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INTERRELATIONSHIP BETWEEN BANK CREDIT TO COMMERCIAL SECTOR AND ECONOMIC DEVELOPMENT IN INDIA SINCE INDEPENDENCE TILL 2015

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Abstract

Banking industry and economic has grown significantly in India in the recent past. The growth and development in the banking sector particularly credit to commercial sector has played a vital role in the economic development of the country. Therefore, this paper is an attempt to investigate the relationship between bank credit to commercial sector growth and economic development in India, during the period 1950 to 2015. GDP growth rate has been taken as proxy of the economic growth indicator and bank credit to commercial sector is taken for banking sector development. ADF unit root test, Granger Causality Test and Engle-Granger Test have used to analysis the short term and long term relationship between them. The study has concluded that in short term neither GDP nor bank credit to commercial sector have any impact on each other, while in long run both are having significant impact on each other. Therefore, the government should have to frame the policy in such a way that the bank credit to commercial sector will be increased, which will increase the economic development in long run.

Key Words: Bank Credit, Commercial Sector Growth, Economic Development, Economic Growth, India.

Introduction

The importance of banking industry and its interrelationship between banking sector and economic development was recognized long back by Smith Adam (1776). Since then interrelationship between banking sector development and economic development is discussed and analyzed in various theoretical and empirical researches. Investigations have been carried out to find out the relationship between the two and impact of the each other on the development of other, but no clear cut direction of causality has been established. Each study gives a different result based on time, country and other factors. Over the period there were many changes that have taken place in the banking sector all over the world with more emphasis on capital, savings, investment and knowledge. Therefore, saving and investments are the two main indicators of the economic growth and bank play a very vital role in mobilization of resources i.e. savings for investment in commercial sectors. In India, since Independence banks have developed and under gone substantial changes from money leaders to technology driven banking, which is fully electronic and based on modern technology.

Narshimam committee had taken a decision to reform the banking policies and bring the liberalization in the banking sector in 1991. New rules, policies and regulations have been framed for entrance of new banks to promote competition in the banking sector. Since then the Indian banking industry has undergone a major change through legal, financial and institutional reforms. The recent focus on financial inclusion has introduced "Payment Bank" to further moblise the small savings from the rural sector.

Objectives

In the recent past many developments have taken place in banking sector and economic development in India. It is necessary to investigate the relationship between economic developments with banking sector development in India. Therefore, this study has been carried out with the main objective of finding out the impact of economic development and banking sector since independence i.e. "Does economic development leads to banking sector development or vice a versa?"

Literature Review

The issue of interrelationship between the economic growth and banking sector is very old and many studies have been carried out to find out the relationship between the banking sector development and economic development throughout the world for different period and country. Moreover, with respect to India very few studies have been carried out. The issue was first discussed by **Smith Adam (1776)** or prior to that. He has argued that unemployed capital (savings), which is dead stock, is ready money for investment in Industry and banking operations enable him to convert this dead stock into active and productive stock which produces something both to himself and to his country". His view was confirmed by **Bagehot (1873)**. He argued that "A good system of currency will benefit the country, and a bad system will hurt it." He believes that financial system of England mainly banking system played a crucial role in the industrial development. **Schempeter (1912)** analyzed and emphasized that a well functioning financial and banking system would play an important roles in technological innovation in long-run economic growth and would play in facilitating investment in innovation and productive investment by the entrepreneur. **Porter (1966)** stated that Qualitative aspect of financial development, such as 'the promotion of



banking habit', 'the monetization of the economy', and the 'mobilization of saving' plays an important role in economic development. Cameron et al (1967) studied the historical relationships between banking development and early stages of industrialization for England (1750-1844), Scotland (1750-1845), France (1800-1870), Belgium (1800-1875), Germany (1815-1870), Russia (1860-1914), Japan (1868-1914) and concluded that banking system play a positive role in economic development. Moreover, there is no fix model of banking system for all countries and the effectiveness of it on growth will not be same for all countries. Bala (1988) concluded that bank contribute significantly to the economic development of Malaysia the period of 1959 to 1984. Bencivenga and Smith (1991) argued that bank enables individuals to pool liquidity risks and can promote higher growth by shifting the composition of savings towards more capital accumulation to entrepreneurs who invest in productive capital. Jayaratne et al (1996) found that when intrastate banking restrictions were relaxed, real per capita GDP rose quite significantly. Beck and Levine (2004) argued that bank credit has significantly and positively effect on economic growth. Abdul and Ying (2008) found that the financial development leads to economic growth while the degree of impact is different in Pakistan and China for the period 1960 to 2005.

