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Financial Development and Economic Growth: A Case of Indian Economy

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ABSTRACT

Long run high growth of an economy requires mobilization of large amount of savings and then its allocation to the highest return assets/projects. For such efficiency, a well-developed financial system has always been a requirement. An Attempt in the present study has been made to examine if the financial sector development in Indian economy since 1981 has contributed to long run economic growth of the economy. For this purpose, a financial development index has been formulated using principal component analysis, using the variables from banking sector as well as the stock market, capturing almost the entire financial system. The study makes use of the data spanning from 1981-2011 including the break during 1991 when Indian financial system went through crucial financial reforms. GDP at constant US dollars has been used as a proxy variable for economic growth of the country. Two variable Engle-Granger approach has been used to find out long run equilibrium relationship between financial development and economic growth in the context of the Indian economy. Study confirms the long run co-movements between financial development and economic growth in India. However, Error Correction Model (ECM) does not support short run relation.

Keywords:*Financial Development, Stock Market, Developing Countries, GDP, Growth, Financial Institutions.*

1. INTRODUCTION

Every economy requires a sophisticated and an efficient financial system to progress because a healthy financial system is sine qua non for the sound fundamentals of an economy (1 & 2). The financial system in any economy utilizes the available productive resources to promote capital formation. A well developed financial system can channelize the resources to the most appropriate and productive projects. Ensuring optimal allocation of attained funds to appropriate investment projects is the major agenda for the financial system of any nation. Mobilization and pooling of savings, easing the exchange of goods and services are the key features of a well developed financial system. The more developed the financial system is, the more proper will be the allocation of accumulated funds.

The deployment of funds in high return investment projects is the basis of high growth of an economy. Financial development promotes economic growth both directly as well as indirectly through its impact on capital accumulation and total factor productivity or efficiency channel (3). The relationship between financial development and economic growth has been treated extensively in theoretical as well as empirical research (4). Financial sector development includes both financial widening and financial deepening (5). It can be in the form of improvement in the quantity, quality and efficiency of financial intermediary services (6). Financial development represents improvement in financial services which facilitate greater access to financial intermediaries, reduction in information asymmetries leading to better allocation, greater diversification, improved monitoring of managers and high level of corporate control which helps risk reduction.

Whether the financial development leads to growth in the real sector of an economy, and hence economic development, is a much debated issue (7). Literature has focused on the role of various policies and instruments such as macroeconomic stability, inequality, income and wealth, ethnic and religious diversity and many more in economic growth (8). Of these, reduction in imperfections in financial markets has received prime attention. Many studies have also focused on whether it is finance that causes growth or it is economic development that necessitates the growth of financial services. According to Ang (2008) (1), efficient and sophisticated financial system is always required for sound fundamentals of an economy and weakened financial system cannot boost growth of the economy. Financial development leads to higher output growth both by boosting saving and investment (1 & 9). Moreover, the economy which has not developed financial system is prone to the contagions from outside world (3 & 10).

Our concern in the present study is to examine the causal relationship between financial development and economic growth. In existing literature, the role of financial development in economic growth has been explored, but mostly for the developed countries. The reason may be that, for about more than two decades, many developing economies had been making significant changes in their

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economic and financial structure. So, possibly it had not been easy to determine this relationship; and lack of time series data in case of developing nations is another reason. India is among other nations whose economic & financial system underwent many structural changes since early nineties. The present paper makes an attempt to study whether financial development has been a causing factor for economic growth in India.

