Bank based credit and market based credit in India: A study of pre and post liberalization

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Key Words
Bank based, Market Based, Credit, Liberalization.

Abstract
This research paper tries to find out bank-based credit and market-based credit growth in Indian scenario. This research paper considered the financial years from 1981-82 to 1991-92 as pre reform period and the financial years 1992-93 onwards till the year 2013-14 as post reform period. And accordingly we calculated annual scheduled commercial bank credit growth rate absolute growth rate. Similarly we also calculated capital market capitalization credit annual and absolute growth rates. The finding of this research paper for the annual growth rate of scheduled commercial bank credit it found that credit growth rate before liberalization in financial system an average bank credit growth rate was 15.58 % and after liberalization an average bank credit growth rate was 19.40 %. Does it mean that there is no much more difference in bank credit due to liberalization? But when it comes to the calculation of absolute bank credit growth rate it found significantly difference between pre and post reform periods. From the calculation on market based credit growth rate it seems that stock market highly volatile in nature. It also seems from the calculation that there is negligible effect of liberalization on stock market. From the absolute growth rate calculation it seems that there is definitely positive impact of liberalization on market based credit.

Introduction

The debate on bank versus market (Chakraborty and Ray :2003),based credit has various views like market finance creates appropriate incentives for firm, it guides firms into making worthwhile investments, bank-based finance would lead firms weak cash flows to undertake misguided investments, financial intermediaries promote growth, financial market assist growth through increased specialization.

Bank-based view focuses on positive role of banks in mobilizing capital, identifying good projects, monitoring managers, managing risk, banks more effectively finance industrial growth than stock markets, and bank-based systems can exploit scale economies in information processing, from long-run relationships with firms and boost industrial growth.

The market-based view focuses the role of markets in enhancing risk management, information dissemination, corporate control, capital allocation and highlights that market will reduce the inherent inefficiencies associated with banks and enhance economic growth. (Ross Levine: 2001)

Objectives of the Study

1) To find out what are the bank based credit and market based credit.
2) To know the growth of bank based credit and market based credit in India.
3) To calculate the absolute growth rate of bank based credit and market based credit in India.
4) To undertake comparative study on bank based credit and market based credit in India.

Data and Methodology

To deal with the above objectives, the study mainly utilizes the secondary data available in Handbook on Statistics on Indian Economy. The data has been retrieved from the official website of RBI.

Literature survey

Ross Levine (2001), paper empirically assesses the theoretical views of financial system and economic growth i.e. the bank-based or market-based system is better for promoting long-run economic growth. Paper claims that overall financial development is strong linked with economic growth, but there is no support for either the bank-based or market-based view. Study further highlights that cross-country comparisons do not suggest that distinguishing between bank-based and market-based is analytically useful for understanding the process of economic growth. The paper develops the measures using 48 countries over the 1980-95 and involves pure cross-sectional analyses with one observation per country. Arestis et.al. (2001), demonstrates that the findings are consistent with the view that bank-based financial systems may be more able to promote long-term growth than capital-market-based ones.

Demirguc-Kunt and Maksimovic (2002) empirically investigates whether market-based or bank-based difference in the organization of financial systems affects firm's ability to obtain external financing for growth. Paper demonstrates that access of firm to external financing to fund growth differs in market-based and bank-based financial systems. The paper uses firm-level data consist of publicly traded manufacturing firms for 40 countries. Sample of firms contains 45,598 annual observations over the period of 1989 to 1996. Paper claim that the use of external financing by firms is positively related to the development of both the predicted banking system and the securities markets in each country. But paper does not find evidence that firms use external financing differently if they are in countries classified as bank-based or market-based, on the basis of the development of their banking sector relative to their securities markets.

Demirguc-Kunt and Maksimovic (2002) Paper claims that development of a country's legal system predicts access to external finance, and stock markets and the banking system affect access to external finance differently. Paper finds no evidence that the relative levels of development of the securities markets compared to that of the banking sector, affect firms' access to external financing. Thus paper finds there is no evidence that the development of a market-based or bank-based financial system per se affects access to financing.

Chakraborty and Ray (2003),paper studies the relative importance of the two systems i.e. the theoretical analysis of bank-based and market-based financial systems in economic growth and development with an endogenous growth model. A bank-based or market-based system emerges from firm-financing choices. Bank monitoring partially resolves the agency problem, while market-finance is more hands-off (not to intervene) i.e. firms with lower marketable collateral and higher incentive problems borrow from banks, while wealthier firms rely on unintermediated market-finance.

