

Credit Penetration in Odisha Economy: A Comparative Analysis

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1. Backdrop

Bank Credit plays a vital role in the economic development. Bank credit is the major source of financing in India. More than 60% of the borrowed fund by PSUs and 40% of borrowed funds are sourced from the Banks in India. The credit deployed by the banking sector as a percentage of GDP has increased steadily over the years from 23 percent in 1989-90 to 66 per cent in 2014-15. During the same period, the deposit to GDP ratio has increased from 38 per cent to 85 per cent. As a result, the business of the banks¹ has also risen from 61% in 1989-90 to 151% in 2014-15 (in Chart-1).

The market capitalization ratio in NSE was 69% and 95% during 2013-14 and 2014-15 respectively. Similarly, the market capitalization ratio in BSE was 71% and 97% during 2013-14 and 2014-15 respectively². This clearly indicates that the Indian economy and financial sector is majorly dominated by banking sector. As the Indian financial sector is largely bank-centric, the performance of the banking sector is crucial in the development process of the economy. As the business of Banking Sector is the highest in India³. In modern banking system with Basel III guidelines, credit has become one of the most important financial variables of the financial sector and economy. The established linkages between credit and growth has been through role of bank intermediation as surplus funds are parked as deposits in the banking system which is used as credit through Credit Reserve Ratio and Statutory Liquidity Ratio. Statutory Liquidity Ratio is lending to the Government Sector. So, the Private Limited

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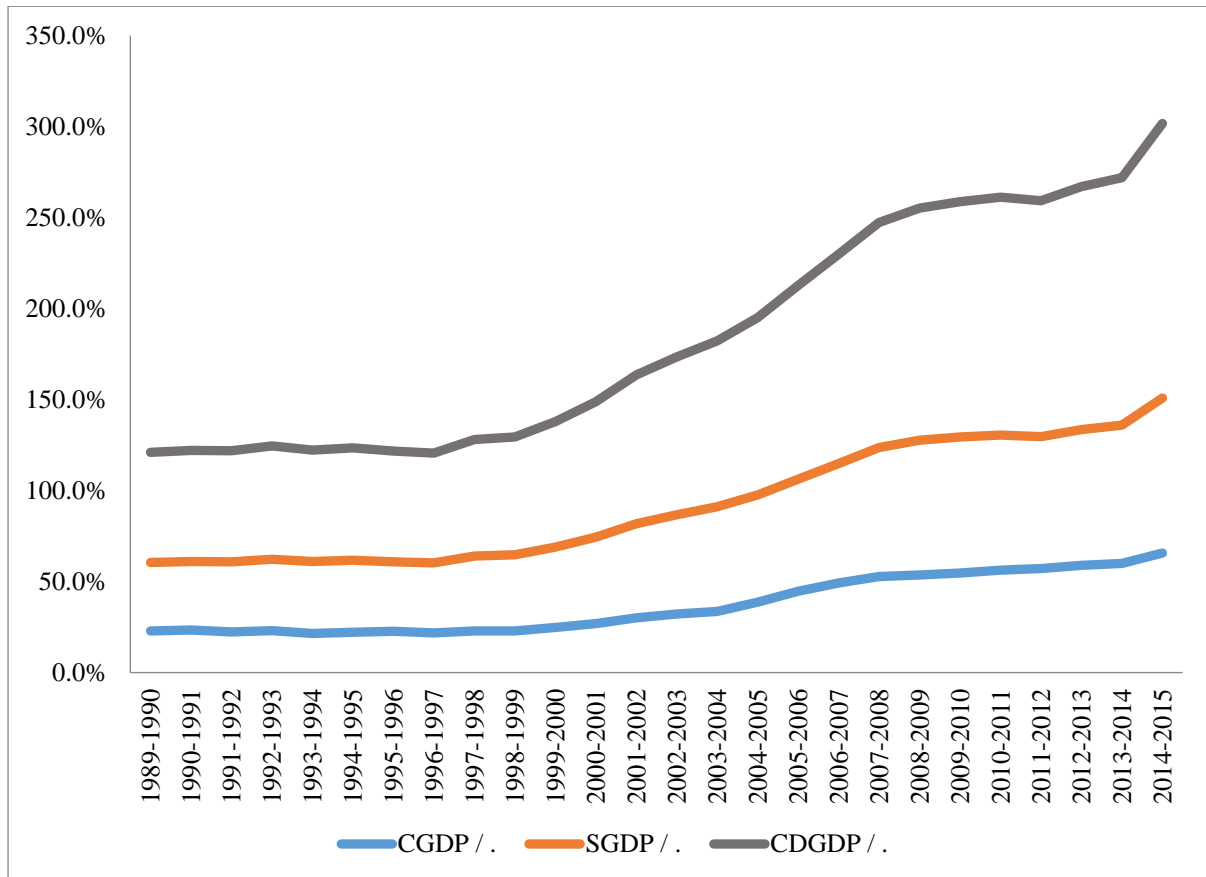
¹ Business of the Bank includes both Credit and Deposits.

