**International Journal of Mechanical Engineering and Technology (IJMET)**
Volume 8, Issue 11, November 2017, pp. 1043–1062, Article ID: IJMET_08_11_107
Available online at http://iaeme.com/Home/issue/IJMET?Volume=8&Issue=11
ISSN Print: 0976-6340 and ISSN Online: 0976-6359

 **Scopus** Indexed

# ACCOUNTING OF POST MERGER FINANCIAL PERFORMANCE OF PUNJAB NATIONAL BANK (PNB) AND NEDUNGADI BANK

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**ABSTRACT**

*In the present scenario, Merger is the path of business to achieve optimum growth, when two entities come together to work but also continues to generate single area of interest. In today's cut-throat competition, weak bank cannot think of long term survival, to gain competitive advantage, it has to restructure its activities as per the demand of time by using any form of corporate restructuring such as through mergers. This research article sheds light on how synergies arise through mergers and acquisitions (M&As) in the Indian Banking sector. Mergers are being widely used, for improving competitiveness of banks, gaining market share and increasing efficiency. This study highlights the important factors which could affect bank after the merger, in terms of enterprise value and market capitalizations. The results suggest that there are many focus areas where the performance of bank improved after the merger particularly in relation to operating efficiency, solvency, and enterprise value and business performance except the profitability of the bank, which does not changed significantly after the merger. Researcher also shows that PNB financial performance is significantly changed in terms of Total Income, Total Expense and Net Profit by carried out a comparative static analysis of merger.*

**Key words:** Merger, Banking, Market Capitalization, Enterprise Value and Profitability.

**Cite this Article:** Dr. Azeem Ahmad khan and Dr Sarfaraz Javed, Accounting of Post Merger Financial Performance of Punjab National Bank (PNB) and Nedungadi Bank, International Journal of Mechanical Engineering and Technology 8(11), 2017, pp. 1043–1062.
http://iaeme.com/Home/issue/IJMET?Volume=8&Issue=11

## 1. INTRODUCTION

In the contemporary world, news regarding mergers, takeovers and corporate control make newspaper headlines daily. Mergers and corporate restructuring have become topics of great importance in the global corporate arena. They represent a major force in modern financial and economic environment. In this globalized era where the technology changes continue to accelerate, more and more companies are finding mergers to be a compelling strategy for growth **(Kumar, 2011).** Whether in times of boom or bust, mergers continue to be the preferred option for businesses seeking to grow rapidly. In the globalized economy, Merger acts as an important tool for the growth and expansion of the economy. The main motive behind the merger is to create synergy, that is one plus one is more than two and this rationale beguiles the companies for merger at tough times. Merger helps the companies in getting the benefits of greater market share and cost efficiency. Companies are confronted with the facts that the only big players can survive as there is a cut throat competition in the market and the success of the merger depends on how well the two companies integrate themselves in carrying out day to day operations. Merger is a century old phenomenon in the global history; the present world scenario is such that it is the economic prowess of a country which tends to determine its standing in the world order rather than its military power **(Report, 2000).** The production centers are no longer localized with the emergence of transactional corporations which have got productions centers sprawled all over the world.

## 2. STATEMENT OF THE PROBLEM

The foregoing statement of the problem is being verified by the literature review. It is an attempt to substantiate the view that the contemporary problems do not find adequate treatment in the existing literature on the subject. The study is to analyze the financial performance in terms of Profitability, Operational Efficiency and Asset Utilization Capacity, Solvency, Enterprise Value and Business Performance of a strategic mergers and amalgamations in India since economic liberalization with special reference to the Banking sector.

## 3. REVIEW OF LITERATURE

After going through the available relevant literature on M&As and it comes to know that most of the work high lightened the impact of M&As on different aspects of the companies. Mehta and **Kakani (2006)** stated that there were multiple reasons for Merger and Acquisitions in the Indian Banking Sector and still it captures the interest of a research and it simply because of after the strict control regulations had led to a wave of merger and Acquisitions in the Banking industry and states many reason for merger in the Indian Banking sector. While a fragmented Indian banking structure may be very well beneficial to the customer because of competition in banks, but at the same time not the level of global Banking Industry, and further concluded that merger and Acquisition is an imperative for the state to create few large Banks. **Delong and Deyoung (2007)** analyzed the long-run financial performance of 216 M&As of publicly traded U.S. banking companies those were announced and completed between 1987 and 1999, as well as the ability of the stock market to predict the long run performance. On average, the data were broadly consistent with the previous literature on bank merger and stock market performance: The typical bank merger did not improved post merger financial performance, and investors were unable to accurately predict the future performance of the typical bank merger. **Anand and Singh (2008)** studied the impact of merger announcements of five banks in the Indian Banking Sector on the share holder bank. These mergers were the Times Bank merged with the HDFC Bank, the Bank of Madurai with ICICI Bank, ICICI Ltd with ICICI Bank, Global Trust

