EVALUATION OF EARNING QUALITY OF INDUSTRIAL DEVELOPMENT BANKS

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ABSTRACT

The earning Capacity is a crucial criterion that reflects the capacity of a bank to get regularity. To enhance their capacity of earning, earning resources should be increased by the banks. By increasing their capacity of earning, Banks can increase their productivity and growth. Although by presenting various approaches of measurement, the academic research on the earning quality has been improved, there is no agreed-upon normally accepted approach to calculate the earning quality. Purpose to give results of an experiential study calculating the earnings quality of the banks.

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Keywords: *Earnings, Financial Analysis, Measurement.*

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Introduction

As a bank, your ability to earn a sufficient return on your assets will determine your viability. As a result, the institution is able to invest in expansion, remain competitive, and increase capital as necessary in order to do so.

Taking a look at the present and past performance and efficiency alone will not be sufficient for an analysis and evaluation of earnings. Depending on the economic conditions, the performance is as valuable, if not more valuable as the performance in the future. In order to determine the bank's "core" earnings, temporary fluctuations in income and one-time items are taken into consideration and discounted from the bank's long-term earnings. There is a need to examine whether the estimated budget of bank & the underlying assumptions of its budget are reasonable. They also considered the inter-relationships between these two risk factors as well as other risk factors, such as credit and interest rates.

Literature Review

Satyam Computer's accounting scandal hit Indian capital market adversely. The accounting scandals are the result of the continuous earnings management. As Loomis (1999) argues that the earnings management hides the true financial condition of a company.

Mukherjee, Nath and Pal (2003) measured the efficiency of 27 Indian public sector banks taking in to account physical and human resource, service quality and performance. In this study, a modified version of SERVQVAL is used to understand the role of service quality in improving overall performance. DEA technique was used for two stage service efficiency measurement. In the first stage quality efficiency was calculated taking establishment infrastructure, technology, employer quality, marketing effort as input and tangibility, responsiveness, reliability, assurance and empathy as outputs. In the second stage profitability efficiency was calculated taking above five outputs including operating expense as inputs and deposits, advance, non-interest income as outputs. With help of quality efficiency and profitability efficiency overall efficiency was measured. The study found that 60% of the banks performing excellently and only 10% of the banks failed to deliver high service to their customers.

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Ram Mohan and Ray (2004) compared performance of 58 public private sector and foreign banks using a revenue maximization efficiency approach for the period 1992- 2000. Loan, investments and other income were taken as bank outputs. Ram Mohan and Ray took deposits and operating costs as inputs for their study. They argued that during the period, Indian banks did not have much freedom in trimming costs especially the costs of labours. Under the circumstances, revenue maximization best describes the objective that banks have been focusing during the period. The result obtained by them relating to revenue maximization efficiency, technical efficiency and allocative efficiency reveal the following: Public sector banks are significantly better placed than private sector banks on revenue maximization efficiency. It was also observed that public sector banks were significantly better than private banks in respect of technical efficiency but not in respect of allocative efficiency.

Larosiere, former Managing Director of the International Monetary Fund, discusses the implications of the new Prudential Framework. He explains at length how the new Regulatory code could have some dangerous side effects. The increased capital requirements as decided by the Basel Committee on Banking Supervision in September 2010 will affect the amount of own funds would affect the profitability of the Banks. The consequences of such increased capital requirements would incentivize the Banks to transfer certain operations that are heavily taxed in terms of capital requirements to shadow banking to avoid the scope of regulation. The risks of such a practice might affect the financial stability. While the Central Banking authorities might contemplate registration and supervision of such shadow banking entities like the hedge funds and other pools, such a course might be more cumbersome than expected. The author feels that the banking model which favors financial stability and economic growth might become the victim of the new prudential framework, and force Banks to search for assets with maximum returns despite the attendant risks.