² Annual Report, SEBI

³ Reserve Bank of India

Company, Public Limited Company and both Central & State Governments borrow from the banking sector for their business activities. This credit intermediation and growth inducing impact is happening as around 80% of the household deposits are coming to the banking net.

Chart 1: Penetration of Banking Sector in India



Source: Reserve Bank of India

The role of bank credit in inducing economic growth has been an area of research interest when Schumpeter (1911) in his innovation theory talks about the essentiality of bank credit as an impulse to break out from stationary equilibrium. In a Schumpeterian world, bank credit would leverage the entrepreneurs to avail inputs and production base leading to higher sales volume and higher income of the entrepreneurs, which in turn increases the demand for the products of the old industries in relation to supply. As profits increase, old industries will also expand by accessing finance from the bank. This induces a secondary phase of credit expansion. Over-optimism and speculation add further to the boom.

Empirical evidence on the relationship between finance and growth suggested that the relationship between various alternative indicators of financial development (such as the ratio bank credit to GDP and market capitalization to GDP) and growth rates is well established.

The empirical study by King and Levine (1993) is one of the empirical study that finds a statistically significant positive relationship between the measures of financial development and growth while analyzing 77 countries for the period 1960-1989. Followed by King and Levine, many studies offered econometric evidence that supports the view that financial development is a potent predictor of future economic growth. Many studies have also made significant progress in establishing that to some extent, the causal relationship runs from financial development to economic growth.

The Indian financial sector has undergone paradigm shift since 1990s after liberalization, privatization and globalization. Reforms have changed the organizational structure, ownership pattern and domain of operations of institutions and infused competition in the banking sector. This has forced banking sector to get exposed to more competition. The extensive progress in technology has enabled markets to graduate from outdated systems to modern business processes. However, there is hardly any study that establish a link among the states in India wherein the relationship bank credit deployed in the states and growth in gross state domestic product (GSDP). Against this backdrop, this paper argues that the unevenness bank credit in India in different states can play a critical role in inducing state inequality. The study by Sahoo (2013) argues that although both forms of financial structure have positive contributions in economic progress, the bank-based financial deepening is found to be superior over the market-based one in driving economic development. In this context, it is very relevant to study the credit deployment in different states over the years. Sahoo and Patra (2005, 2006) empirically examined the role of financial intermediation in the economic development of Odisha. Bi-directional Granger causality between per capita credit and per capita State Domestic Product was identified confirming the importance of bank intermediation and economic development. The elasticity of per capita credit was found to be higher than the elasticity of rainfall in explaining per capita State domestic product with credit having a persistent positive impact on the State Domestic Product. In the Indian context, there are a few studies those have taken either bank-based indicator or market-based indicator *per se* while linking with economic development. Banerjee (2012) examined the lead-lag pattern in the interaction between credit and growth cycles of India and the major inference of this paper is that output leads credit in the post-reform period contrary to the pre-reform period when credit used to lead output growth.