2. FINANCE-GROWTH RELATIONSHIP

The relationship between financial development and economic growth has remained an issue of intense debate since long. Finance-growth nexus has been dated back to Schumpeter (1911) (11) who pointed out the positive role of financial development in economic growth. Since then, it has attained considerable attention in both theoretical and empirical literature (2). There is strong belief among economists and analysts that financial development plays important role in economic growth. Financial development contributes to economic growth mainly through two channels (1, 2 & 12). First, by increasing the efficiency of accumulated capital that leads to an increase in marginal productivity of capital; and second, by increasing the rate of saving and hence investment through increased number of and well performing financial institutions. The efficiency channel has been considered stronger one (13). In the literature, specific factors have been identified that account for influence of financial development on economic growth (14). Financial market development (i) reduce transaction costs and facilitate management risk, (ii) mobilize and pool savings, (iii) ease the exchange of goods and services, (iv) makes available required information for possible investment, and (v) monitor investments and exercise corporate governance. According to Anwar & Sun (2011) (3), the contribution of financial development towards economic growth is in the form of increased confidence of people in financial system which actually facilitates an increase in saving and, as a result, increase in funds for investment.

Shenet. al. (2006) (15) in their study has articulated non linear relation between financial development and economic growth. According to them, at different levels of economic development, financial structure of an economy is different. So, role played by financial institutions in growth process is different at different levels of development. Financial depth contributes more in case of developing countries than developed ones toward economic growth (13).

3. LITERATURE REVIEW

A voluminous amount of literature exists that studied the relationship between financial development and economic growth. Many studies in the literature have recognized positive and significant relation between these two. Broadly, there are four views on finance-growth nexus. The first view suggests that there is positive impact of financial development on economic growth of a country. This view was proposed by Schumpeter (1911) (11), Gurley and Shaw (1955) (16), Goldsmith (1969) (17), Hicks (1969) (18), McKinnon (1973) (19). Many recent empirical studies like Thornton (1994) (20), Ahmed & Ansari (1998) (5), Calderon & Liu (2003) (13), Bhattacharya &Sivasubramanian (2003) (21), Graff (2003) (22), Fase&Abma (2003) (9),Christopoulos&Tsionas (2004) (8), Liu & Hsu (2006) (23), Yang & Yi (2008) (24), Ang (2008) (1), Wadud (2009) (25), Anwar & Nguyen (2011) (26), Dawson (2010) (27), Esso (2010) (2), Bittencourt (2012) (28), Bojanic (2012) (29) and Hussain&Chakraborty (2012) (30) (in case of Indian state) etc. have analyzed the active role that a developed financial sector played in promoting economic growth. The another one is demand side view, which stresses that finance-growth relation exists in inverse causation. Robinson (1952) (31), Friedman and Schwartz (1963) (32), Jung (1986) (33) support this view. The view suggests that the demand for financial services aroused from economic growth is a driving factor for the development of financial sector. In other words, the demand for the financial services increases as the real sector of the economy expands (2). Latest empirical studies such as Demerriades and Hussein (1996) (34), Liang &Teng (2006) (35) in case of China; Apergis (2007) (14), Ang&Mckibbin (2007) (36) in case of Malaysia; Abu-Bader & Abu-Qarn (2008) (4), Wolde-Rufael (2009) (37), Hassan et. al. (2011) (38) in case of industrialized nations support this view. However, in their studies, Karet.al. (2011) (7) and Hsueh et.al. (2013) (39) have suggested that direction of relation between finance and growth is dependent on countries selected, and on indicators used to represent financial development. Between the above said two views, there is a third view supported by Demerriades and Hussein (1996) (34), and Greenwood and Smith (1997) (41) who claim that there is bidirectional causality between financial development and economic growth. Hondroyianniset.al. (2005) (41), Apergiset.al. (2007) (14), Abu-Bader & Abu-Qarn (2008) (4), Handa& Khan (2008) (42) in case of India, Wold-Rufael (2009) (37), Adamopoulos (2010) (43), Fowowe (2011) (6) Hassan et.al. (2011) (38), William & Fung (2013) (44) etc are the empirical studies that have articulated the bidirectional relationship. Apart from these, a view provided by Lucas (1988) (45) discarded finance as a growth driver. That is, according to him, there is no causal relationship between financial development and economic growth. Studies by Ratiram (1999) (46), Grieset. al. (2007) (47) and Chimobi (2010) (48) in case of Nigeria supported this view point