Research Methodology

Objectives of Research	• To evaluate the earning ability of the banks selected for study. • To assess the ability of a bank to earn consistency.
Hypothesis of Research	H_0: There is no significant difference reading earning quality of the banks under study. H_1: There is significant difference reading earning quality of the banks under study.
Research Design	The descriptive research design is used for the analysis and it is essentially a fact finding approach. It aims to explain risk management of the banks and to determine the frequency with which the same things occur.
Selected Banks	• Industrial Development Banks • Industrial Credit and Investment Corporation of India • Industrial Finance Corporation of India
Sampling Design	Sampling method involves the purposive selection of particular units of world for constituting a sample that represent the population
Period of Study	This study covers the period of last five years 2016-17 to 2020-21
Data Collection Techniques	Secondary Data Collection – Research reports of Banks, Annual reports of banks, Management books, journals, research papers etc.
Statistical Analysis for Hypothesis Testing	The analysis of risk management of the banks is being carried out from 2016-17 to 2020-21. These ratio components of the bank have been analyzed through mean, standard deviation, coefficient of variation, and f-test of significance.

Results and Analysis

The total assets of any bank mainly comprise of the loans and advances investments etc. which are expected to generate a desirable rate of return at a minimum cost and expenditure. To assess the relative efficacy of the different categories of the banks under umbrella, different ratios on total assets and various heads of expenditures to total assets of selected banks are analyzed for a grasp.

Operating Profit to Total Assets Ratio

Generally, it is used as an indicator of profitability by the banking sector. Operating profit as a percentage of total assets can be calculated by applying this ratio. According to this formula, it can be calculated in the following manner:

Operating Profit to Total Assets = $\dfrac{\text{Operating Profit} * 100}{\text{Total Assets}}$

A comparison of operating profit to total assets ratios between 2016-17 and 2020-21 is shown in Table 1.

Table 1: Operating Profit to Total Assets Ratio of the banks under study
(2016-17 to 2020-21)

(Ratio in Percentage)

Year	ICICI	IFCI	IDBI
2016-17	7.632	1.303	7.358
2017-18	6.447	-2.323	7.219
2018-19	6.203	2.179	6.312
2019-20	6.340	-2.842	6.321
2020-21	6.219	-0.132	6.215
Average	6.568	-0.363	6.685
Standard Deviation (S.D)	0.603	2.195	0.555
Coefficient of Variation (C.V) (%)	9.178	-604.771	8.297

Source: From 2016-17 to 2020-21, these are the results calculated from the annual reports and accounts of banks.

A ratio of 6.685% was recorded by IDBI, followed by 6.568% by ICICI at the top of the table and lowest for IFCI bank at -0.363% which indicates that it is important to note that IDBI Bank recorded the highest operating profit during the period under study of all the selected banks. The coefficient of variation was highest for ICICI followed by IDBI and IFCI respectively. From this analysis, ICICI and IDBI were shown to be making profits during the analysis period, while IFCI had a loss during the period in question during 2017-18 to 2020-21 except in the year 2018-19 which should be controlled.

Statistical Analysis: F-test

A hypothesis has been tested for the ratio based on the following:

H_0: There is no significant difference regarding operating profit to total assets ratio among the banks under study.

H_1: There is a significant difference regarding operating profit to total assets ratio among the banks under study.

Based on a one-way ANOVA, table 2 displays the ratio of banks between 2016-17 and 2020-21.

Table 2: One Way ANOVA for Operating Profit to Total Assets Ratio

Source of Variation	Sum Of Squares (SS)	Degree of Freedom (DF)	Mean Sum of Square	Fc	Ft
Between Simple	162.882	2	81.441	44.499	3.885
Within Simple	21.962	12	1.830		
Total	184.845	14			

Decision

According to the "F" test, at 5% level of significance, the calculated value of F = 44.499 and the tabular value of F = 3.885. A null hypothesis has been rejected due to the calculated value of F being greater than the table value (Fc > Ft). Therefore, the banks under study have significantly different debt equity ratios.

Net Profit to Total Assets Ratio

A correlation is being calculated between net profit and total assets with the aim of determining the correlation between them. It is also known as the ratio between net profit and assets. Based on the following formula, we can calculate it as follows:

Net Profit to Total Assets = $\dfrac{\text{Net profit}}{\text{Total assets}} * 100$

A comparison of net profit to total assets ratio between 2016-17 and 2020-21 is shown in Table 3.

Table 3: Net Profit to Total Assets Ratio of the banks under study
2016-17 to 2020-21)

(Ratio in Percentage)

Year	ICICI	IFCI	IDBI
2016-17	1.270	0.915	-1.426
2017-18	0.771	-1.448	-2.352
2018-19	0.349	1.734	-4.720
2019-20	0.722	-1.994	-4.297
2020-21	1.316	-1.508	0.457
Average	0.886	-0.460	-2.468
Standard Deviation (S.D)	0.406	1.668	2.126
Coefficient of Variation (C.V) (%)	45.897	-362.499	-86.138

Source: From 2016-17 to 2020-21, these are the results calculated from the annual reports and accounts of banks.