Bank credit, in India, is composed of food credit and non-food credit. However, food credit that is used for procurement of food grains is likely to be determined by external factors like

monsoons as well as size of the marketed surplus and Government procurements. Hence, non-food credit has been used as the measure of credit. Bank credit in money terms is a nominal variable and its value is often related to nominal GDP.

Bank credit creates additional purchasing power in an economy. If it is used to invest in productive purposes, it helps in capital formation and technological progress in economy that further leads to increase in income, employment and finally output of the economy.

In India, a large proportion of the population is living in rural area and it is depended on agriculture for its livelihood. Therefore, credit deployment in agricultural sector assumes very important. However, the contribution of agriculture in real GDP has declined below one-fifth. However, the employment in this sector is very high. Beside this, the growing population in India demand large and incessant rise in agricultural production. The per capita availability of food has fallen significantly in recent years. As a result, the agriculture growth is declining during last decades.

There are three main factors, viz., agricultural inputs, technological change and technical efficiency, that play important role in agricultural development. Since savings is negligible among the small farmer, the agriculture credit plays essential role in the strategy for agricultural development. The agricultural credit system of India contains two sources viz., informal and formal. The informal agricultural credit sources include friends, relatives, moneylenders etc., whereas, formal agricultural credit sources include commercial banks, cooperatives and micro-finance institutions (MFI). Since independence, although the amount of agricultural credit have increased over the years, however the availability of agricultural credit is being insufficient which further affecting the productivity of agriculture that is major concern among the academicians and policy makers.

2. Role of Credit in creating disparity

Scheduled Commercial Banks (SCBs) are major provider of bank credit to the corporates, MSME, Individuals, and governments in India. They act as facilitator that collect money from the surplus sector in the form of deposits and lend it to various sectors of the economy. In other words, Commercial Banks help in mobilizing and pooling the savings and transmitting them for consumption and investment. The Reserve Bank of India (RBI) as monetary regulator ensures the justified flow of bank credits and the utilization of savings for economic development in different states and Union Territories (UTs).

But the basic statistics shows that there unequal distributions of the credit among the states of India that ultimately affects the economic development of different states. For example, in 2014-15, credit as a proportion to GSDP was 15.61 per cent (at low) in Bihar, however, 105.04 per cent (at high) in Maharashtra. Whereas, deposit as proportion to GSDP was 36.27 per cent (at low) in Andhra Pradesh, however, 127.47 per cent (at high) in Maharashtra in the same period.

There is vast difference in per capita credit and per capita deposits in different states depending on per capita income and saving level of people in different states. For instance, per capita credit in Bihar is Rs. 6139.54 (at low), however, Rs. 150060.7 in Maharashtra in 2014-15. Whereas, the credit deposit ratio was 28.2 per cent (low) in Goa, moreover, 116.4 per cent (high) in Tamil Nadu in the same period. This level of disparity generates the barrier for economic development of states that further affects the economic inequalities among various states of India. The unequal distributions of the bank credit motivate us to examine the credit penetration in Odisha as compare to other states of India.

3. Objective

The present study is with special reference to Odisha. In this study, credit on utilization basis is taken excluding Regional Rural Banks (RRBs) and Co-operative Banks. Therefore, credit utilization of all commercial banks including public Sector Banks, Private Sector Banks and Foreign Banks are taken into consideration. This is the limitation of our analysis. There are four major objectives of the present study:

1. To survey the utilisation of outstanding bank credit in Odisha and all India average.
2. To examine the utilisation of agriculture credit in Odisha and all India average.
3. To investigate the relationship between per capita outstanding bank credit and per capita agriculture credit with per capita GSDP, per capita capital outlay, per capita electricity consumption and per capita tax revenue of Odisha.
4. To compare the data on the outstanding bank credit and agriculture credit provided by SLBC and RBI for Odisha.