4. SCOPE AND OBJECTIVE OF THE STUDY

The literature scrutinizing the role of development in financial sector in boosting economic growth is dominated by cross country and panel studies. It may be due

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to lack of time series data for most of the developing countries that empirical time series studies for individual countries are less (1). Although, recent empirical time series studies like Bhattacharya &Sivasubramanian (2003) (21), Hondroyianniset. al. (2005) (41), Liang &Teng (2006) (35), Liu & Hsu (2004) (23), Ang&Mckibbin (2007) (36), Yang & Yi (2007) (24) Ang (2008) (1), Adamopoulos (2008) (43), Handa& Khan (2008) (42), Abu-Bader & Abu-Qarn (2008) (4), Wolde-Rufael (2009) (37), Anwar & Nguyen (2009) (26), Chimobi (2010) (48), Answer & Sun (2011) (3), Bojanic (2012) (29) are available, but merely a few of these focused on the Indian economy. The present study offers a contribution towards existing literature in case of Indian economy by developing a composite financial development index using principal component analysis. The objective of the study is to analyze the long run causal relationship between financial development and economic growth in the Indian context. A time series approach using VAR (Vector AutoRegressive) methodology has been used to analyze short run dynamic relationship too. A break has been included in the study so as to accommodate the crucial financial reforms that might have impacted the relationship.

5. DATABASE AND METHODOLOGY

The study has made use of time series data spanning over 1981-2011 encompassing the period of 30 years. The data has been culled out from the World Development Indicators database (2011) by the World Bank, International Financial Statistics (2011) by the International Monetary Fund and Handbook of Statistics (2011) published by the Reserve Bank of India. For the purpose of measuring extent of financial development in the economy, financial development index (INDEX) has been formulated. Throughout, various proxies (variables) for measuring financial development have been used in the existing literature. After exploring all these, our study attempts to measure financial development in India by taking some of these variables as proxies, and constructed composite index (INDEX) of financial development. Six proxy variables representing both money and capital markets, have been considered. These variables are total banking business (ratio of (total credit + total deposits)to GDP), credit-deposit ratio, rate of monetization (M3/GDP), value traded ratio (value of stocks traded/ GDP), turnover ratio (value of stocks traded/stock market capitalization), ratio of credit to private sector to GDP.

Among these, first, second and sixth variables represent banking activities; third variable is intended to depict role of money supply in the economy; and rest of these are specific to stock market, which have been taken to capture the activities in stock market. All these variables contribute in measuring financial development in an economy.

The technique of Principal Component Analysis (PCA) has been used to develop composite index (INDEX). The advantage of using this technique to construct an index is to make use of one composite variable based on factor loadings given by first principal component (that explains maximum variance in the data) , instead of using various correlated variables.

Real GDP, i.e. GDP at constant prices, has been used as a measure of growth. To capture the impact of structural break that resulted from the adoption of the policy of liberalization, privatization, and globalization, dummy variable (D1) with value zero till 1991 and 1 afterward has been used. This is the year when a break in the growth of the economy has been detected. Natural logarithms of all variables have been used so as to attain stationary at lower order of integration.

It has been contended that if the time series are non-stationary at their levels which generally are, then, the one way of achieving stationary is to make differencing of data until stationary is attained. But differenced variables can no longer give unique long run solution (49). Moreover, the method of differencing results into loss of degree of freedom. Also, if we use non stationary time series data without differencing, it will lead to the problem of spurious regression meaning thereby that the variables in regression will show strong relationship, but actually there may not be any. To overcome this problem, the VAR based concept of co-integration and error correction mechanism (ECM) seem to be very useful.

In the present study Engle-Granger co-integration approach has been used to estimate long run one way causal relationship between financial development and economic growth of the Indian economy. The estimation procedure involves first to check the stationary or unit root of the variables. So, the first step is to check presence of unit root in data. ADF test statistic has been used to check it.