There are very few studies, which have examined the interrelationship between Indian economy growth and its banking sector growth. **Demetriades and Khaled (1996)** examined the causal relationship between financial development (considered bank deposit and bank claims on the private sector as financial parameters) and economic growth from a time-series perspective considering data from 16 countries including India over 27 years and demonstrate that the relationship is country specific. So far as India is concern, causality tests show that a bi-directional causal relationship exists. **Farah and Deb (2012)** studied using annual data for the period 1985 to 2009 for Assam, India and conclude that commercial banks are playing very minor role in developing countries and suggested that to speed up the financial development, banking sector should be developed. **Kar and Mandal (2012)** studied the impact of banks or stock markets on growth process for the post-reform Indian economy using the modified Pantula principle associated with the Vector Error Correction Model (VECM) methodology and concluded the banking sector, both its size and activity variables contribute independently to growth.

Methodology

This literature review clearly identifies a research gap here. In India the development of banking sector goes as far back as 1786. But the major changes in this sector took place in 1969, when the banks were nationalized and after 1990 when liberalized policies were took palace. The Government has used banking sector as a tool for the economic development in rural and urban areas since independence. Many credit schemes for lending to priority sectors such as agriculture, housing, education loans, SME etc. were launched by the government and today also there are norms fixed for banks and it is compulsory for all banks to lend up to the bench mark to the priority sector.

Therefore, the pre liberalization period (1950 to 1990) is of much importance as this has given the vision of growth and development to banking sector in the coming year. Therefore, in this paper the interrelationship between economic growth and banking sector growth is investigated from 1950 onwards.

The investigation in this paper begins with a short review of GDP growth in India which is followed by a brief description of journey of Indian Banking Industry. To measure the growth rate of any economy, GDP is considered as the most appropriate indicator. Similarly for banking sector development, lending to commercial sector is one of the strongest indicators as the main function of the banks to lend to commercial sectors.

Therefore, in this paper annual growth rate of GDP at market prices and bank credit to commercial sector at current price, only two variables are considered. The time period selected is from 1951-52 with the year 1950-51 being designated as Zero. Moreover, before 1960, as government focus was more on the economic development, bank commercial credit was not much developed. The data related to bank lending to the commercial sector was available for 1951-51,1955-56, 1961-61 and thereafter continuously for each year.

To establish the relationship between the variables a Unit root ADF tests, Granger Causality test and Engle-Granger Cointegration methods are used. These tests have been used in majority of the studies and hence, we have also considered these as the best method to study the relationship. The years for which data was not available was automatically omitted by the system. These tests have been used to test the following null hypotheses.

- 1. GDP growth rate does not granger causes Bank Credit to commercial sector growth rate in short run.
- 2. Bank Credit to commercial sector growth rate does not granger causes GDP growth rate in short run.
- 3. GDP growth rate does not granger causes Bank Credit to commercial sector growth rate in long run.
- 4. Bank Credit to commercial sector growth rate does not granger causes GDP growth rate in long run.