Bank merged with Oriental Bank of commerce and the Bank of Punjab merged with the centurion Bank. Event study was used to provide the positive impact of merger on the bidder Banks. The announcement of merger of Bank had positive significant impact on share holder's wealth. The result showed that the agreement with the European and the US Banks Merger and Acquisitions except for the facts the value of share holder of bidder Banks have been destroyed in the US context, the market value of weighted Capital Adequacy Ratio of the combined Bank portfolio as a result of merger announcement is 4.29% in a three day period (-1,+1) window and 9.71 % in a Eleven days period (-5, 5) event window.

**Kuriakose Sony et al., (2009)** focused on the valuation practices and adequacy of swap ratio fixed in voluntary amalgamation in the Indian Banking Sector and used swap ratio for valuation of banks, but in most of the cases the final swap ratio is not justified to their financials. **Kumar and Suhas (2010)** studied the value creation through mergers in the Indian banking sector. In the paper, they assessed the impact of merger on both the stock market wealth creation and operating performance. For the purpose of the study, authors used financial ratios and concluded that the mergers in the banking sector were positive for acquiring or bidder banks and negative abnormal return for the target banks. The framework of pre and post merger comparisons of operating performance of acquiring banks were based on the three Models where by cash inflows was deflected by market value of assets, book value of assets and income. Researchers also concluded that the operating performance of banks does not improve after the merger.

**Kuriakose and Kumar (2010)** assessed the strategic and financial similarities of merged Banks, and relevant financial variables of respective Banks were considered to assess their relatedness. The result of the study found that only private sector banks favors voluntary merger wave in the Indian Banking Sector and public sector Bank behave reluctant towards their type of restructuring. Target Banks generates more leverage (dissimilarity) than bidder Banks, so the merger lead to attain optimum capital Structure for the bidders and asset quality of target firms is very poor except the cases of the HDFC Vs the CBOP merger in 2007. The factor behind voluntary amalgamation were synergies, efficiency, cost saving, economies of scale. The merging partners strategically similarities and relatedness were very important in the synergy creation because the relatedness of the strategic variable have a significant impact on the Bank performance and the effect of merger on the stock market.

**Sinha and Gupta (2011)** studied a pre and post analysis of firms and concluded that it had positive effect as their profitability and in most of the cases it deteriorated liquidity. After few years of Merger and Acquisitions(M&As), it came to the point that companies may be able to leverage the synergies arising out of the merger and Acquisition that have not been able to manage their liquidity. Study showed the comparison of pre and post analysis of the firms. It also indicated the positive effects on the basis of some financial parameter like Earnings before Interest and Tax (EBIT), Return on share holder funds, Profit margin, Interest Coverage, Current Ratio and Cost Efficiency etc. **Khan (2011)** made an attempt to empirically examine the Merger and Acquisitions (M&As) in the Post liberalization regime with special reference to the Indian Banking Sector. He compared pre and post merger financial performance of merged banks and took ratio like Gross-Profit Margin, Net- Profit Margin, Operating Profit Margin, Return on Capital Employed (ROCE), Return on Equity (ROE) and Debt-Equity Ratio.

**Kouser and Saba( 2011)** analyzed the effect of merger on the financial performance of Pakistan banking sector, as well as they explored the effect of merger on profitability of the banks by using six different financial ratios. 10 commercial banks were selected that faced merger and acquisitions (M&As) during the period 1999-2010. All the data were collected from the annual reports of the banks. The study compared three years pre and three years' post merger financial ratios and applied t-test for statistical inferences. The result recommended that the operating financial performance of all commercial banks in post merger period had declined and shows negative impact on the performance of banks after the mergers.

**Natarajan and Kalaichelvan (2011)** discussed the implications of Merger and Acquisitions (M&As) on the financial positions of banks. This study compared 5 years pre and 5 years post merger operating performance of banks. In the study, authors focused on the liquidity, operating performance and profitability position of banks after the mergers and found that private sector banks were better in the pre period as compared to their performance in post merger. But the public sector banks shown notable positive change in the post merger performance but there were declined in turning their assets for generating income. **Khan (2012)** examined the post merger performance of OBC after 3 years by comparing pre and post merger financial performance appraisal of acquiring banks, the researcher found that the post M&A's have not created any difference in the financial performance of the acquiring banks. **Kotnal (2016)** investigated the reasons and various motives of merger in Indian banking industry. Under the study he compared pre and post-merger financial performance of banks by using t-test. The study indicates that the banks have been positively affected by the event of merger.