To analyse these objectives, the study used the data 'as per Utilised in the state' of outstanding bank credit of All Scheduled Commercial Banks (SCBs)⁴ for the post reform period spanning from FY 1993-94 to FY 2014-15. In the analysis, to make a comparison

⁴ Outstanding credit from All Scheduled Commercial Banks (SCBs) is excluded the credit from Regional Rural Bank (RRBs)

between Odisha and other states of India, we have used All India average for Non Special Category (NSCs)⁵ states of India (excluding Odisha).

4. Comparative Analysis of Outstanding Bank Credit

Table-4.1

Trends in Outstanding Bank Credit as proportion of GSDP in Odisha and All India			
Year	Odisha	All India (average)	Difference
1	2	3	4=3-2
1993-94	10.50%	19.44%	8.94%
1994-95	10.00%	20.47%	10.47%
1995-96	9.79%	21.24%	11.45%
1996-97	9.70%	20.73%	11.03%
1997-98	9.17%	21.75%	12.58%
1998-99	9.31%	21.60%	12.29%
1999-00	9.77%	23.12%	13.35%
2000-01	10.99%	22.67%	11.68%
2001-02	15.94%	25.65%	9.71%
2002-03	18.22%	27.30%	9.08%
2003-04	17.46%	28.22%	10.77%
2004-05	22.93%	32.18%	9.26%
2005-06	27.39%	37.16%	9.77%
2006-07	26.68%	40.79%	14.11%
2007-08	23.57%	44.09%	20.52%
2008-09	24.00%	43.44%	19.43%
2009-10	26.93%	45.23%	18.30%
2010-11	2.65%	4.66%	2.01%
2011-12	2.61%	4.76%	2.15%
2012-13	26.53%	48.67%	22.14%
2013-14	25.43%	48.04%	22.61%
2014-15	24.63%	42.63%	18.00%
Average	16.56%	29.27%	12.71%

(GSDP is used at current price, 2004-05 base).

Source: Various volume of Basic Statistical Returns of Scheduled Commercial Banks (SCBs) in India and Handbook of Statistics on Indian Economy published by Reserve Bank of India (RBI).

Table-4.2

Descriptive Statistics			
Statistics	Odisha	All India (average)	Gap
1	2	3	4=2-3

⁵ There are eighteen NSC states including Andhra Pradesh, Bihar, Chhattisgarh, Goa, Gujarat, Haryana, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh and West Bengal. However, the study does not include the newly formed state of Telangana due to non-availability of data. In the whole analysis, the data for Chhattisgarh and Jharkhand are used for the period of 2000-01 to 2014-15.

Mean	16.56%	29.27%	(-)12.71%
Median	16.70%	26.48%	(-)9.78%
Minimum	2.61%	4.66%	(-)2.05%
Maximum	27.39%	48.67%	(-)21.28%

- ❖ Outstanding bank credit in Odisha is being low, as compare to all India average (excluding Odisha), consistently (in Table-4.1).
- ❖ Overall average of outstanding bank credit in Odisha is just half of all India average.
- ❖ The descriptive statistics of the outstanding bank credit as proportion of GSDP in Odisha is lower than minimum by 2%.
- ❖ The difference in maximum credit is around 22%, indicating that in other states credit utilized is more than 22% than Odisha (in Table-4.2).

5. Comparative Analysis of per capita Outstanding Bank Credit

- ❖ Per capita outstanding bank credit in Odisha is much less than the all India average (excluding Odisha) (in Table-5.1).
- ❖ Overall average of per capita outstanding bank credit in Odisha is just one-third of all India average.
- ❖ The difference of per capita outstanding bank credit between Odisha and all India average is continuously widening against Odisha over the study period.
- ❖ The descriptive statistics indicates both minimum and maximum credit utilized in Odisha in terms of the per capita outstanding bank credit is on third of all India average (in Table-5.2).