Chakraborty and Ray (2003), Paper further argues that policy reform in a bank-based system raise the growth rate and reduce the size of the traditional sector, in market-based system they improve growth but leave the traditional sector unaffected unless such policies also reduce the costs of intermediated finance. Temporary income redistribution, under both financial systems, results in permanent improvement in per capita income as well as income distribution. A bank-based or market-based emerges endogenously.

Chakraborty and Ray (2003), argue that neither a bank-based nor a market-based system is specifically better for growth; model suggests some advantages to having a bank-based system like, level of investment and per capita GDP are higher under bank-based system. Bank monitoring resolves some of the agency problems and enable firms to borrow more. Arms-length market finance plays no such role and results in a lower amount of external finance available to all firms. Bank-based systems allow greater participation in manufacturing activities, by providing external finance to a large number of entrepreneurs.

Chakraborty and Ray (2003), demonstrate that a bank-based system outperforms a market-based one i.e. financial intermediation creates an environment more conductive for transforming a traditional economy into a modern one. Investment and per capita income are higher, and income inequality lower, under a bank-based system. Bank-based systems are conducive for market-based.

Agu and Chukwu (2008) empirically study shows there exists a sustainable cum long-run relationship between economic growth and financial development. The study applies the augmented Granger causality test approach developed by Toda and Yamamoto (1995) to ascertain the direction of causality between bank-based financial deepening variables and economic growth in Nigeria between 1970 and 2005.The study uses low frequency data, examines the time series using both the Augmented Dickey-Fuller (ADF) and Philips-Peron tests. To study applies the multivariate Johansen approach (1988, 1990, and 1992) and co-integration procedure in line with Kar and Pentecost (2000) a long-run relationship between financial development and economic growth. The study finds that the Nigerian evidence supports the demand following hypothesis for bank-based financial deepening variables like private sector credit and broad money, while it supports the supply-leading hypothesis for bank-based financial deepening variables like loan deposit ratio and bank deposit liabilities. The empirical findings suggest that the choice of bank-based financial deepening variable influences the causality outcomes.

Bank Based Credit in India

Bank credit includes credit to food credit and non-food credit provided by the scheduled commercial banks in India. The data regarding credit by scheduled commercial banks has been extracted from the table of scheduled commercial banks select aggregate, Handbook on Statistics on Indian Economy, the official website of Reserve Bank of India. This paper calculated two different growth rates one is Bank Credit Growth Rate and another is Absolute Bank Growth Rate.

Bank Credit Growth Rate

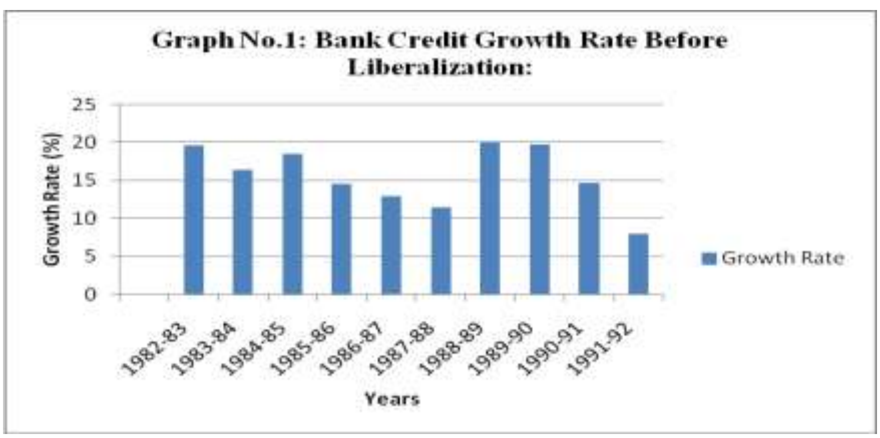
Table No.1 shows that calculation of scheduled commercial bank credit growth rate into two different categories, firstly pre reform period i.e. credit provided before liberalization in financial system and secondly post reform period i.e. credit provided after liberalization in financial system in India.

