

# Earnings Management using Loan Loss Provisions: Comparative Study on Public and Private Sector Banks

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## ABSTRACT

The use of accounting practices to showcase a favourable and positive view about the financial position of a firm indicates the presence of earnings management. This practice is also common in the banking sector. Indian banks are no exception to this and use Loan Loss Provisions (LLPs) as a tool for earnings management. This study has employed a fixed effect regression model to estimate the presence of earnings management in Indian banks using data from listed public and private sector banks. Results indicated that Indian banks adopt earnings management techniques using LLP's. Therefore, this study implies that the regulator should make an attempt to create strong governance to eradicate such practices which will show a true and fair picture of financial position.

**Keywords:** *Earnings Management; Loan Loss Provisions; Governance; Indian Banks*

## INTRODUCTION

The usage of accounting techniques to generate financial summaries which gives an overall positive view of a company's financial position is known as earnings management. It is used to mislead the stakeholders about the organization's financial position or to influence other investors in order to invest money in their organization (Obigbemi et.al, 2016). The fundamental target is income smoothing, which is utilized either when the recently settled profit are high, in this way decreasing the detailed income, or when the income are viewed as low, to expand the announced profit. In this specific circumstance, managers endeavour to abstain from introducing negative total compensation or a

diminishing in benefit comparable to the past period. Earnings Management are mostly done in Banking Industry. Banks use Loan Loss Provisions for doing Earnings Management, whereas there are several techniques for doing Earnings Management, few are listed below. Banks are financial institutions whose business is to accept deposits and provide advances to those who need funds like households, firms and governments for the purpose of buying capital assets, consumption and investment; consequently, adding to financial development (Boukhatem and Moussa, 2018). Bank loaning to borrowers regularly offer ascent to credit risk if borrowers can't reimburse the amount lent and/or interest of the proceeds due to non-supportive macro-economic conditions or any related factor. To moderate default risk, banks keep aside a particular sum of money to meet any unexpected losses on the advances done by bank and this sum is called as Loan Loss Provisions (LLPs). In this way, loan loss provisions gauge is a credit risk administration instrument utilized by banks to alleviate expected losses on bank loan portfolio (De Vincentiis, 2020). It is a provision set aside to cover some importance factors pertaining to loan losses. These factors are bad loans, customer defaults, terms negotiated, govt. interventions etc. LLPs acts as a tweaking element for Loan loss reserves. In case of commercial banks, amount of LLPs accrual amount is huge and therefore creates a major impact on earnings and regulatory capital of banks (Curcio et.al, 2017). The objective of creating this provisions is to adjust banks' loan loss reserves to reflect expected future losses on their loan portfolios. Bank LLP keep on accepting a lot of consideration from bank controllers/regulators and accounting standard setters since (i) banks' enormous measure of loans on their balance sheet makes them helpless against loan default emerging from crumbling monetary conditions which influences borrowers' capacity to reimburse, expecting banks to keep adequate LLPs in anticipation of expected loan losses , (ii) LLPs are regularly procyclical and could intensify a current downturn if unforeseen, and this was apparent in the year 2008 when the major financial crisis happened and which affected banks across the world including US and European countries. Banks increased the amount of LLPs which further disintegrated bank profits and prompted losses that exhausted bank capital, requiring Central Bank mediation as bailouts, (iii) bank LLP is a noteworthy gathering and bank administrators have critical attentiveness in the assurance of LLP gauges and such carefulness can be abused to meet shrewd budgetary detailing targets as opposed to exclusively for credit risk purposes, (iv) bank LLP gauge is a pivotal small scale prudential

reconnaissance apparatus that bank managers use to evaluate the nature of banks' loan portfolio, (v) bank LLP is likewise a urgent pointer of the usefulness of bank collections from an accounting standard-setting viewpoint, and (vi) bank LLP has become the most discussed accounting number in bank monetary announcing after bank productivity and subordinates since the 2008 global financial crisis.

Bank LLPs plays an important role for bank strength and sufficiency while satisfying their loaning capacity to people, firms and governments; in this manner, bank regulators expect banks to keep satisfactory (or adequate) LLPs to relieve anticipated losses despite the fact that there is no understanding among banks for what establishes 'satisfactory' or 'adequate' loan losses provisioning (Baxter, 2016). In addition, in spite of the developing concern that bank managers can deftly abuse their tact to exaggerate LLPs when expected credit risks are really low, bank supervisors, despite everything expect banks to keep higher LLPs tenaciously as a security net for present or future loan losses.