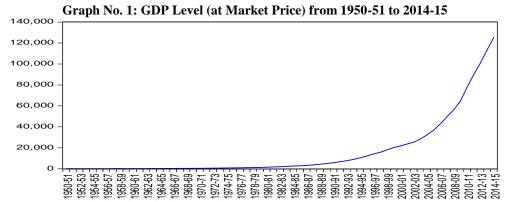


Journey of Indian Economic Development

The Indian growth rate before Independence was very negligible and below 1% per year in pre independence era. Today, India is one of the emerging economies and having a prestigious position but still is developing economy. In the short span of 65 years of Independence, India has witnessed many ups and downs on the economic growth front. After Independence between 1950 - 1980 India have grown by nearly 3.5% annually which is popularly known as "Hindu Growth Rate". The growth rate has slightly improved to more than 5% during 1980 to 2002 After Independence the India economy has protected the domestic industries from foreign competitions, which resulted in slow growth rate during 1950-1990. Liberalization policy of 1990 has opened the doors for foreign investments and put India on the track of development. In-spite of liberalized policy changes in 1990, India took more than 10 years to achieve the target of higher growth rate. Ninth year plan has set the target of more than 8% growth rate. During the year 2003 to 2012 India has achieved the average growth rate of 8.25%. which is known as "Neo Hindu Growth Rate". This accelerated growth rate has put the India as a prestigious economy in the world. The global slowdown has put the break on the Indian Growth rate and the same has come down to below 5% during 2013-14, which has been improved to 7.2% in year 2014-15. As per the recent economic survey, the growth rate is expected to be improved to 7.6% 2015-2016 based on the new base year series of 2011-12 at constant price.

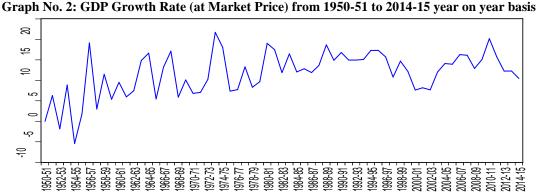
During 1950 - 2015, Indian economy has developed and shown overall improvement in all the sectors i.e. Gross Domestic Savings, Gross Domestic Capital Formation, Agriculture and allied sector's, Industry, Power, Finance, Insurance and Real Estate, export, service sector etc. Economic liberalization, including industrial deregulation, privatization of state-owned enterprises, and reduced controls on foreign trade and investment, began in the early 1990 has accelerate the country's growth. Due to strong domestic demand, India has managed to achieve the growth rate of more than 8% (at constant price) during the year 2010-11 in-spite the global financial crisis. Continuous global slowdown has affected the Indian economy. High inflation, interest rate and slow progress on economic reforms are the major reasons of slow down.

The graph shows the level of the Indian GDP at market price (Base Year 2004-2005) from 1950 to 2015.



Source: RBI's "Handbook of Statistics on Indian Economy"

The above graph shows that Indian GDP was more or less stagnant during 1950 to 1990 and start rising since 1990 and pick up a pace after 2000. The annual growth rate of GDP since 1950 to 2015 is shown in graph no. 2.



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Therefore, the chart shows that till sixties the growth rate is very low and the average annual growth rate of the GDP at market price is near to 12%.

Journey of Indian Banking Sector

For any economy, banking industry is a backbone as financial transactions are performed through banks only. After independence, the biggest challenge before India was to put the country on economic growth as Indian economy is growing at just 1%. To accelerate the growth rate, banking sector had played a vital role in India. Liberalization policy during 1991 played an important role in the development of financial sector mainly banking industry in India.

Year 1786 is the birth year of the Indian banking Industry, when "The General Bank of India' coming into existence in 1786, which has been followed by "Bank of Hindustan". But it is sad to state that both the banks are not in existence. "The Bank of Bengal" established in 1806, is the oldest bank which is in existence in India, presently known as "State Bank of India". Bank of Bombay and Bank of Madras was established in 1840 and 1843 respectively by East India Company. During 1950, foreign banks like Credit Lyonnais had started their operations in India and opened their office at Calcutta. Calcutta being a trading point for the British Empire, the banking sector started developing from Calcutta. "Allahabad Bank' is the first wholly owned Indian bank and established in 1865. There after many banks were established and come into existence. Initially discounting of bills or other negotiable private securities, keeping cash accounts, receiving deposits and issuing and circulating cash notes were the prime activity of the banks. The first major change in the banking sector took place with the establishment of Bank of Bengal in 1806. During the period 1913 to 1918 (period of first world war) nearly 94 Indian banks failed in-spite of increase in the economic activity due to war. To regulate the banking sector "The Reserve Bank of India" was established in 1935. After Independence, more power was given to it and later it was nationalized.

The development of the rural India was the highest priority after the Independence of the Govt. and therefore, during the first five year plan in 1951 "The All India Rural Credit Survey Committee recommended the creation of a State-partnered and state sponsored bank by taking over the Imperial bank of India and integrating with it, the former state owned or state associated banks. Accordingly the act was passed in May 1955 and later on the State Bank of India (Subsidiary Bank) Act was passed in 1959. SBI had taken over the eight state associated banks as its subsidiary.

