level
***MacKinnon-Haug-Michelis (1999) p-values

4.5 Vector Error Correction Model (VECM)

The Error Correction Model allows for testing for long-run relation, existence of cointegration relationships implies long-run relation. The error correction equations are shown in Appendix 1.

4.6 Granger causality test

In testing for Granger causality, the null hypothesis is rejected if the probability of the F-statistics is less than 5%. The test indicates no causal relationship between real GDP and Capital Market Capitalization.

Table 3. Granger Causality results

Null Hypothesis:		**F-Statistic**	**Prob.**
LGDP does not Granger Cause LDCPVT		2.60623	0.0987**
LDCPVT does not Granger Cause LGDP		0.12077	0.8869
LLLY does not Granger Cause LGDP		0.90853	0.4191
LGDP does not Granger Cause LLLY		5.13952	0.0158*
LMKTCAP does not Granger Cause LGDP		0.22593	0.7998
LGDP does not Granger Cause LMKTCAP		2.25187	0.1312

Note: */** indicate rejection of null hypothesis at 5%/10% significance levels

The Granger tests indicate existence of growth led financial development. The above table suggests causality runs from Economic Growth GDP to Domestic Credit to Private Sector(DCPVT) and Liquid liabilities to GDP (LLLY); implying existence of demand following development in finance. Therefore economic growth leads to increased financial deepening. Based on the results we can reject the assertion that causality runs from financial development to growth (the supply-leading relationship) and conclude the demand-leading hypothesis holds for Zimbabwe.

5. Conclusions

The aim of the study was to examine the causality between economic growth and financial system development in Zimbabwe (for the period 1980-2006), namely Stock Market Capitalization Ratio to GDP, Liquid Liabilities to GDP ratio and Domestic Credit to Private to GDP, using data from 1980-2006, three control variables were used namely; Inflation, Real Interest Rate and Openness of economy (OPEN. Before analyzing the data using Granger causality test, the data was first tested for stationary using the Augmented Dickey-Fuller (ADF) and Philips Perron (PP) tests, and all variables

were found to be stationary after first differencing, and Johansen test for cointegration were performed.

Evidence from the study does not support the view that financial development promotes economic growth in Zimbabwe. According to Islam et al., (2004), developing countries have their own socio-economic, political and institutional history which makes them different from each other as well as their developed counterparts, and thus the existence of a reverse causality between finance and growth. Financial system development is a passive reaction to economic growth; it comes as a pressure for institutional development and introduction of modernized financial instruments brought by economic growth. There are several possible reasons for this reverse causality:

- The political and regulatory ambiguity could be hindering the financial sector from contributing significantly to economic growth. There is therefore a need to assess the impact of the current indigenization on investment and ultimately economic growth, in order to come-up with ways on how it can be implemented without negatively affecting economic growth.
- Financial reforms affected have not been effective, or they have fallen short in ensuring the sector contributes positively economic growth and development. This could be partly due to the fact that since the implementation of regulatory and supervisory policies by the Reserve Bank of Zimbabwe (RBZ) a number of financial institutions have closed down for various reasons.
- This could also imply that the underdevelopment of financial/capital markets in Zimbabwe makes it very difficult for the finance sector to employ modernized financial instruments. Development of financial system would help reduce information and transaction costs and thus improve financial deepening; which will subsequently improve economic growth.
- Lastly, this may imply that the financial sector is fragile (for example due to non-performing loans), and thus financial intermediation may be very low.

This may suggest that policy initiatives should shift towards trade liberalization, employment creation and other related activities to spur economic growth since financial system development is a passive reaction to economic growth. Such policies might include investment promotion and removal of barriers for foreign investments.

References

Acaravci, S.K., Ozturk, I., Acaravci, A. (2009). Financial Development and Economic Growth: Literature Survey and Empirical Evidence from Sub-Saharan African Countries, South African Journal of Economic and Management Sciences, 12(1), 11-27.

Aghion, P., Howitt, P., Mayer-Foulikes, D. (2005) The Effect of Financial Development on Convergence: Theory and Evidence, Quarterly Journal of Economics, 120(1), 173-222.

Ahmadi, R., Mohebbi, N. (2012), Trade Openness and Economic Growth in Iran, Journal of Basic and Applied Scientific Research, 2(1), 885-890.

Ahmed, A.D. (2006), The impact of Financial Liberalization Policies: The Case of Botswana, Journal of African Development, 1(1), 13-38.

Ahmed, E., Malik, A., (2009), Financial Sector Development and Economic Growth: An empirical Analysis of Developing Countries, Journal of Economic Cooperation and Development, 30(1), 17-40.