Reserve Bank of India (RBI) in 2015 observed certain discrepancies between the Banks and RBI with respect to asset classifications and provisioning (Vishnani et.al, 2019) and thus, to safeguard transparency among banks and supervisor, RBI in 2017 mandated all banks to report any deviations in their accounts exceeding cut-off limit of 15 percent. The guidelines for LLP's are revisited year on year by the RBI to ensure the safety and soundness of Indian Banks. The primary objective of this conduct are to transmit a picture of strength and great execution to the market and to impact specialists' risk perceptions, notwithstanding other individual objectives of managers, for example, keeping up profits and legally binding rewards, which are for the most part at any rate somewhat attached to a financial institution's performance. A manager can likewise decide to proceed with an earnings management position, regardless of whether it might bargain the nature of the introduced bookkeeping figures or in the event that it involves future penances by the association. Financial institutions additionally try to meet objectives where they can be compared with an industry benchmark or the performance of competitors. The purpose of current study is to check whether Indian Public and Private Banks listed under BSE 500 use Loan Loss Provisions for Earnings Management or not.

## REVIEW OF LITERATURE

Bank earnings management issue is there on the international research agenda since past three decades. A study by Scheiner (1981) highlighted the use of Loan Loss provisions (LLP) as an important tool in the earnings management of US commercial banks. Reserve Bank of India has been improvising the policies regarding LLPs whenever they feel it's the correct time to do so. They say higher LLP helps the bank in fighting with uncertain higher losses. LLP has always been under observation. Banks use LLPs for Income Smoothing (Ozili, 2019; Amidu and Issahaku, 2019). When LLP's were taken under consideration by banks, a change was announced in the *Basel norms* (norms to coordinate the banking regulations across the world), the change was about LLPs contribution to Capital. It particularly says that, LLPs now will only be contributing to Tier 2 Capital. Hence, the primary or the major Capital can't be manipulated. But this could only solve the problem of inaccuracy of Capital Adequacy ratio. Banking sector was still recognized as Z-Level player for manipulations of earnings. In general, less volatile earnings indicate lower risks because they are the basis for stock prices. A study by Lee and Hwang (2019) found that Bank Managers generally see a trend of LLPs, when they are increasing or decreasing, and what brings changes in them. Accordingly, they do Earnings Management using LLPs. Another study by Morris et.al, (2020) found that making Loan Loss Provisions in 4<sup>th</sup> quarter is good news for the stock market whereas doing it in previous quarters are bad news. Thus, making the study very classic. Whereas, on the contrary, Pinto and Picoto (2018) showed that banks with low capital ratios, shows low LLPs. However, they also stated that there is no significant relationship between Loan Loss Provisions and Earnings Management. US was the first country to accept that every single nation has different method of calculating earnings, every country has different practices (Bao and Lewellyn, 2017). They added, banks practice this because earlier they may be hit with a huge loss, so they should know how to show profits, as per their convenience. After that regime change in the Basel, major capital of the bank would not get affected, Net Worth would be accurate. We are taking care of the shareholders; the amount could be used to pay dividends as well. Also, the amount could be used for buyback from those who don't stand with a major part.

A study by Leventis et.al, (2011) concluded that there is more aggressive earnings management after the Basel regime. Also, it will give no effect on Tier 1 Capital Adequacy Ratio which means there is no cost associated with it.

Anandaranjan et.al, (2007) found that banks in Australia use LLPs to signal their investors. They also use LLPs for Capital & Earnings Management. Kanagaretnam et.al, (2015) found that Japanese Banks use LLP to manage their earnings in a different way than what US banks uses. When the bank wants an external financing, at that particular period of time they show high LLPs, high securities, sales figures. However, the managers reported CAR and pre-defined earnings at high level. Cavallo and Majnoni (2002) concluded in their study that bank managers save the earnings through LLP in good phases and borrow earnings using LLP in bad phases. A study by Pennathur et.al, (2012) proved that calculation of LLPs is based upon the default loan amounts and the risky assets and non-interest expenses has a direct relationship with LLPs. Desta (2017) proved that there is significant relationship between LLP & Earnings Management. He also added in his research that variability of earnings is been reduced by African Banks with the help of Discretionary Loan Loss Provisions (DLLP). He found that when Earnings before Tax & Provisions (EBTP) are high and loan to deposit ratio is decreases, the banks decreases DLLP. Most of the bank managers act as an agent for the owners of the bank, so what they say, need to be followed. Most of the time they are under high pressure for showing higher return for the bank as the owner wants more and more investments. For this, managers need to do earnings management to show higher profits (Levine and Smith, 2019). They concluded by saying, corporate ownership plays a very important role in corporate decisions.