A ratio of 0.886% was recorded by ICICI, followed by -0.460% by IFCI at the top of the table and lowest for IDBI bank at -2.468% which indicates that It can be said that among the selected banks during the study period, ICICI Bank reported the highest net profit. Coefficient of variation was highest for ICICI followed by IDBI and IFCI (negative) respectively. From this analysis, it can be concluded that IDBI and IFCI need to improve this ratio with consistency in the near future.

Statistical Analysis: F-test

A hypothesis has been tested for the ratio based on the following:

H₀: There is no significant difference regarding net profit to total assets ratio among the banks under study.

H₁: There is a significant difference regarding net profit to total assets ratio among the banks under study.

Based on a one-way ANOVA, table 4 displays the ratio of banks between 2016-17 and 2020-21.

Table 4: One Way ANOVA for Net Profit to Total Assets Ratio

Source of Variation	Sum of Squares (SS)	Degree of Freedom (DF)	Mean Sum of Square	Fc	Ft
Between Simple	28.475	2	14.237	5.721	3.885
Within Simple	29.864	12	2.489		
Total	58.339	14			

Decision

According to the "F" test, at 5% level of significance, the calculated value of F = 5.721 and the tabular value of F = 3.885. A null hypothesis has been rejected due to the calculated value of F being greater than the table value (Fc > Ft). Therefore, the banks under study have significantly different debt equity ratios.

Net Interest Income to Total Income Ratio

The income from interest consists of "income from investments, other interbank funds, interest on advances, and interest on deposits with the Reserve Bank of India and other institutions". Ratio that measures how much of a bank's income is generated from loan operations compared to total income. In this ratio, the higher the ratio, more better earning capacity in the interest and vice versa. It is calculated by the following formula:

Net Interest Income to Total Income Ratio = $\frac{\text{Total Interest Income.}}{\text{Total Income of the Bank}} * 100$

A comparison of Interest income as a percentage of total income between 2016-17 and 2020-21 is shown in Table 5.

Table 5: Interest Income to Total Income Ratio of the Banks under study
(2016-17 to 2020-21)

(Ratio in Percentage)

Year	ICICI	IFCI	IDBI
2016-17	73.521	95.307	87.507
2017-18	75.935	95.320	76.665
2018-19	81.374	92.182	86.992
2019-20	81.974	87.472	82.328
2020-21	80.661	99.183	81.166
Average	78.693	93.893	82.932
Standard Deviation (S.D)	3.748	4.364	4.477
Coefficient of Variation (C.V) (%)	4.762	4.648	5.398

Source: From 2016-17 to 2020-21, these are the results calculated from the annual reports and accounts of banks.

A ratio of 93.893% was recorded by IFCI, followed by 82.932% by IDBI at the top of the table and lowest for ICICI bank at 78.693% which indicates that IFCI had maximum contribution of interest income in its total income. Among the three banks, IDBI had the highest coefficient of variation, followed by ICICI and IFCI. From this analysis, it can be concluded that all the banks under study have a large part of their total income as interest income and IFCI and IDBI perform better than ICICI in this respect.

Statistical Analysis: F-test

A hypothesis has been tested for the ratio based on the following:

H₀: There is no significant difference regarding net interest income to total income ratio among the banks under study.

H₁: There is a significant difference regarding net interest income to total income ratio among the banks under study.

Based on a one-way ANOVA, table 6 displays the ratio of banks between 2016-17 and 2020-21.

Table 6: One Way ANOVA for Net Interest Income to Total Income Ratio

Source of Variation	Sum of Squares (SS)	Degree of Freedom (df)	Mean Sum of Square	Fc	Ft
Between Simple	615.246	2	307.623	17.369	3.885
Within Simple	212.532	12	17.711		
Total	827.777	14			

Decision

According to the "F" test, at 5% level of significance, the calculated value of F = 17.369 and the tabular value of F = 3.885. A null hypothesis has been rejected due to the calculated value of F being greater than the table value (Fc > Ft). Therefore, the banks under study have significantly different debt equity ratios.