Al-Yousif, K. (2002), Financial Development and Economic Growth: Another look at the Evidence from Developing Countries, Review of Financial Economics 11(2), 131-150.

Akinboade, O.A. (1998), Financial Development and Economic Growth in Botswana: a test for causality, Savings and Development, XX11(3), 331-347.

Andersen, L.T., Babula, R. (2008). The Link Between Openness and Long-run Economic Growth, Journal of International Commerce, Economics and Policy (Washington DC).

Apergis, N. Filippidi, I., Economidou, C. (2007), Financial Deepening and Economic Growth Linkages: A Panel Data Analysis, Review of World Economics, 143(1), 179-198

Bagehot, W. (1873), Lombard Street: A Description of the Money Market, London: John Murray

Banda, L. (2007), Finance-Growth Nexus; A Multivariate VAR Analysis of Zambia's Economy, Cape Town University, ESSA Conference, September 2007.

Boulika, G., Trabelisi, M. (2002), Financial Development and Long-Run Growth: Granger Causality in Bivariate VAR Structure, Evidence from Tunisia: 1962-1997. Available at: www.erf.org.eg/CMS/getFile.php?id=700

Boyd, J.H., Levine, R., Smith, B.D. (2001), The Impact of Inflation on Financial Sector Performance, Journal of Monetary Economics, 47(2), 221–248.

Buffie, E., (1984), Financial Repression, the New Structuralists, and Stabilization Policy in Semi-Industrialized Economies, Journal of Development Economics, 14, 305-322,

Calderon, C., Liu, L. (2003), The Direction of Causality Between Financial Development and Economic Growth, Journal of Development Economics, 72(1), 321-334.

De Gregorio, J., Guidotti, P. (1995), Financial Development and Economic Growth, World Development, 23(3), 433-438.

Demetriades, P., Hussein, K. (1996), Does Financial Development Cause Economic Growth? Time Series Evidence from 16 Countries, Journal of Development Economics, Elsevier, 51(2), 387-411.

Eita, J.H., Jordan, A.C. (2007), A Causality Analysis Between Financial Development and Economic Growth for Botswana, University of Pretoria, Working Paper 2007-22, October

Engle, R.F., Granger, C.W.J (1987), Co-integration and Error Correction: Representation, Estimation and Testing, Econometrica, 55(2), 251-276.

Esso, L.J. (2010), Cointegrating and causal relationship between financial development and economic growth in ECOWAS countries, Journal of Economics and International Finance, 2(3), 036-048.

Fry, M.J. (1978), Money or Capital or Financial Deepening in Economic Development, Journal of Money Credit and Banking, 10(4), 464-75.

Fry, M.J. (1980) Savings, Investment, Growth and the Cost of Financial Repression, World Development, 8(4), 317-327.

Galbis, V. (1977), Financial Intermediation and Economic Growth in Less-developed Countries: A Theoretical Approach, Journal of Development Studies, 13(2), 58-72.

Ghali, K.H. (1999), Government Size and Economic Growth: Evidence from a Multivariate Cointegration Analysis, Applied Economics, 31(8), 975-987.

Goldsmith, R.W. (1969), Financial Structure and Development, New Haven, CT: Yale University Press

Gono, G. (2012) Monetary Policy Statement, Reserve Bank of Zimbabwe, January 2012.

Granger, C.W.J. (1969), Investigating Causal Relationships by Econometric Models and Cross-spectral Models. Econometrica, 37(3), 424-438.

Greenwood, J., Smith, B. (1997), Financial markets in Development, and the Development of Financial Markets, Journal of Economic Dynamics and Control, 21(1), 145-181.

Gurley J.G. Shaw, E.S. (1955), Financial Aspects of Economic Development, American Economic Review, 45(4), 515-538.

Guryay, E., Safkli, O.V., Tuzel, B., (2007) Financial Development and Economic Growth: Evidence from Northern Cyprus, International Research Journal of Finance and Economics, 8(27).

Harvey, C. (1996) The Limited Impact of Financial Sector Reforms in Zimbabwe, University of Sussex. Institute of Development Studies, Working paper, 1353-6141.

Hicks, J. (1969), A Theory of Economic History, Oxford, Claredon Press.

Islam, R., Habib, W., Khan, H. (2004), A Time Series Analysis of Finance and growth in Bangladesh, The Bangladesh Development Studies, 30(1/2), 111-128.

Jalil, A., Ma, Y. (2008), Financial Development and Economic Growth: Time Series Evidence from Pakistan and China, Journal of Economic Cooperation, 29(2), 29-67.