Indira Gandhi, the Prime Minister of India had expressed her intention to nationalize the banks in the paper entitled "Stray thoughts on Bank Nationalization" presented in the annual conference of the All India Congress Meeting. Thereafter by issuance of an ordinance 14 largest commercial banks were nationalized w.e.f. the midnight of July 19, 1969 and within two week from that date the government has passed the Banking Companies (Acquition and Transfer of Undertaking) Bill, and it received the presidential approval on 9th August, 1969. During 1980 another 6 commercial banks were nationalized. With this government is in a position to control nearly 91% of the banking business in India. Till 1990, the Indian Banking Industry has grown around 4% which is near to the average growth rate of the Indian economy.

Year 1990 is the year of liberalization of at most important which has brought many changes in the Indian economy. With this liberalization reform new licenses were given to the small private bank, which were known as "New Generation techsavvy banks'. UTI bank (now re-named as Axis Bank) was the first of such new generation banks to be set up followed by ICICI Bank, HDFC Bank and many other banks are the result of such policy. After that there was rapid growth in the Indian economy and banking sector has also grew in India. Government banks, private banks and foreign banks have contributed significantly in the Indian economic development.

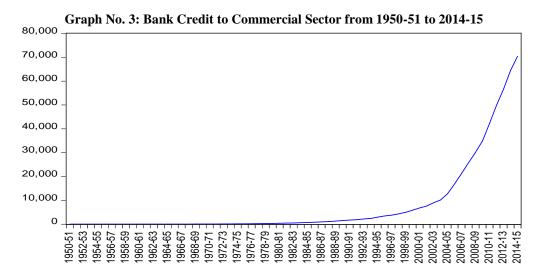
The RBI has permitted the private entities to enter into the banking sector in 1993. The next step was to relax the FDI investment norms in the banking sector, which has been increased from 10% to 49% with some restrictions. The new policy has changed the whole prospective of the banking sector and move from the traditional method of 4-6-4 i.e. Borrow at 4% lend at 6% and go home at 4 pm to totally technology driven banking, which has boom the retail banking in India. During the 1993 to 1998 nearly 24 new private banks including 15 foreign banks has established in India. From October 1997, interest rate on deposits and advances were de-regularized.

Presently, banks are the heart of the financial sector and deals with insurance, mutual funds and many other products. Banks are facilitating their customers with the latest technology as mobile banking, net banking, anywhere banking etc. Not only in urban areas, banking sector has work tremendously in rural sector specially public sector banks like State Bank of India and providing all latest facilities. To use the banking sector as tool for the development of rural India and poor class of public, on 28 Aug, 2014, Pradhan Mantri Jan Dhan Yojana (Prime Minister's People Money Scheme) was launched by prime minister of India, Shree Narendra Modi. The scheme gave a new revolution in the Indian Banking History. On the first day of the



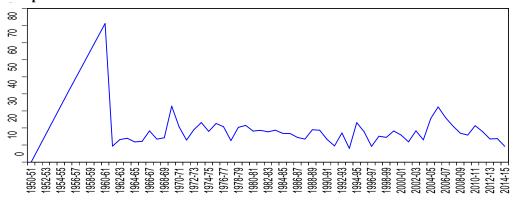
launch of the scheme nearly 1.5 Crore (15 million) bank accounts were opened under this scheme and within a period of nearly 5 months 11.50 crore new accounts were opened with around Rs. 8698 Crore deposits in the account in-spite of having zero balance option. Many government incentive schemes has been linked with the bank account

The graph no 3 shows the growth of bank credit to commercial sector in India between 1950 and 2015.



The data has been sourced from the RBI's "Handbook of Statistics on Indian Economy".

The above graph of bank credit to commercial sector clearly indicates that during pre liberalization there is no significant increase in bank credit to commercial sector. It has started increasing only after liberalization in 1991 and has picked up significantly after 2002-2003. Such increase is due to more focus on the industrial growth. As Indian economy has increased significantly after 2002-2003, the effect of the same is clearly reflected in the above graph.