According to this approach, if the non-stationary variables are integrated of same order (typically, the random walk or first order integrated processes) then the system may follow the path of equilibrium in the long run or share a co-integration relation, i.e. linear combination of these could be a stationary process. So, after checking the order of integration of time series, next step is to estimate co-integrating regression equations and obtain the series of estimated residuals (μ_t). As per analysis, the co-integrated regression equation is

$$Y_t = a_0 + b_0 X_t + a_1 D1 + \mu_t \qquad \text{(I)}$$

Where Y_t is GDP at constant prices depicting the growth of the economy, and $X_t$is financial development index (INDEX). D_1 is intercept dummy that takes value 0

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till the year 1991 and 1afterwards. It is aimed to capture the influence of structural changes that took place in early nineties in Indian economy on its economic growth. Natural logarithm of the variables have been taken.

The presence of co-integration is determined by checking the order of integration of estimated series of residuals by performing ADF test of unit-roots. The form of ADF test is given in the equation as

$$\Delta u_t = a_1 \hat{u}_{t-1} + \sum_{i=1}^{n} \delta \Delta \hat{u}_{t-i} + v_t \qquad \text{(II)}$$

If $\hat{u}_t$ is stationary at levels i.e., $\hat{u}_t$ ~I(0) then we reject the null hypothesis that the variables X_t and Y_t are not co-integrated, otherwise series are not co-integrated. Once the long run relationship between two variables is established, it does not mean that they have short run equilibrium too. There may exist short run dynamics. To capture these dynamics, Error Correction Model (ECM) has been used. With the use of ECM, it is possible to check short-run relationship through the lagged differenced explanatory variables on the one hand, and on the other, through error correction term, to calculate the speed with which two variables adjust towards long run equilibrium.

The ECM specification is

$$\Delta Y_t = \alpha_{o+} \beta_o \Delta X_t + \alpha_1 D1 - \Pi \mu_{t-1} + v_t \qquad \text{(III)}$$

where β_0 measures the immediate impact that a change in X_t will have on a change in dependent variable (Y_t), Π is adjustment coefficient, also called error correction term that shows how much disequilibrium is being corrected (i.e. the extent to which any disequilibrium in previous period affects any adjustment in GDP). It represents the stochastic shocks in the dependent variable that report how much and in what time long run equilibrium is corrected in each short period. Lag length selection is made on the basis of Akaike Information Criteria (AIC).

6. EMPIRICAL RESULTS

The **Table 1** reveals the results of Principal Component Analysis. The results suggest that about 70% of total variance is explained by first component. It shows that first principal component can be considered best measure to calculate weights (factor loadings) for the construction of composite index (INDEX) of financial development.

Table 1: Results of principal component analysis

PC	Eigen Values	Proportion of Variance	Variables	Principal Component	Factor Loadings
1	4.179	.6964	Total Banking Business	.978	.681
2	1.523	.2537	Credit Deposit Ratio	.499	.204
3	.233	.0389	Rate of Monetization	.975	.678
4	.051	.0085	Value Traded Ratio	.904	.629
5	.012	.0020	Turn Over Ratio	.552	.203
6	.002	.0004	Ratio of Public Sector Credit to GDP	.950	.661

Source: Authors' Calculations

The composite index has been formulated by adding the multiplication of actual values of five variables and their corresponding factor loadings obtained from first principal component i.e. PC1.

As required in Engle-Granger co integration approach, first step is to check unit root in the data. **Table 2 s**hows the results of ADF test statistics for the variables used in study. Both the variables LNGDP and LNINDEX are found non-stationary at levels and stationary at first difference. Hence presence of unit root is found in the data i.e. both the variables are integrated of order one.