Johansen, S. (1988), Statistical Analysis of Co-integrating Vectors, Journal of Economic Dynamic Control, 12(2-3), 231-254.

Johannes, A. T., Njong, A.M., Cletus, N. (2011), Financial Development and Economic Growth in Cameroon 1970-2005, Journal of Economics and International Finance, 3(6), 367-375.

Jung, W.S (1986), Financial Development and Economic Growth, Economic Development and Cultural Change, 34(2), 336-346.

Kar, M., Pentecost, E.J. (2000), Financial Development and Economic Growth in Turkey: Further evidence on the Causality Issue, Loughborough. University Economic Research Paper No. 00/27.

Kilimani, N. (2009), The Link Between Financial Development and Economic Growth in Uganda: A Causality Test, A paper presented at the Centre for Study of African Economies (CSAE) Conference, 22-24 March 2009.

King, R.G. and Levine, R. (1993), Finance and Growth: Schumpeter might be right, Quarterly Journal of Economics, 108(3), 717-737.

Kirkpatrick, C. (2000), Financial Development, Economic Growth and Poverty Reduction, Mahboob Ul Haq Memorial Lecture at 16th AGM of PSDE.

Lee, J. (2005) Financial Intermediation and Economic Growth Evidence from Canada, Presented at the Eastern Economic Association, New York, March 4, 2005.

Levine, R. (1997), Financial Development and Economic Growth: Views and Agenda, Journal of Economic Literature, 35(2), 688-776.

Levine, R. (1999), Law, Finance and Economic Growth, Journal of Financial Intermediation, 8(1), 36-67.

Levine, R., Loayza, N., Beck, T. (2000), Financial Intermediation and Growth Causality and Causes, journal of Monetary Economics, 46(1), 31-77.

Levine, R. (2004), Finance and Growth: Theory and Evidence, national Bureau of Economic Research, Working Paper 10766, September 2004, http://www.nber.org/papers/w10766, accessed on 19 July 2012.

Lucas, R.E. (1988) On the mechanics of economic development. Journal of Monetary Economics, 22(1), 3-42.

Luintel, K.B., Kan, M. (1999), A Quantitative Reassessment of the Finance-growth Nexus: Evidence from a Multivariate VAR, Journal of Development Economics, 60(2), 381-405.

Lyton-Edwards Stockbrokers (News Flash July, 2012), http://stockbrokers.lynton-edwards.com/zimbabwe, accessed on 27 July 2012.

Makina, D. (2009), Recovery of the Financial Sector and Building Financial Inclusiveness, United Nations Development Programme Comprehensive Economic Recovery in Zimbabwe, Working Paper Series, Working Paper 5, United Nations or UNDP.

Miller, M.H. (1998), Financial Markets and Economic Growth, Journal of Applied Corporate Finance, 11(3), 8-14.

Ndikumana, L. (2001),Financial Markets and Economic Development in Africa, Political Economy research Institute, University of Massachusetts Amherst, Working Paper Series, Number 17, Available at: www-unix.oit.umass.edu/~ndiku

Nowbusting, B.M., Ramsohok, S., Ramsohok, K. (2010), A Multivariate Analysis of Financial Development and Growth in Mauritius: New Evidence, Global Journal of Human Social Science, 10(1), 2-13.

Odhiambo, N.M. (2005), Financial Development and Economic Growth in Tanzania: A Dynamic Causality Test, African Finance Journal, 7(1), 1-17.

Ozturk, I. (2008) Financial Development and Economic Growth: Empirical Evidence from Turkey, *Applied Econometrics and International Development*, 8(1), 85–98.

Padilla, S.B., Mayer, H.P. (2002), Is Financial Development Important for Economic Growth in Slovenia. http://www.epoc.uni-bremen.de/publications/pup2003/files/Budapest_Padilla.PDF

Patrick, H.T. (1966) Financial development and economic growth in underdeveloped countries, Economic Development and Cultural Change, 14(1), 174-189.

Perron, P. (1989), The Great Crash, The Oil Price and The Unit Root Hypothesis, Econometrica, 57(6), 1361-1401.

Perron, P. (1990), Testing for Unit Root in a Time Series with Changing Mean, Journal of Business and Economic Statistics, 8(2), 153-162.

Robinson, J. (1952), The Generalization of the General Theory, In: the Rate of Interest and Other Essays, London: MacMillan.

Rodriguez, F., and Rodrik, D., (2000), Trade Policy and Economic Growth: A Skeptic's Guide to Cross National Evidence. Available at: http://www.hks.harvard.edu/fs/drodrik/Research%20papers/skepti1299.pdf

Rubini, N., Sala-i-Martin, X. (1992), Financial Repression and Economic Growth, Journal of Development Economics, 39(1) 5-30.