If we look at carefully we would come to know that growth rate of credit provided by the scheduled commercial banks has almost except three years i.e. 1991-92, 1993-94 and 1996-97 crossed doubled digit.It is very interesting that if we calculate credit growth rate before liberalization in financial system an average bank credit growth rate from 1981-82 to 1991-92 was15.58 % and after liberalization an average bank credit growth rate from the year 1992-93 to 2013-14 was 19.40 %. In short, overall there is only almost 4% gap between before and after liberalizations. Does it mean that there is no much more difference in bank credit due to liberalization?

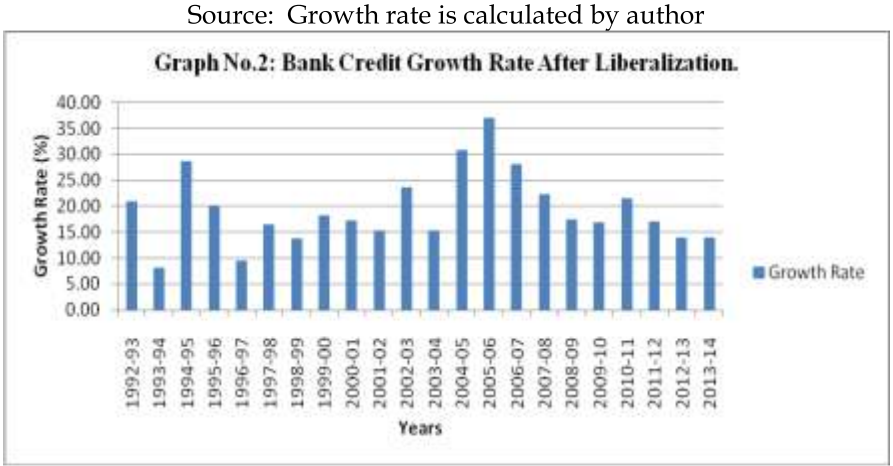
Table No.1: Scheduled Commercial Bank Credit. (Rs. in Billion)

Years	Bank Credit	GrowthRate	Years	Bank Credit	GrowthRate
1981-82	296.82	0.00	**1997-98**	3240.79	16.41
1982-83	354.93	19.58	**1998-99**	3688.37	13.81
1983-84	412.94	16.34	**1999-00**	4359.58	18.20
1984-85	489.53	18.55	**2000-01**	5114.34	17.31
1985-86	560.67	14.53	**2001-02**	5897.23	15.31
1986-87	633.08	12.91	**2002-03**	7292.15	23.65
1987-88	705.36	11.42	**2003-04**	8407.85	15.30
1988-89	847.19	20.11	**2004-05**	11004.28	30.88
1989-90	1014.53	19.75	**2005-06**	15070.77	36.95
1990-91	1163.01	14.64	**2006-07**	19311.89	28.14
1991-92	1255.92	7.99	**2007-08**	23619.14	22.30
1992-93	1519.82	21.01	**2008-09**	27755.49	17.51
1993-94	1644.18	8.18	**2009-10**	32447.88	16.91
1994-95	2115.60	28.67	**2010-11**	39420.83	21.49
1995-96	2540.15	20.07	**2011-12**	46118.52	16.99
1996-97	2784.01	9.60	**2012-13**	52604.59	14.06
			2013-14	59940.96	13.95

Source: Hand Book of Statistics on Indian Economy, RBI
Growth rate is calculated by author.



Source: Growth rate is calculated by author



Source: Growth rate is calculated by author

Absolute Bank Credit Growth Rate

When we calculated simple annual and an average scheduled commercial bank credit growth rate, it did not show much more difference.

But huge difference has been found when it was calculated absolute bank credit growth rate i.e. Ratio of Bank Credit to GDP at market prices. Before liberalization i.e. from 1981-82 to 1991-92 and initial two years of liberalization i.e. 1992-93 to 1993-94 absolute growth rate was one digit i.e. below 10%.

From 1994-95 to 2000-01 absolute growth rate was raised to two digit but below 20%. Then from financial year 2001-02 to 2006-07 the same absolute growth rate went up to 49 %.

And from financial year 2007-08 to 2013-14 the absolute growth rate touched to 96 %.