Table 2: Testing the order of integration by applying unit root

Variables	ADF test statistic		Order of Integration
	With intercept	With both intercept and trend	
LNGDP	3.4032 **(1.0000)**	-0.1708 **(0.9907)**	I(1)
ΔLNGDP	-3.9323 **(0.0056)**	-5.1658 **(0.0014)**	
LNINDEX	1.1739 **(0.9972)**	-3.2185 **(0.1045)**	I(1)
ΔLNINDEX	-4.0550 **(0.0041)**	-4.3987 **(0.0084)**	

Source: Authors' calculations

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Note: Figures In The Parenthesis Are P-Values

Next step in our analysis is to estimate long run co-integrating equation. **Table 3** reveals results for this. The linear combination of two (LNGDP and LNINDEX) non stationary variables has been found stationary as the coefficient of ADF test statistic for residual series was significant. The significant coefficient for residual series rejects the null hypothesis of presence of unit root. Hence, long run relationship between GDP and financial development was detected. Thus, the results confirm the Schumpeterian prediction that investment in optimized way causes economic growth.

Table 3: Results of Co-integrating Regression

Variables	Coefficients	t-statistic	P-Value
Constant($a_{0)}$	2.3931*	17.3814	0.0000
LNINDEX($b_{0)}$	0.9139*	23.5325	0.0000
D1(a_1)	0.1540	5.92511	0.9000
ADF test statistic for residual series (μ_t)		-2.7551	0.0076

Note: '*' indicates significance at 5% level
Source: Authors' Calculations

Moreover dummy variable (D1) in non significant. It shows that the long run impact of financial and other economic reforms in early nineties on growth is absent in the data.

Once the long run relationship is established, it becomes essential to work out short run dynamics which actually lead to equilibrium in long-run, with the help of ECM. Results for ECM are presented in **Table 4**

Table 4: Empirical Estimates of Error Correction Model

Variables	Coefficients	P-value
C (α_0)	-1.0006*	0.0000
ΔLNINDEX(β_0)	-0.0276	0.8038
D1(α_1)	0.0229*	0.0085
$\prod$ (Adjustment Coefficient)	-0.1825*	0.0375

Note: '*' indicates significance at 5% level
Source: Authors' Calculations

These results indicate absence of short run relation between both the variables. The insignificant coefficient (-0.0276) of ΔLNINDEX implies that in the short run financial development did not cause economic growth in India thus depicting the absence of short run causality from finance to growth. Thus, conveying the notion that impact of financial development on economic growth is a long run phenomenon. Our findings conform to these of Calderón& Liu (2003) who in case of 109 high, middle and low income economies including India empirically found that impact of financial deepening on real sector takes time. However, negative and significant adjustment coefficient shows that there is adjustment present in the system in short periods which leads to equilibrium in long run. Moreover, the significant positive coefficient of structural dummy (D1) depicts significant influence of structural changes in the economy during early nineties on the growth rate of the economy which has been found insignificant in long period. That means structural changes influenced growth positively in short period but not in long run. It clearly suggests that these changes in the Indian economy in the form of liberalization, privatization and globalization paved the way for higher growth of economy but that impact did not go for long period, although financial development and economic growth have long run relationship.

7. CONCLUSION

The present study is an endeavor towards testing long run causal relationship between financial development and economic growth in case of India. Here, an attempt has been made to investigate the active role of widespread access to finance and financial development in the form of increased efficiency of capital in uplifting economic growth. The empirical results based on co integration and ECM provides evidence for long run equilibrium relationship between financial development and economic growth in case of the Indian economy. Results clearly depict long run causality from financial development to economic growth. But as far as short period is concerned, there is no such relationship which has been concluded from ECM. However, these findings are Indian economy specific and any generalization from this can be misleading. The policy implication drawn from these findings is; attention should be given on policies such as creation of new and enhancement in existing financial institutions in both banking and stock market while framing long run economic policies. Moreover, the significant and positive dummy found in short period implies that India needs to further undertake financial sector reforms from time to time so as to boost growth rate of the economy.

REFERENCES

[1] Ang, J. B. (2008). What are the Mechanisms linking Financial Development and Economic Growth in Malaysia. Economic Modelling, 25(1), 38-53.

[2] Esso, L. J. (2010). Co-integrating and Casual relationship Between Financial Development and Economic Growth in ECOWAS Countries. Journal of Economics and International Finance, 2(3), 36-48.