Net Interest Income to Total Assets Ratio

This term is used to describe a bank's ability to maintain a low interest rate on its deposit accounts while maintaining a high interest rate on its advances accounts in relation to the total assets of the bank. Generally, it refers to the difference between the interest income that is earned and the interest that is expended. This is an important measure of the bank's core income (i.e., the income it earns from its lending operations). Spreads that are high indicate that the total assets are providing better earnings for the company. As far as interest income is concerned, it consists of dividends received from the company and the interest expenditure on other short-term and long-term loans, interest on deposits, as well as money borrowed from the Reserve Bank of India.

A comparison of net interest margin to total assets ratios between 2016-17 and 2020-21 is shown in Table 7.

Table 7: Net Interest Income to Total Assets Ratio of Banks under Study
(2016-17 to 2020-21)

(Ratio in Percentage)

Year	ICICI	IFCI	IDBI
2016-17	2.816	3.528	1.590
2017-18	2.619	1.422	1.610
2018-19	2.801	5.085	1.844
2019-20	3.029	1.802	2.326
2020-21	3.169	4.499	2.861
average	2.887	3.267	2.046
Standard Deviation (S.D)	0.214	1.616	0.543
Coefficient of Variation (C.V) (%)	7.429	49.451	26.560

Source: From 2016-17 to 2020-21, these are the results calculated from the annual reports and accounts of banks.

A ratio of 3.267% was recorded by IFCI, followed by 2.887% by ICICI at the top of the table and lowest for IDBI at 2.046% which indicates that IFCI had the highest earning on its total assets. In comparison to other banks, IFCI had highest standard deviation and coefficient of variation, indicating slightly higher fluctuations in its ratio.

Statistical Analysis: F-test

A hypothesis has been tested for the ratio based on the following:

H₀: There is no significant difference regarding net interest income to total assets ratio among the banks under study.

H₁: There is a significant difference regarding net interest income to total assets ratio among the banks under study.

Based on a one-way ANOVA, table 8 displays the ratio of banks between 2016-17 and 2020-21.

Table 8: One Way ANOVA for Net Interest Income to Total Assets Ratio

Source of Variation	Sum of Squares (SS)	Degree of Freedom (df)	Mean Sum of Square	Fc	Ft
Between Simple	3.904	2	1.952	1.983	3.885
Within Simple	11.807	12	0.984		
Total	15.710	14			

Decision

According to the "F" test, at 5% level of significance, the calculated value of F = 1.983 and the tabular value of F = 3.885. A null hypothesis has been accepted due to the calculated value of F being lower than the table value (Fc > Ft). Therefore, the banks under study have no significantly different the net interest incomes to total assets ratios.

Net Profit Margin Ratio

According to this ratio, an organization is able to determine what relationship there exists between its net profit and sales. There is a difference between a company's revenue and its expense during a particular accounting period, which determines the net profit of the company. The net profit ratio is calculated by dividing the net profit by sales and denoted as percentage.

The formula used is as follows:

Net Profit Margin Ratio = $\frac{\text{Net Profit after Tax}}{\text{Net Sales}}$ *100

A comparison of net profit margin ratios between 2016-17 and 2020-21 is shown in Table 9.

Table 9: Net Profit Margin Ratio of the Banks under study
(2016-17 to 2020-21)

(Ratio in Percentage)

Year	ICICI	IFCI	IDBI
2016-17	13.306	8.422	-16.241
2017-18	9.363	-15.952	-27.427
2018-19	4.317	12.523	-59.580
2019-20	8.692	-17.997	-50.947
2020-21	16.509	-12.274	5.535
Average	10.437	-5.056	-29.732
Standard Deviation (S.D)	4.657	14.396	26.325
Coefficient of Variation (C.V) (%)	44.619	-284.752	-88.542

Source: From 2016-17 to 2020-21, these are the results calculated from the annual reports and accounts of banks.

A ratio of 10.437% was recorded by ICICI, followed by -5.056% by IFCI at the top of the table and lowest for IDBI bank at -29.732% which indicates that ICICI Bank performed best and other banks remained in loss most of the time. Standard deviation and coefficient of variation were highest for IDBI which indicate far slightly higher fluctuations in the ratio of this bank in comparison to others.

Statistical Analysis: F-test

A hypothesis has been tested for the ratio based on the following:

H₀: There is no significant difference regarding net profit margin ratio among the banks under study.