Table No.2: Absolute Bank Credit Ratio.(Rupees in Billion)

Years	Bank Credit	GDP at Market Price.	Ratio	Years	Bank Credit	GDP at Market Price.	Ratio
1981-82	296.82	9183.74	0.032	**1997-98**	3240.79	21327.98	0.152
1982-83	354.93	9502.94	0.037	**1998-99**	3688.37	22646.99	0.163
1983-84	412.94	10195.60	0.041	**1999-00**	4359.58	24650.29	0.177
1984-85	489.53	10585.15	0.046	**2000-01**	5114.34	25597.11	0.200
1985-86	560.67	11141.33	0.050	**2001-02**	5897.23	26831.90	0.220
1986-87	633.08	11673.50	0.054	**2002-03**	7292.15	27852.58	0.262
1987-88	705.36	12136.39	0.058	**2003-04**	8407.85	30041.90	0.280
1988-89	847.19	13304.86	0.064	**2004-05**	11004.28	32422.09	0.339
1989-90	1014.53	14096.15	0.072	**2005-06**	15070.77	35432.44	0.425
1990-91	1163.01	14876.15	0.078	**2006-07**	19311.89	38714.89	0.499
1991-92	1255.92	15033.37	0.084	**2007-08**	23619.14	42509.47	0.556
1992-93	1519.82	15857.55	0.096	**2008-09**	27755.49	44163.50	0.628
1993-94	1644.18	16610.91	0.099	**2009-10**	32447.88	47908.47	0.677
1994-95	2115.60	17717.02	0.119	**2010-11**	39420.83	52823.86	0.746
1995-96	2540.15	19058.99	0.133	**2011-12**	46118.52	56330.50	0.819
1996-97	2784.01	20497.86	0.136	**2012-13**	52604.59	58998.47	0.892
				2013-14	59940.96	61958.42	0.967

Source: Hand Book of Statistics on Indian Economy, RBI
Ratio is calculated by author.
GDP Base Year 2004-05

Market Based Credit in India

To calculate market based credit growth rate, this paper has considered the market capitalization of Bombay Stock Exchange (BSE).

Market Credit Growth Rate

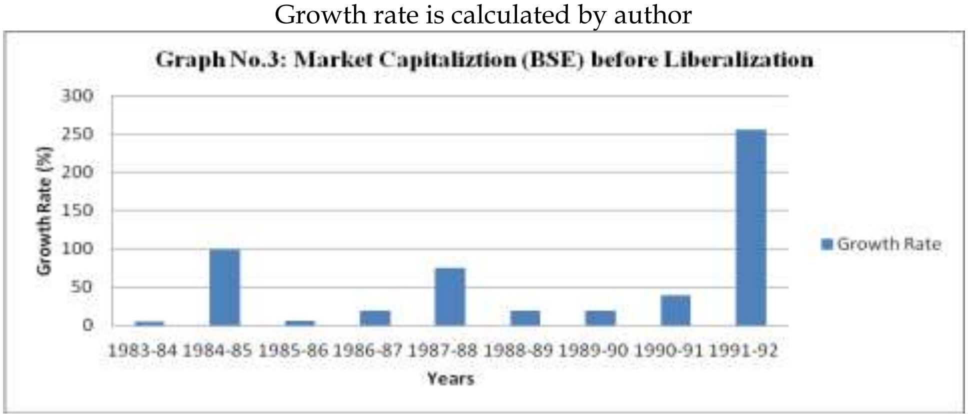
Table no.3 in which, this paper calculated annual market capitalization –BSE growth rate. The Calculation shown in the Graph no.3 and Graph no.4 reflects the BSE stock market highly volatile in nature. Except financial years **1991-92 and 2003-04 in which growth rate was more than 100%.** It seems from the calculation that there is negligible effect of liberalization on stock market.

Table No.3: Market Capitalization-BSE (Rupees in Billion)

Year	Market capitalisation – BSE	Growth Rate	**Year**	Market Capitalisation - **BSE**	Growth Rate
1981-82	NA		**1997-98**	5603.25	20.78

1982-83	97.69		**1998-99**	5453.61	-2.67
1983-84	102.19	4.61	**1999-00**	9128.42	67.38
1984-85	203.78	99.41	**2000-01**	5715.53	-37.39
1985-86	216.36	6.17	**2001-02**	6122.24	7.12
1986-87	259.37	19.88	**2002-03**	5721.98	-6.54
1987-88	455.19	75.50	**2003-04**	12012.07	109.93
1988-89	545.60	19.86	**2004-05**	16984.28	41.39
1989-90	652.06	19.51	**2005-06**	30221.91	77.94
1990-91	908.36	39.31	**2006-07**	35450.41	17.30
1991-92	3233.63	255.99	**2007-08**	51380.15	44.94
1992-93	1881.46	-41.82	**2008-09**	30860.76	-39.94
1993-94	3680.71	95.63	**2009-10**	61656.20	99.79
1994-95	4354.81	18.31	**2010-11**	68390.84	10.92
1995-96	5264.76	20.90	**2011-12**	62149.12	-9.13
1996-97	4639.15	-11.88	**2012-13**	63878.87	2.78
			2013-14	74152.96	16.08