Graph No. 4: Bank Credit to Commercial Sector Growth Rate from 1950-51 to 2014-15

The data for bank credit to commercial sector is not available for year before 1960-61 except 1950-51 and 1955-56. The graph has indicated that the bank credit to commercial sector has been increased within the range and no significant growth took place. The credit growth has shown continuous downfall since 2008-2009 is due to the major global slowdown, which has also affected the Indian economy. Hence also like GDP growth rates many fluctuations are seen.

Empirical Model

To know, whether two time series are co-integrated or not, it is of importance to carry out the Unit Root Test first. Unit root test helps to identify whether the data of variables are integrated with same order or not.

Augmented Dickey-Fuller (Dickey and Fuller, 1979) test is one of the best methods for unit root test to find out the order of integration of data. We have applied the same to check whether data contains unit root (non-stationary) or is a stationary

process and to establish at which order the data is stationary. The data is said to be stationary if mean and auto co variance are not depend on the time factor. Any data which is not stationary is said to be non-stationary. A data which is integrated of order is to be denoted as I(d), which indicates that the data is differenced "d" times before it become stationary. Therefore, if the data is stationary at zero levels i.e. without having to be differenced, then it is to be denoted as I(0). To find out the long run and short run behavior of the variables under Engle- Granger co integration test, it is important to have the same order of integration for all the variables.

The variables are co integration means there is a long run equilibrium relationship between these variables. Linear combinations of two or more time series can be stationary in-spite of variables being individually non-stationary. Engle-Granger (1987) co-integration test is most widely used tests for co-integration. To test the relationship between stock market development and economic growth Granger Causality bi-variate test has been applied, and thereafter Engle- Granger co-integration test has been applied.

Analysis and Results

Unit Root and Co-Integration Analysis

For co-integration analysis, the first step is to verify whether the data is stationary or not. The null hypothesis taken is whether data has a unit root? As discussed earlier, Augmented Dickey-Fuller (ADF) test has been applied for unit root test.

The test is conducted for bank commercial credit rate and economic growth rate both. The test is conducted at constant and with trend. The unit root test has rejected the null hypothesis at its level only for both bank commercial rate as well as GDP growth rate. Therefore, both variables are integrated at level i.e I(0). The results are given in Table 1 below

Table 1: Unit Root Result (Log Values) of Bank Credit to Commercial Sector Growth Rate and GDP Growth Rate

Level Variables for ADF test (Constant)				
t- values p- values				
Bank Credit to Commercial Growth Rate	-14.29887	0.0000		
GDP Growth Rate	-5.767371	0.0000		

Level Variables for ADF test (Constant, with trend)			
	t- values	p- values	
Bank Credit to Commercial Growth Rate	-13.96861	0.0000	
GDP Growth Rate	-6.674811	0.0000	

Granger Causality Test Results

To establish the short run relation between various entities Granger causality test has to be applied to find out the integration of the data. To find out whether economic growth causes bank credit to commercial sector growth or bank credit to commercial sector growth causes economic growth, we have applied the same test here.

Following pair of regression is created to establish the relationship:

Where,
GDP is at Market price
BC is Bank Credit to Commercial Sector at current price
t is time in year from 1950 to 2015
j is unit root =0

unit = residual of time t

We assume that u_{it} and u_{2t} are uncorrelated.

Here GDP and BC are stationary at level [i.e. I(0)] as we have confirmed the same with the unit root test as discussed above.

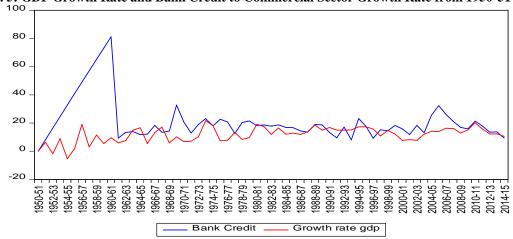
Null Hypothesis: GDP does not Granger causes Bank Credit to Commercial Sector and vice versa.

Table 2: Granger Causality Results for Economic Growth Index vs. Bank Credit to Commercial Sector

Null Hypothesis	F-Statistics	P-Value	Decision
GDP does not Granger cause Bank Credit to Commercial Sector	0.46692	0.6298	Do not reject null
Bank Credit to Commercial Sector does not Granger cause GDP	1.01257	0.3709	Do not reject null

Here the test result shows relationship between economic growths as indicated by the GDP growth rate with bank credit to commercial sector growth rate. Analysis is done on the lag values of the variables. The results of this test are shown in Table 2. The result indicates that there is no relationship exists between GDP and bank credit to commercial sector i.e. neither GDP Granger causes bank credit to commercial sector nor bank credit to commercial sector Granger causes the economic growth in short run. The above result is also clearly seen from the graph no. 5 shown below.