Table-5.1

Trends in Per Capita Outstanding Bank Credit in Odisha and All India (in Rupees)			
Year	Odisha	All India (average)	Difference
1	2	3	4=3-2
1993-94	697.53	2102.05	1404.52
1994-95	785.59	2640.26	1854.67
1995-96	918.79	3116.73	2197.94
1996-97	886.10	3474.97	2588.87
1997-98	1000.56	4024.62	3024.07
1998-99	1112.81	4562.21	3449.40
1999-00	1294.07	5296.29	4002.23

2000-01	1452.45	5395.05	3942.61
2001-02	2222.26	6386.94	4164.68
2002-03	2662.94	7199.83	4536.89
2003-04	3042.97	8222.84	5179.87
2004-05	4626.44	10870.60	6244.15
2005-06	5973.24	14031.53	8058.29
2006-07	6871.99	17662.65	10790.65
2007-08	7605.77	21872.32	14266.54
2008-09	8781.59	24545.72	15764.13
2009-10	10668.61	28898.89	18230.29
2010-11	1256.41	3517.25	2260.85
2011-12	1363.78	4055.19	2691.41
2012-13	15578.44	45578.36	29999.92
2013-14	16011.97	51021.70	35009.73
2014-15	17425.87	50969.29	33543.42
Average	5101.83	14792.97	9691.14

Source: Various volume of Basic Statistical Returns of Scheduled Commercial Banks (SCBs) in India and Handbook of Statistics on Indian Economy published by Reserve Bank of India (RBI).

Table-5.2

(in Rupees)

Descriptive Statistics			
Statistics	Odisha	All India (average)	Gap
1	2	3	4=2-3
Mean	5101.83	14792.97	(-)9691.14
Median	2442.60	6793.38	(-)4350.78
Minimum	697.53	2102.05	(-)1404.52
Maximum	17425.87	51021.70	(-)33595.83

6. Comparative Analysis of Agriculture Credit

Table-6.1

Trends in Agriculture Credit as proportion of GSDP in Odisha and All India			
Year	Odisha	All India (average)	Difference
1	2	3	4=3-2
1993-94	2.00%	3.00%	0.99%
1994-95	1.77%	2.77%	1.00%
1995-96	1.67%	2.73%	1.06%
1996-97	1.71%	2.58%	0.86%
1997-98	1.79%	2.56%	0.78%
1998-99	1.41%	2.55%	1.14%
1999-00	1.37%	2.66%	1.30%

2000-01	1.43%	2.45%	1.02%
2001-02	1.69%	2.81%	1.12%
2002-03	1.64%	3.00%	1.36%
2003-04	1.48%	3.39%	1.90%
2004-05	1.90%	3.91%	2.00%
2005-06	2.56%	4.70%	2.13%
2006-07	2.73%	5.41%	2.68%
2007-08	2.79%	5.64%	2.85%
2008-09	3.07%	5.45%	2.38%
2009-10	3.98%	6.10%	2.12%
2010-11	0.43%	0.63%	0.19%
2011-12	0.37%	0.68%	0.31%
2012-13	3.46%	7.18%	3.72%
2013-14	3.48%	7.81%	4.33%
2014-15	0.34%	7.59%	7.24%
Average	1.96%	3.89%	1.93%
(GSDP is used at current price, 2004-05 base).			

Source: Various volume of Basic Statistical Returns of Scheduled Commercial Banks (SCBs) in India and Handbook of Statistics on Indian Economy published by Reserve Bank of India (RBI).

Table-6.2

Descriptive Statistics			
Statistics	Odisha	All India (average)	Gap
1	2	3	4=3-2
Mean	1.96%	3.89%	(-)1.93%
Median	1.74%	3.00%	(-)1.25%
Minimum	0.34%	0.63%	(-)0.29%
Maximum	3.98%	7.81%	(-)3.83%

- ❖ Agriculture credit as proportion of GSDP is lower in case of Odisha as compare to all India average (excluding Odisha) (in Table-6.1).
- ❖ Overall average of agriculture credit of Odisha is just half of the all India average.
- ❖ Difference of agriculture credit between Odisha and all India average is widening against Odisha over the period of time.
- ❖ The descriptive statistics indicates both minimum and maximum credit to GSDP of Odisha of the agriculture is half of the all India average is presented (in Table-6.2).