H₁: There is a significant difference regarding net profit margin ratio among the banks under study.

Based on a one-way ANOVA, table 10 displays the ratio of banks between 2016-17 and 2020-21.

Table 10: One Way ANOVA for Net Profit Margin Ratio

Source of Variation	Sum of Squares (SS)	Degree of Freedom (DF)	Mean Sum Of Square	Fc	Ft
Between Simple	4104.231	2	2052.115	6.678	3.885
Within Simple	3687.784	12	307.315		
Total	7792.014	14			

Decision

According to the "F" test, at 5% level of significance, the calculated value of F = 6.678 and the tabular value of F = 3.885. A null hypothesis has been rejected due to the calculated value of F being greater than the table value (Fc > Ft). Therefore, the banks under study have significantly different net profit margin ratios.

Composite Earning Quality Ratio

A rank for the public sector banks under study has been calculated according to the average of the different ratios calculated in order to determine the earning quality of the banks under study as shown in table 11. As shown in the table below, these banks rank and average across different measures of earnings quality.

Table 11: Rank of the selected banks under different measures of Earning Quality

Bank	Mean Op. Profit To TAS (%)	Rank (i)	Mean NP/TA (%)	Rank (ii)	Mean Int. Income/T Income (%)	Rank (iii)	Mean Net Int. Income/TA (%)	Rank (iv)	Mean NP Ratio (%)	Rank (v)
ICICI	6.57	2	0.89	1	78.69	3	2.89	2	10.44	1
IFCI	-0.36	3	-0.46	2	93.89	1	3.27	1	-5.06	2
IDBI	6.69	1	-2.47	3	82.93	2	2.05	3	-29.73	3

The performance of ICICI in two ratios was the highest of these analyzed banks, namely; "(1) net profit to total assets ratio and (2) net profit margin ratio parameter of earning quality analysis", IFCI also showed best performance in two ratios namely "(1) interest income to total income and (2) net interest income to total assets ratio", IDBI performed best in operating profit to total assets ratio for the period from 2016-17 to 2020-21.

From table 5.4.11, all the selected banks did well in all five measures of earning quality and there is not much difference in their performances.

In this study, no specific bank demonstrated consistently high earnings quality in all five measures, as revealed by the analysis. "Now, look at the overall ranks of the banks in earning quality, for assigning final rank, firstly, all the ranks occupied by individual banks based on mean values of five measures of earning quality, first rank is given to the bank whose total score is the lowest, then the second lowest and so on".

Table 12: Composite Rank in Final Rank of the Selected Banks based on Different Measures of Earning Quality

Bank	Rank In Mean (I)	Rank In Mean (Ii)	Rank In Mean (Iii)	Rank In Mean (Iv)	Rank In Mean (V)	Composite Rank Score	Final Rank
ICICI	2	1	3	2	1	9	1
IFCI	3	2	1	1	2	9	1
IDBI	1	3	2	3	3	12	2

From table 5.4.12, In order to determine the composite score or composite ranks score, there is a tie between ICICI and IFCI for the 1st rank position as both scored 9 points. IDBI bank got 2nd rank with 12 points for earning quality analysis.

Overall Ranking

An analysis has been made by computing mean rank and overall rank of the banks under study. Here mean rank has been computed as the average of final ranks obtained by each bank on the basis of ratios under different measures of CAMEL rating model and then overall rank has been assigned to the banks based on their mean ranks on the rationale of assigning highest overall rank based on least mean rank.

Conclusion

The current research endeavor objected to analyzing the earning quality of the selected three industrial development banks for the period of five years i.e., from 2016-17 to 2020-21.

The study has considered various parameters for measuring the performance like operating profit to total assets, net profit to total assets, Net Interest Income to Total Income Ratio, Net Interest Income to Total Assets Ratio, Net Profit Margin Ratio. The data collected about the banks was analyzed using percentage analysis, mean, standard deviation, coefficient of variation. There is no significant correlation among operating profit, net profit, net interest income to total income and financial performance of industrial development banks. But there is significant correlation between net interest incomes to total assets and financial performance of industrial development banks. The quality of loan assets is the most important factor for the basic viability of the banking system. Information on the movement of earning quality for the three industrial development banks during 2016-17 to 2020-21 was elaborated along with the separate combined units for comparison. Fluctuations have been noticed in both additions and deductions during the five year reference period.

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