Graph No. 5: GDP Growth Rate and Bank Credit to Commercial Sector Growth Rate from 1950-51 to 2014-15



The above graph has clearly indicate that there is no relationship between the economic growth and bank credit to commercial sector in short run as there is a directional changes on year to year basis. The reason of such variation is due to various factors which effect the bank credit to commercial sector in short run.

The Engle Granger Method

The long run relationship between bank credit to commercial sector and economic growth are evaluated based on the Engle Granger method. If there is any causal connection exists between economic growth and bank credit to commercial sector, the next immediate concern would be to understand the long-run relationship between these variables. The existence of long run relationship can be understood through the integration test. If the two variables are co-integrated, then it could be presumed that these variables have a long run relationship.

The relationship between economic growth and bank credit to commercial sector growth are assessed based on GDP growth rate as the independent variable (variable for economic growth) and Bank Credit to Commercial Sector growth rate as the dependent variable (variable for Bank Credit) and vise a versa. The results of the same are shown hereunder:

Table 3: The Regression Result of GDP on Bank Credit to Commercial Sector

Dependent Variable: Bank Credit to Commercial Sector Growth Rate				
Method: Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
GDP Growth Rate	-0.061616	0.315068	-0.195566	0.8457
C	19.07041	4.181410	4.560759	0.0000



R-squared	0.000695	Mean dependent var	18.30130
Adjusted R-squared	-0.017474	S.D. dependent var	10.63246
S.E. of regression	10.72496	Akaike info criterion	7.617481
Sum squared resid	6326.357	Schwarz criterion	7.689167
Log likelihood	-215.0982	Hannan-Quinn criter.	7.645341
F-statistic	0.38246	Durbin-Watson stat	1.177366
Prob(F-statistic)	0.845671		

To know whether the above two variables are co-integrated or not, the stationarity of the residuals terms of the first equation is to be tested. The result of the stationarity result of the 'u' term is given below.

Table 4

Tuble 4				
Null Hypothesis	RESIDGDPLEVEL has a Unit Root			
Exogenous	Constant			
Leg Length	0 (Automatic – based on SIC, Maxi lag=8)			
		t-statistics	Prob. *	
Augmented Dickey-Fuller test statistics		-14.23314	0.0000	
Test Critical Values	1% level	-3.557472		
	5% level	-2.916566		
	10% level	-2.596116		

^{*}MacKinnon (1996) one sided p-values

The above test result has shown that the null hypothesis is rejected, which that the "u" is stationary. Therefore, there is a long run relationship between the variable and in long run economic growth rate (GDP) cause the bank credit to commercial growth rate.

Further taking bank credit to commercial sector growth rate as the independent variable (variable for bank credit) and GDP growth rate as the dependent variable (variable for economic growth). The results of the same are shown hereunder:

Table 5: The Regression Result of Bank Credit to Commercial Sector on GDP

Dependent Variable: GDP Growth Rate							
Meth	Method: Least Squares						
Variable	Coefficient	Std. Error	t-Statistic	Prob.			
Bank Credit to Commercial Sector Growth Rate	-0.011278	0.057668	-0.195566	0.8457			
С	12.68850	1.217868	10.41862	0.0000			
R-squared	0.000695	Mean dependent var		12.48211			
Adjusted R-squared	-0.017474	S.D. dependent var 4.5		4.548805			
S.E. of regression	4.588376	Akaike info criterion 5.9		5.919387			
Sum squared resid.	1157.926	Schwarz criterion		5.991073			
Log likelihood	-166.7025	Hannan-Quinn criter.		5.947246			
F-statistic	0.038246	Durbin-Watson stat 1.033		1.038287			
Prob(F-statistic)	0.845671						

To know whether the above two variables are co-integrated or not, the stationarity of the residuals terms of the first equation is to be tested. The result of the stationarity result of the 'u' term is given below.