7. Comparative Analysis of per capita Agriculture Credit

- ❖ Per capita agriculture credit in Odisha is being low as compare to all India average (excluding Odisha) (in Table-7.1).

- ❖ Overall average of per capita agriculture credit in Odisha is just one-fourth of all India average.
- ❖ The difference of per capita agriculture credit between Odisha and all India average is continuously widening against Odisha over the period of study.
- ❖ The descriptive statistics of the per capita agriculture credit of Odisha is completely skewed against all India average(in Table-7.2).

Table-7.1

Trends in Per Capita Agriculture Credit in Odisha and All India (in Rupees)			
Year	Odisha	All India (average)	Difference
1	2	3	4=3-2
1993-94	133.18	296.86	163.68
1994-95	139.35	318.14	178.79
1995-96	156.61	350.71	194.10
1996-97	156.67	378.26	221.59
1997-98	194.96	409.60	214.65
1998-99	168.31	468.67	300.35
1999-00	180.94	534.11	353.17
2000-01	188.53	505.10	316.57
2001-02	236.02	606.82	370.80
2002-03	238.94	683.88	444.94
2003-04	258.50	867.76	609.26
2004-05	384.18	1146.14	761.96
2005-06	559.08	1553.59	994.51
2006-07	703.45	2097.37	1393.92
2007-08	901.42	2490.71	1589.29
2008-09	1124.33	2700.17	1575.84
2009-10	1576.31	3420.79	1844.49
2010-11	206.14	425.22	219.08
2011-12	194.95	515.63	320.69
2012-13	2034.33	6171.72	4137.39
2013-14	2189.81	7576.67	5386.86
2014-15	241.34	11728.97	11487.64
Average	553.06	2056.68	1503.62

Source: Various volume of Basic Statistical Returns of Scheduled Commercial Banks (SCBs) in India and Handbook of Statistics on Indian Economy published by Reserve Bank of India (RBI).

Table-7.2

(in Rupees)

Descriptive Statistics			
Statistics	Odisha	All India (average)	Gap
1	2	3	4=3-2
Mean	553.06	2056.68	(-)1503.62
Median	237.48	645.35	(-)407.87

Minimum	133.18	296.86	(-)163.68
Maximum	2189.81	11728.97	(-)9539.17

8. Correlation Matrix

- ❖ A correlation matrix is prepared by taking six variables such as per capita total credit, per capita agriculture credit, per capita GSDP, per capita electricity consumption, Per Capita Tax Revenue and Per Capita Capital Outlay (in Table-8.1).
- ❖ These variables are derived from all India average.
- ❖ Per capita outstanding credit of is highly correlated (at 1 per cent significant level) with per capita GSDP, per capita electricity consumption, per capita tax revenue and per capita capital outlay of the all the states taken together.
- ❖ Per capita agriculture credit is correlated with per capita GSDP, per capita electricity consumption and per capita tax revenue (at 5 per cent significant level), and per capita capital outlay (at 10 per cent significant level).

Table-8.1

Correlation Analysis				
	PCGS	PCEC	PCTX	PCCO
PCCD	0.751831*** (0.0002)	0.755145*** (0.0002)	0.797781*** (0.0000)	0.806052*** (0.0000)
PCAG	0.595004** (0.0072)	0.565683** (0.0116)	0.556388** (0.0134)	0.425113* (0.0696)

Where, PCCD: Per Capita Credit; PCAG: Per Capita Agricultural Credit; PCGS: Per Capita GSDP (at constant prices, 2004-05 base); PCEC: Per Capita Electricity Consumption; PCTX: Per Capita Tax Revenue; PCCO: Per Capita Capital Outlay;

***, ** & * indicate 1 per cent, 5 per cent and 10 per cent significant level

All parentheses values are probability value of corresponding correlation coefficient

9. SLBC Data and RBI Data: Credit Deposit Ratio

Table-9.1

Trends in Credit-Deposit Ratio			
Year	Source: SLBC	Source: RBI	Difference#
1	2	3	4=2-3
2008	71.01%	56.6%	14.46%
2009	62.56%	50.8%	11.72%