[3] Anwar, S. & Sun, S. (2011). Financial Development, Foreign Investment and Economic Growth in Malaysia. Journal of Asian Economics, 22(4), 335-342.

©2014. All rights reserved.

[4] Abu-bader, S. & Abu-Qarn, A.S. (2008). Fianacial Development and Economic Growth: The Egyptian Experience. Journal of Policy Modeling, 30(5), 887-898.

[5] Ahmed, S.M. & Ansari, M.I (1998). Financial Sector Development and Economic Growth: The South Asian Experience. Journal of Asian Economics, 9(3), 503-517.

[6] Fowowe, B. (2011). The Finance-Growth Nexus in Sub-Saharan Africa: Panel Co integration and Causality Tests. Journal of International Development, 23(2), 220-239.

[7] Kar, M., Nazlioğlu S. and AgIr H. (2011). Financial Development and Economic Growth Nexus in MENA Countries: Bootstrap Panel Granger Causality Analysis. Economic Modeling, 28(2), pp. 685-693.

[8] Chrislopoulos, D. K. &Tsionas, E. G. (2004). Financial Development and Economic Growth: Evidence from Panel Unit Root and Co integration Tests. Journal of Development Economics, 73(1), 55-74.

[9] Fase, M.M.G. &Abma, R.C.N. (2003). Financial Environment and Economic Growth in Selected Asian Countries. Journal of Asian Economics, 14(1),11-21.

[10] Federici, D. &Caprioli, F. (2009). Financial Development and Growth: An Empirical Analysis. Economic Modeling, 26 (2), 285-294.

[11] Schumpeter, J. A. (1911). The Theory of Economic Development. Cambridge, MA: Harvard University Press

[12] Calderón, C. & Liu, L. (2003). The Direction of Causality Between Financial Development and Economic Growth. 72(1), 321-334..

[13] Gregorio, J. (1999). Financial Integration, Financial Development and Economic Growth. Estudios de Economica, 26(2), 137-161.

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

[15] Shen, C. H. & Lee, C.H. (2006). Same Financial Development Yet Different Economic Growth-Why?". Journal of Money, Credit, and banking, 38(7), 1907-1944.

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

[17] Goldsmith, R. R. (1969). Financial Structure and Development. New Haven: Yale University.

[18] Hicks, J. (1969). A Journey of Economic History. Oxford: Clarendon Press.

[19] McKinnon R.I. (1973). Money and Capital in Economic Development. Washington:The Brooking Institution.

[20] Thornton, J. (1994). Financial Deepening and Economic Growth: Evidence From Asian Ecconomies. Savings and Development, 18(1), pp. 41-51.

[21] Bhattacharya, P. C. &Sivasubramanian M.N. (2003). Fianacial Development and Economic Growth in India: !970-71 to 1998-99. Applied Financial Economics, 13(12), 925-929.

[22] Graff. M. (2003). Financial Development and Economic Growth in Corporatist and Liberal Market Economies. Emerging Markets Finance and Trade, 39(2), 47-69.

[23] Liu, W.-C. & Hsu, C.-M. (2006). The Role of financial Development in Economic Growth: The Experiences of Taiwan, Korea, and Japan. Journal of Asian Economics, 17, 667-690.

[24] Yang, Y. Y. & Yi, M. H. (2008). Does Financial Development Cause Economic Growth? Implications for Policy in Korea. Journal of Policy Modeling, 30(5), 827-840.

[25] Wadud, M. A. (2009). Financial Development and Economic Growth: A Co integration and Error Correction ModellingAproach for South Asian Countries. Economics Bullentin, 29(3), 1670-1677.

[26] Anwar, S. & Nguyen, L.P. (2011). Financial Development and Economic Growth in Vietnam. Journal of Economic Finance, 35(3), 348-360.

[27] Dawson, P. J. (2010). Financial Development and Economic Growth: A Panel Approach. Applied Economics Letters, 17(8), 741-745.