Table 6

Null Hypothesis	RESIDBCLEVE	L has a Unit Root	
Exogenous	Constant		
Leg Length	0 (Automatic – based on SIC, Maxi lag=8)		
		t-statistics	Prob. *
Augmented Dickey-Ful	ler test statistics	-5.095574	0.0001



Test Critical Values	1% level	-3557472	
	5% level	-2.916566	
	10% level	-2.596116	

^{*}MacKinnon (1996) one sided p-values

The above test result has shown that the null hypothesis is rejected, which means that the "u" is stationary. Therefore, there is a long run relationship between the variables and in long run bank credit to commercial sector growth rate (BC) causes the economic growth rate of GDP.

Conclusion

The interrelationship between the economic development and stock market development in Indian Economy for the time series data from 1950-51 to 2014-15 has been analyzed. GDP growth rate at market price has been taken as proxy for the economic growth and bank credit to commercial sector growth rate is taken as proxy for banking sector development. The result of the above analyses, using the Granger causality test result, shows that in short term there is no relationship between economic growth and bank credit to commercial sector growth rate for the period under review. In short term, the bank credit to commercial sector is influenced by various government policies i.e. loan to SSI and SME sectors, propriety sector, agriculture advances, export credit and so on. Economic development is again a long run process, therefore may not have an impact in short run on bank credit to commercial sector. There are reasons due to which in short run the result is negative. Moreover, Engle Granger test shows that in long run there is relationship between bank credit to commercial sector growth and economic development and each one is having influence on the other.

This paper suggest that the policy makers should make an efforts to boost the bank credit to commercial sector as bank credit will help the economic development in long run in India which will result into increase in the national productively.

References

- 1. Smith Adam. (1776), An Inquiry into the nature and cause of wealth of Nation: New York: Random House, 1937
- 2. Bagehot Walter. (1873), Lombard Street: A Description of the Money Market Street, History of Economic Thought Books, McMaster University Archive for the History of Economic Thought.
- 3. Schumpeter, Joseph A.,(1912) Theorie der wirtschaftlichen entwicklung (The Theory of Economic Development)
- 4. Porter, R. C. (1966). "The Promotion of Banking Habit and Economic Development." Journal of Development Studies 2: 346-366.
- 5. Cameron, R.,O. Crisp, H. T. Patrick, and R. Tilly. (1967). Banking in the Early Stages of Industrialization: A study in Comparative Economic History.: Oxford University Press.
- 6. Bala, Shanmugan, (1988) "The Role and Realities of Bank Operations in the Economic Growth in Malaysia", Phd Thesis submitted to University Wollongong, during 1988(http://ro.uow.edu.au/thesis/1326).
- 7. Bencivenga, V. R. and B. D. Smith, (1991). Financial Intermediation and Endogenous Growth Review of Economic Studies 58, 195-209.
- 8. Jayaratne, Jith and Philip E. Strahan, (1996), "The Finance-Growth Nexus: Evidence from Bank Branch Deregulation," Quarterly Journal of Economics, CXI, 639-671.
- 9. Demetriades, P. O. and Hussein, K. H. (1996) Does financial development cause economic growth? Time-series evidence from 16 countries, Journal of Development Economics, 51, 387-411.
- 10. Beck, Thorsten and Levine, Ross (2004). Stock Markets, Banks and Growth: Panel Evidence. Journal of Banking and Finance, 28.
- 11. Abdul Jalil and Ying Ma (2008), Financial Development and Economic Growth: Time Series Evidence from Pakistan and China, Journal of Economic Corporation, 29, 2 (2008), page 29-68.
- 12. Aryeetey, E. (2008). From Informal Finance to Formal finance in Sub-Saharan Africa: Lessons from linkage efforts. Paper presented at the African finance for the 21st Century, Tunisia, N/Africa.
- 13. Farah Hussain and Deb Kumar Chakrabort, (2012), Causality between Financial Development and Economic Growth Evidence from an Indian State, The Romanian Economic Journal, Year XV no. 45 September 2012, page 27-48.
- 14. Sabyasachi Kar and Kumarjit Mandal (2012), Reexamining the Finance–Growth Relationship for a Developing Economy: A time series analysis of post-reform India; IEG Working Paper No. 313.