2010	64.06%	53.2%	10.83%
2011	63.84%	5.1%	58.75%
2012	71.24%	4.6%	66.62%
2013	87.97%	46.7%	41.28%
2014	85.92%	42.2%	43.75%
# Difference between SLBC and RBI as per ratio of credit utilised in the State to total deposit			

Sources: Various reports of State Level Bankers' Committee (SLBC) of Odisha and various volume of Basic Statistical Returns of Scheduled Commercial Banks (SCBs) published by RBI

10. SLBC Data and RBI Data: Per Capita Bank Credit

Table-10.1

Trends in Per Capita Bank Credit (in Rupees)			
Year	Source: SLBC	Source: RBI	Difference#
1	2	3	4=2-3
2008	833	761	72
2009	943	878	65
2010	1168	1067	101
2011	1430	126	1304
2012	1943	136	1807
2013	2688	1558	1130
2014	3007	1601	1405
# Difference between SLBC and RBI as per credit utilised in the State			

Sources: Various reports of State Level Bankers' Committee (SLBC) of Odisha and various volume of Statistical Tables Relating to Banks in India and Handbook of Statistics on Indian Economy published by RBI.

11. SLBC Data and RBI Data: Per Capita Agricultural Credit

Table-11.1

Trends in Per Capita Agricultural Credit (in Rupees)			
Year	Source: SLBC	Source: RBI	Difference#
1	2	3	4=2-3
2008	204	90	114
2009	245	112	133
2010	329	158	171
2011	383	21	362
2012	304	19	285
2013	382	203	178
2014	400	219	181
# Difference between SLBC and RBI as per total agricultural credit			

Sources: Various reports of State Level Bankers' Committee (SLBC) of Odisha and various volume of Statistical Tables Relating to Banks in India and Handbook of Statistics on Indian Economy published by RBI.

It has been observed from the table 9.1, 10.1 and 11.1 that the SLBC data is inflated on utilization of credit in terms of Credit Deposit Ratio, per capita overall credit and per capital agricultural credit.

12. Results, Analysis and Inference

In terms of credit utilisation, Odisha has been neglected historically by the commercial banks in terms of overall bank credit and agriculture credit in respect of its respective GSDP and Per capita GSDP and also in currency terms.

It is examined from the correlation matrix that per capita overall credit and per capita agricultural credit have positive and significant relationship with per capita GSDP, Per capita electricity consumption, per capita tax revenue and per capita investments.

Because of lower credit utilization in Odisha by commercial banks, there has been loss to GSDP, Tax Revenue, investment and electricity consumption.

The lower credit utilisation by commercial banks has added inequality as against higher and lower income states.

Also the inflated data of SLBC is quite concerning for policy making of the state.

Now the pertinent issue is the averseness of commercial banks for lower credit utilistaion in the states. It may be a fact that, since bankers consider the borrower are having high credit risk, they have to make huge provisions, which will affect their net profit.

However, considering the rise in systematic risk, the borrowers over the states have prone to more credit risk.

The solution is to reduce the provision of the borrowers in Odisha by reducing their Risk weighted Assets (RWA).

To reduce RWA by taking more collateral is not a sound policy from the borrower point of view as the borrowers not having adequate collateral will not be eligible for loans.

Here, the catch is credit rating. Higher credit rating will reduce Risk Weight of the borrowers and corresponding RWA. This will lead to less provisioning and expected credit loss. The major components of credit rating through which risk weight can be reduced through proper monitoring process such as, liquidity management, working capital management, and cash flow adequacy. These three factor will reduce the financial risk. Risk Parameters of business risk and management risk can also be reduced trough monitoring

The monitoring process will be effective if there is convergence between banks and district administrators. District adminisnistration are to be equal stake holders like banks as it is essentially the public deposits which fund loans.

To raise the credit in Odisha, the institutional convergence between Banks and District administration should be the policy intervention.

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