Skala (2020) in its study found that when ROA (Return on Assets) before Tax & Provisions for the current year is higher than the previous year ROA and the actual capital reserve is below required reserve, then the company is expected to increase LLP for the ongoing year. And this result is applicable for all the preceding years. During the time of financial crisis, it was reported that much more earnings management was done compare with prior years. Nazir and Afza (2018) showed this with the evidence of banks using high risk asset portfolios was indulged in doing more of the earnings management. Whereas, banks with low risk asset portfolios were using capital ratios to do earnings management. Elleuch, S.H. and Taktak N.B. (2015) showed that after changing the accounting regulations by IMF, Tunisian Banks were still doing Earnings Management by just changing their strategies. This time they were doing it through selling of investment securities and the use of debt collection agencies. This was the first study done after the change in accounting regulations by IMF.

Indian Banks need to keep Cash Reserve Ratio (CRR) and Statutory Liquidity Ratio (SLR) with RBI, which increases their cost as they don't get any return on it. RBI allowed to keep Loan Loss Provision, against those accounts only, which could default. Indian banks found their own ways for earnings management (Ghosh, 2007) The first such study in India was done by Ghosh, where he proved that Indian Banks do use Loan Loss provisions to do Earnings Management. The latest study in this field was conducted by Vishnani et.al, (2019) where they proved that Indian Banks are involved in Earnings Management through Loan Loss Reserves, but they aren't involved in Capital Management and Signalling Better Prospects and further depicted the relation between Loan Loss Provision and Earnings Management of Indian Banks as a whole but there is no such research for Indian Banks in two parts i.e., Public banks & Private Banks.

## METHODOLOGY

**Data:** Data is extracted from CMIE Prowess, annual report of the company for 10 years. Banks which are listed on BSE 500 are taken into consideration. Total of 28 banks are present in BSE500 and data of three banks could be considered due to unavailability of data. 16 public and 9 private banks Total of 250 firm-year observations is considered for the purpose of analysis.

**Variables:** Measurement of dependent, independent and control variable are as follows:

Variables	Proxy Measure
<b>Dependent Variable</b>	
$\frac{PNPA}{TA}$	Provisions for Non-Performing Assets/Total Assets
<b>Independent Variables</b>	
$\frac{PNPA_{t-1}}{TA}$	Previous year's Provision for Non-Performing Assets/Total Assets
ROA	Return on Assets which is calculated by Earnings Before Tax Provisions/Total Assets
CAR	Capital Adequacy Ratio
$\Delta EBTP/TA$	Change (Increase or Decrease) in Earnings Before Tax & Provisions/Total Assets
<b>Control Variables</b>	
CDR	Credit Deposit Ratio

Ln(TA)	Log of Total Assets
NPA/TA	Non-Performing Assets/Total Assets
GDP	Growth Rate of Gross Domestic Product
RIR	Real Interest Rate

PNPA is considered as dependent variable which is measured as provision for non-performing assets which is deflated by total assets. Lag of PNPA which is dependent variable is considered to be the first independent variable. In the past few years, regulations and norms have been made more stringent for creation of provisions. These changes have resulted in higher amount of provision created by banks. Earnings is considered to be the next independent variable as this indicate that bank with higher earnings and practising earning management techniques will have higher amount of PNPA. Another variable is proxy taken for capital management which is capital adequacy ratio. CAR is the ratio of capital to risk weighted assets and higher CAR interest the depositors. So, bank with higher capital adequacy ratio and doing capital management will have less amount for PNPA. Another variable is change in earnings before tax and provisions (EBTP). This has been taken into study to capture the effect of signalling which suggest if bank is indicating increase in earnings with higher amount of PNPA so with higher change in earning, it is expected to have higher amount of PNPA. Remaining variables are control variables which are bank specific and economy specific. Bank specific variables are credit deposit ratio, size of bank and non-performing assets to total assets of the bank. Higher credit deposit ratio indicates that bank will require more of external funds and it may increase risk profile of a bank. Therefore, bank may create lower amount of PNPA to show reduced risk of default. This suggest that CDR and PNPA shall have a negative association. Size is important variable as it is expected that bigger size banks would prefer to show smooth income and therefore, may adopt practices of earnings management and may create higher amount for PNPA. Bigger size banks will have larger assets, so, proxy for size is Ln of Total assets. This variable is expected to have positive co-efficient as bigger banks may create higher PNPA. Another variable is NPA and proxy measure is NPA deflated by Total Assets. It is expected to get positive relationship of NPA and PNPA because higher provision is required to absorb higher NPA. Two more variable are included in the analysis to capture the macro-economic condition of the country that are growth rate of GDP and Real Interest Rate. For both the variables, positive coefficient is expected.