[28] Bittencourt, M. (2012). Financial Development and Economic Growth in Latin America: Is Schumpeter Right?. Journal of Policy Modeling, 34(3), 334-355.

©2014. All rights reserved.

[29] Bojanic, A. N. (2012). The Impact of Financial Development and Trade on Economic Growth of Bolivia. Journal of Applied Economics, 15(1), 51-70.

[30] Hussain, F. &Chakraborty, D. B. (2012). Causality between Financial Development and Economic Growth: Evidence from an Indian State. The Romanian Economic Journal, 15(35), 27-48.

[31] Robinson, J. (1952). The Rate of Interest and Other Essays. The Generalization of general Theory, pp. 67-142. London: MacMillan.

[32] Friedman, M. & Schwartz, A.J. (1963). A Monetary History of the United States. Princeton, N.J: Princeton University Press.

[33] Jung, W. S. (1986). Financial Development and Economic Growth: International Evidence. Economic Development and Cultural Change, 34 (2), 333-346.

[34] Demetriades, P. O. & Hussein, K. A. (1996). Does Financial Development cause Economic Growth? Time Series Evidence from 16 Countries. Journal of Development Economics, 51(2), 387-411.

[35] Liang, Q. &Teng, J.-Z. (2006). Financial Development and Economic Growth: Evidence from China. China Economic Review 17, 395-441.

[36] Ang, J. B. &Mckibbin, W. J. (2007). Financial Liberalization, Financial Sector Development and Economic Growth: Evidence from Malaysia. Journal of Development Economics, 84(1), 215-233.

[37] Wolde-Rufael, Y. (2009). Re-examining the Financial Development and Economic Growth Nexus in Kenya. Economic Modelling, 26 (6), 1140-1146.

[38] Hassan, M. K., Sanchez, B. and Yu, S. J. (2011). Financial Development and Economic Growth: New Evidence from panel Data. The Quarterly Review of Economics and finance, 51(1), 88-104.

[39] Hsueh, S.-J., Hu, Y.-H. &Tu, C.-H. (2013). Economic Growth and Financial Development in Asian Countries : A Bootstrap Panel Granger Causality Analysis. Economic Modeling, 32(C), 294-301.

[40] Greenwood, J. & Smith, B. (1997). Financial Markets in Development and the Development of Financial Market. Journal of Economic Dynamic and Control 21(1), 145-181.

[41] Hondroyiannis, G., Lolos, S. &Papapetrou E. (2005). Financial Markets and Economic Growth in Greece, 1986-1999. International Financial Markets, Institutions and Money, 15(2), 173-188.

[42] Handa, J. & Khan, S. (2008). Financial Development and Economic Growth: A Symbiotic Relationship. Applied Financial Economics, 18(13), 1033-1049.

[43] Adamopoulos, A. (2010). Financial Development and Economic Growth an Empirical Analysis for Ireland. International Journal of Economic Sciences and Applied Research, 3(1), 75-88.

[44] William, W. C. & Fung, M.K. (2013). Financial Development and Growth: A Clustering and Causality Analysis. The Journal of International Trade and Economic Development: An International and Comparative Review, 22(3), 430-453.

[45] Lucas, R. F. (1988). On the Mechanics of Economic Development. Journal of Monetary Economics, 22(1), 3-42.

[46] Ram, R. (1999). Financial Development and Economic Growth: Additional Evidence. The Journal of Development Studies, 35(4), 164-174.

[47] Gries, T., kraft, M. and Meierrieks, D. (2009). Linkages between Financial Development, Trade Openness, and Economic Development: Causality Evidence from Sub-Saharan Africa. World Development, 37(12), 1849-1860.

[48] Chimobi, O. P. (2010). The Causal Relationship Among Financial Development, Trade Openness and economic Growth in Nigeria. International Journal of Economics and Finance, 2(2), 137-147.

[49] Asreriou, D. & Hall, S. G. (2007). Applied Econometrics: A Modern Approach using Eviews and Microfit. Hampshire, Newyork: Palgrave Macmillan.

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