Schumpeter, J.A. (1912) Theorie der Wirtschaftlichen Entwicklung (The Theory of Economic Development) Leipzig: Dunker and Humblot, Translated by Redvers Opie Cambridge, MA: Havard University Press.

Shaw, E. (1973), Financial Deepening in Economic Development, New York: Oxford University Press

Stern, N. (1989). The Economics of Development: A Survey, Economic Journal, 99(397), 597–685.

Van Wijnberg, S. (1983), Interest Rate Management in LDCs, Journal of Monetary Economics, 12(3), 433-452.

Yanikkaya, H. (2002), Convergence: A Cross Country Empirical Analysis, http://www2.bayar.edu.tr/yonetimekonomi/dergi/pdf/C8S12001/HY.PDF, accessed on 20 July 2012.

Yeboah, O., Naanwaab, S., Saleem, S., Akuffo, A.S. ((2012), Effects of Trade Openness on Economic Growth: The Case of African Countries, Presentation at the Southern Agricultural Economics Association Annual Meeting, Birmingham, AL, February 4-7, 2012.

World Bank (1989), World Development Report 1989, New York: Oxford University Press for the World Bank.

World Bank, (2001), World Development Indicator 2001, World Bank, Washington DC.

Zimbabwe Economic Performance Assessment: A Benchmark Study, United States Agency for International Development or the United States Government. https://www.cia.gov/library/publications/the-world-factbook/geos/zi.html

Appendix 1. Vector Error Correction Estimates

Error Correction:	D(LDCPVT)	D(LLLY)	D(LMKTCAP)
CointEq1	-1.913546	0.080960	-1.797435
	(0.36306)	(0.10846)	(0.23996)
	[-5.27059]	[0.74645]	[-7.49047]
D(LDCPVT(-1))	0.286760	-0.325262	0.107199
	(0.47137)	(0.14081)	(0.31155)
	[0.60836]	[-2.30986]	[0.34409]
D(LDCPVT(-2))	0.153032	-0.042418	0.180126
	(0.49395)	(0.14756)	(0.32647)
	[0.30981]	[-0.28746]	[0.55174]
D(LLLY(-1))	-0.135561	-0.239132	-0.141150
	(0.32033)	(0.09570)	(0.21172)
	[-0.42319]	[-2.49889]	[-0.66668]
D(LLLY(-2))	0.286284	0.014339	0.302998
	(0.25683)	(0.07673)	(0.16975)
	[1.11468]	[0.18689]	[1.78495]
D(LMKTCAP(-1))	0.988991	0.427666	0.870209
	(0.39307)	(0.11742)	(0.25980)
	[2.51607]	[3.64206]	[3.34957]
D(LMKTCAP(-2))	0.462190	0.047035	0.367149
	(0.48876)	(0.14601)	(0.32304)
	[0.94565]	[0.32214]	[1.13654]

C	7.918455	-0.662559	16.76170
	(5.92924)	(1.77128)	(3.91890)
	[1.33549]	[-0.37406]	[4.27715]
LGDP	-0.338105	0.223874	-1.563005
	(0.71887)	(0.21475)	(0.47513)
	[-0.47033]	[1.04247]	[-3.28962]
LINFL	-0.040214	0.043097	-0.076224
	(0.11503)	(0.03436)	(0.07603)
	[-0.34959]	[1.25413]	[-1.00255]
LOPEN	-1.243665	-0.211791	-1.368148
	(0.37564)	(0.11222)	(0.24828)
	[-3.31079]	[-1.88733]	[-5.51056]
LRIR	-0.124866	0.007436	-0.217379
	(0.11797)	(0.03524)	(0.07797)
	[-1.05849]	[0.21101]	[-2.78801]
R-squared	0.860730	0.891624	0.927575
Adj. R-squared	0.733065	0.792279	0.861186
Sum sq. resids	0.780181	0.069626	0.340820
S.E. equation	0.254981	0.076172	0.168528
F-statistic	6.742123	8.975047	13.97178
Log likelihood	7.060871	36.05749	16.99893
Akaike AIC	0.411594	-2.004791	-0.416577
Schwarz SC	1.000621	-1.415764	0.172449
Mean dependent	0.074191	0.086094	0.050796
S.D. dependent	0.493520	0.167130	0.452330
Determinant resid covariance (dof adj.)		3.86E-06	
Determinant resid covariance		4.82E-07	
Log likelihood		72.37323	
Akaike information criterion		-2.781102	
Schwarz criterion		-0.866765	

Standard errors in ( ) & t-statistics in [ ]