**Tools for data analysis:** Panel data regression model is employed for the purpose of analysis. Before applying tool for analysis, sample data is checked for multicollinearity problem and heteroskedascity. Thereafter, suitability of fixed-effect and random-effect is asses using hausman test and the value of hausman test indicates that fixed-effect model is suitable for analysis.

### Empirical Analysis

**Table 1 presents the descriptive statistics of variables for public and private sector banks**

Descriptive Statistics	Public				Private			
	Minimum	Maximum	Mean	SD	Minimum	Maximum	Mean	SD
PNPA/TA	0.0012	0.1097	0.0197	0.0199	0.0015	0.0344	0.009	0.0073
PNPA/TA(t-1)	0.0012	0.0768	0.0154	0.0152	0.0015	0.0344	0.0088	0.007
ROA	-0.0056	0.0287	0.0156	0.0052	0.0068	0.0353	0.0236	0.0064
CAR	7.72	15.89	12.4024	1.3256	12.09	56.41	16.4648	5.0614
CDR	43.41	86.86	73.0154	8.2507	50.15	105.08	83.4178	9.9113
Ln(TA)	11.5616	17.4213	14.5693	1.1434	9.9466	16.3369	13.7941	1.5107
$\Delta$ EBTP/TA	-0.0178	0.015	0.0014	0.0043	-0.0053	0.0165	0.0041	0.0034
NPA/TA	0.0008	0.0823	0.022	0.0183	0.0005	0.0325	0.006	0.0058
GDP	0.042	0.085	0.0674	0.0134	0.042	0.085	0.0674	0.0135
RIR	-0.0198	0.0756	0.0405	0.0273	-0.0198	0.0756	0.0405	0.0274

**Table 1: Descriptive Statistics**

Table 1 depicts higher PNPA is created by private sector banks in comparison to public sector banks. It also shows that public sector banks have higher asset base as compare to private sector banks. Despite bigger size of public sector banks, private sector banks are maintaining higher capital adequacy ratio. Private sector banks are more efficient in managing their assets as compare to the public sector banks which is clearly indicated from return on assets. Non-performing assets of private sector banks is comparatively lower than public sector banks. Credit to deposit ratio is almost 50% in case of private sector banks which is more than public sector banks. This clearly indicates that despite having bigger size of public sector banks, private sector banks are efficient in terms of managing the assets, providing more credits and lower non-performing assets.

Variance Inflation Factor (VIF) is applied to test the multicollinearity and the value of VIF is less than 10 for all variables which signifies problem of multicollinearity doesn't exists. Breusch & Pagan test is also applied to test for heteroscedasticity in data and the p-value is more than 0.05 which suggest that



problem of heteroscedasticity is not present in the sample. Thereafter, hausman test is applied for deciding on fixed effect estimation and random effect model. Model for public sector and private sector banks is developed separately to determine level of earnings management in public sector banks and private sector banks.

Variable	Tolerance		VIF	
	Public Banks	Private Banks	Public Banks	Private Banks
$\frac{PNPA_{t-1}}{TA}$	0.356	0.524	2.812	1.909
ROA	0.671	0.370	1.491	2.700
CAR	0.590	0.819	1.696	1.222
$\Delta EBTP/TA$	0.668	0.473	1.497	2.114
CDR	0.970	0.448	1.031	2.233
Ln(TA)	0.849	0.363	1.177	2.751
NPA/TA	0.324	0.569	3.090	1.756
GDP	0.712	0.848	1.404	1.179
RIR	0.710	0.656	1.408	1.524

**Table 2: Multicollinearity Statistics**

After checking for multicollinearity and heteroscedasticity in dataset for public and private bank, hausman test has been applied and p value is less than 0.05 in both models which suggest application of fixed effect estimation is suitable.