Source: Hand Book of Statistics on Indian Economy, RBI
Growth rate is calculated by author



Growth rate is calculated by author

Growth rate is calculated by author

Absolute Market Credit Growth Rate: absolute market credit is calculated as the Ratio of Market Capitalization-BSE to GDP at market prices. Table No.4 highlights that absolute market growth rate ranged from 1 to 6 % i.e. one digit up to 1990-91. From the financial year 1991-92 to 2006-07 the absolute growth rate ranged from 21 to 91 % i.e. double digits growth rate. It is surprisingly that except financial year 2008-09 in others from 2007-08 to 2013-14 the absolute growth rate crossed 100% i.e. three digits market credit growth rate. From the absolute growth rate calculation it seems that there is definitely positive impact of liberalization on market based credit.

Table No.4: Absolute Growth Rate. (Rupees in Billion)

Year	MARKET CAPITALIS-ATION - BSE	GDP at Market Price.	Ratio	Year	MARKET CAPITALIS-ATION - BSE	GDP at Market Price.	Ratio
1981-82	NA	9183.74		**1997-98**	5603.25	21327.98	0.263
1982-83	97.69	9502.94	0.010	**1998-99**	5453.61	22646.99	0.241
1983-84	102.19	10195.60	0.010	**1999-00**	9128.42	24650.29	0.370
1984-85	203.78	10585.15	0.019	**2000-01**	5715.53	25597.11	0.223
1985-86	216.36	11141.33	0.019	**2001-02**	6122.24	26831.90	0.228
1986-87	259.37	11673.50	0.022	**2002-03**	5721.98	27852.58	0.205
1987-88	455.19	12136.39	0.038	**2003-04**	12012.07	30041.90	0.400
1988-89	545.6	13304.86	0.041	**2004-05**	16984.28	32422.09	0.524
1989-90	652.06	14096.15	0.046	**2005-06**	30221.91	35432.44	0.853
1990-91	908.36	14876.15	0.061	**2006-07**	35450.41	38714.89	0.916
1991-92	3233.63	15033.37	0.215	**2007-08**	51380.15	42509.47	1.209
1992-93	1881.46	15857.55	0.119	**2008-09**	30860.76	44163.50	0.699
1993-94	3680.71	16610.91	0.222	**2009-10**	61656.2	47908.47	1.287
1994-95	4354.81	17717.02	0.246	**2010-11**	68390.84	52823.86	1.295
1995-96	5264.76	19058.99	0.276	**2011-12**	62149.12	56330.50	1.103
1996-97	4639.15	20497.86	0.226	**2012-13**	63878.87	58998.47	1.083
				2013-14	74152.96	61958.42	1.197

Source: Hand Book of Statistics on Indian Economy, RBI
GDP Base Year 2004-05
Ratio is calculated by author.

Conclusion

This research paper intended to find out bank-based credit and market-based credit growth in Indian scenario. It calculated annual scheduled commercial bank credit growth rate absolute growth rate. Similarly it has also calculated capital market capitalization credit annual and absolute growth rates. This research paper considered the financial years from 1981-82 to 1991-92 as pre reform period and the financial years 1992-93 onwards till the year 2013-14 as post reform period.When paper computed the annual growth rate of scheduled commercial bank credit it found that credit growth rate before liberalization in financial system an average bank credit growth rate was 15.58 % and after liberalization an average bank credit growth rate was 19.40 %. The calculation raised the question “does it mean that there is no much more difference in bank credit due to liberalization?”but when it come to the calculation of absolute bank credit growth rate it found significantly difference between pre and post reform periods. From the calculation on market based credit growth rate it seems that stock market highly volatile in nature.It also seems from the calculation that there is negligible effect of liberalization on stock market.From the absolute growth rate calculation it seems that there is definitely positive impact of liberalization on market based credit.

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