Variables	Public Sector Banks co-efficient (t-value)	Private Sector Banks co-efficient (t-value)
$\frac{PNPA_{t-1}}{TA}$	0.9275* (22.36)	0.7810* (13.73)
ROA	0.1527 (1.23)	0.1054 (1.33)
CAR	-0.0007*** (-1.83)	-0.0000 (-0.84)
$\Delta EBTP/TA$	-0.4360* (-4.01)	-0.2367** (-2.36)
CDR	0.0000 (1.16)	-0.0000 (-0.07)
Ln(TA)	-0.0019 (0.0022)	0.0010 (1.50)
NPA/TA	0.3443* (9.33)	0.2981* (4.98)
GDP	-0.0018 (-0.05)	-0.0212 (-0.98)
RIR	-0.012 (-0.56)	-0.0395* (-3.18)
<b>Constant</b>	0.0331 (1.01)	-0.0134 (-1.36)

<b>Hausman Test (<math>\chi^2</math>)</b>	0.8435 (4.22)	0.8797 (4.45)
<b>Firm and Time Dummy</b>	Y	Y
N	160	90
<b>Adj-R<sup>2</sup></b>	0.9366	0.9024

**Table 3: Fixed Effect Estimation Output**

Positive co-efficient of  $\frac{PNPA_{t-1}}{TA}$  implies that banks are using PNPA as a tool to manage their earnings. The co-efficient is significant at 1%. CAR has negative co-efficient which indicates there is negative and significant association of CAR and PNPA in case of public sector banks. Though the association is negative of CAR and PNPA/TA but it is not significant. It was expected to have negative association of CDR and PNPA which is true in case of private sector banks but this relationship is not true for public sector banks. It is important to note that this association is not significant. NPA/TA has positive co-efficient which is significant at 1 percent. This implies that banks with higher NPA will create higher amount of PNPA. There is negative and significant association of  $\Delta EBTP/TA$  with PNPA. So banks are not pursuing signalling effect. Coefficient of ROA is positive but not significant.

Association of PNPA and growth rate of GDP is negative which is clearly indicated from its co-efficient. This shows that if the economy is flourishing, then PNPA goes down for both public and private sector banks. The fixed effect estimation clearly explains that Indian banks uses PNPA for earnings management but not involved in capital management.

Value of adjusted R-square for public and private sector is more than 0.90 which indicates that model is good fit.

## CONCLUSION AND DISCUSSION

Researches in the area of earnings management of banks is scant and that more focused was on developed markets where the banking system is different from Indian banking. In this study, an attempt is made to determine whether public sector banks and private sector banks are practising earnings management using PNPA. Total of 25 banks were considered for the purpose of study out of which 9 were private and 16 were public sector banks. Total of 250 firm year observations were considered for analysis

Comparative study shows that banks of both the sector are involved in earnings management. Public sector banks have the advantage of bigger size but despite of

this, they are unable to tap the benefit of this. In previous years, employees have been involved in scams and were using their discretion for many decisions. Due to this, profitability of banks has been hampered especially public sector banks. To overcome this issue, many amendments have been initiated by RBI for pushing the performance of Indian Banks. Over the past few years, despite of stricter norms by RBI for recognition of bad loans, NPA rate for Indian banking is increasing. This prompts bankers to adopt earnings management practises which can show a better picture of bank's financial position. Earnings Management is a topic which is of interest not only for academicians but for regulators also. With the passage of time, RBI has made rules stricter for adhering capital adequacy requirements. In India, banking industry is considered to be highly regulated so this study seems to be appropriate in view of amendments in norms for classification of assets and provisioning. Results of the study shows that banks are involved in earnings management practices. Despite strict guidelines of RBI for creating sufficient provision for meeting bad loans and for classifying asset class, Indian banks were using their own discretion.

IMF conducted study in the year 2017 and it was found that India has high rate of NPA among other G-20 countries. Therefore, it is very necessary for regulators to know how banks used LLPs as a tool for earnings management which may affect stock price. Regulators must know whether the numbers reported by bank are presenting true and fair view or they are subject to manipulation.

### **POLICY IMPLICATIONS**

Our study has major policy implications suggesting that earnings management in banking is extremely important as banking is a highly regulated industry and various activities like the funding patterns, size of bank etc. may affect the earnings management of any bank. Regulator may consider creating a strong governance culture in banking which will curtail such activities. This will show clear picture of the bank to the stakeholders and issues of agency problem will not arise.

### **LIMITATIONS AND FUTURE SCOPE OF STUDY**

Indian Public sector banks has undergone a major consolidation in the year 2019, which may significantly change the shape of Indian Banking sector (Jasrotia and Agarwal, 2020). More appropriate evidence can be identified by conducting analysis on banks post consolidation. Our study has categorised Indian banking in Public and Private sector, further analysis can be done on the basis of size of the

banks. Our study has considered LLP as a measure of earnings manipulation. In future, other measures of earnings management can be considered for the analysis.

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