**Chatterjee (2016)** examined the Impact on shareholders wealth after the announcement of SBI to acquire associate Banks using event study, the researcher found that merger has not been any significant impact on the shareholders' abnormal return, showing that the security price movements were not only affected by the current information, but also showed negative trend of abnormal return to the shareholders. **Tamragundi and Devarajappa (2016)** examined the Impact of mergers on Public and Private Sector merged Banks in India, they have checked the physical, financial and share price performance of Banks after the merger. They have concluded that merger is very useful for expansion, market share and consumer base but failed to remove financial illness of the bank.

## 4. RESEARCH GAP OF THE STUDY

Review of literature sheds light on various gaps through previous researches carried out in this field. The Researcher intends to put an honest effort to provide his sincere contributions in this regard. Majority of the aforesaid studies are based on trends, policies, framework, human resource and few works found in the field of financial profitability of banks in India and requisites are investigated. Profitability and financial analysis of mergers/ amalgamations are not given due importance or adequately explored. The researcher has made an effort to address these research gaps and made an attempt to make complete and comprehensive study on merger or amalgamations in the Indian Banking Sector.

## 5. OBJECTIVES OF THE STUDY

1. To examine the pre and post merger Profitability, Solvency, Operational efficiency and Asset utilizations capacity of banks to know whether the Mergers and Amalgamations led to the profitable situations for the merging and the merged Banks.
2. To identify the value change through merger by comparing the Enterprise value of Banks before and after the merger.
3. To examine the Business Performance of Banks before and after from Merger and Amalgamations.

### *Hypotheses of the Study*

To achieve the aforesaid objectives, five hypotheses have been developed to fulfill the ultimate results of the study. Six hypotheses have been further bifurcated into thirteen sub hypotheses to cover up the various dimensions of mergers and amalgamations.

H10 (Null Hypothesis) = There is no significant difference between Pre and Post merger Profitability of Banks.

H20 (Null Hypothesis) = There is no significant difference between Pre and Post merger Operational efficiency and Asset utilization capacity of Banks.

H30 (Null Hypothesis) = There is no significant difference between Pre and Post merger Solvency of Banks.

H40 (Null Hypothesis) = There is no significant difference between Pre and Post merger Enterprise Value of Banks.

H50 (Null Hypothesis) = There is no significant difference between Pre and Post merger Business performance of Banks.

## 6. RESEARCH METHODOLOGY OF THE STUDY

For the purpose of the study, the data have been collected from various secondary sources such as Annual Reports of Banks, Newsletters, reports, surveys, websites and public statement. The financial Data of Banks has been collected from the Center for Monitoring Indian Economy (CMIE) which is maintaining database since 1991 of Indian Banking Sector.

Independent sample Test of significance of mean (t-test) for the hypothesis testing is being used by the Researcher for the test of equality of two means. Following parameters are used for the study:

1. Profitability parameters
- Net Profit Margin (NPM),
- Earning per Share (EPS),
- Price to Earnings Ratio (P/E)
- Enterprise Value to Profit before Depreciation, Interest, Taxes and Amortizations (EV/PBDITA).

2. Operating efficiency and Asset utilization capacity parameters
- Total Asset Turnover Ratio (TATR)
- Return on Assets (ROA)

3. Solvency parameter
- Interest Coverage Ratio (ICR).

4. Enterprise value (EV)

5. Business performance parameters are
- Market Capitalization (MC)
- Total Income (TI)
- Total Expense (TE)
- Interest Expense (IE)
- Net Sales (NS)
- Net Profit (NP)
- Total Liabilities (TL)

## 7. DATA ANALYSIS AND INTERPRETATION

***Pre-Merger Ratio Analysis:*** The ratio analysis in table 1 reveals that the year 1997 saw the NPM at -6.491. The analysis shows that the year 1997 saw the TATR at 0.104 and ROA at 0.007. The ICR was at 0.999 while the P/E was at 3.070 along with EPS at 19.650. However the value of Bank in terms of EV/PBDITA was at 0.170. For the year 1998 the TATR remained unchanged at 0.101 while the ROA marginally improved at 0.012. However the NPM escalated up to 11.836. The EPS and EV/PBDITA dropped at 11.990 and –0.380 showing the declined value of banks. The ICR improved to 0.188 indicating that the banks were able to meet its expenses. The P/E also improved at 4.240. In the year 1999 NPM declined to 8.275 indicating that the banks were inefficient to generating profit in the year 1999. The TATR was at 0.096 signaling the declining performance of banks and similarly ROA also declined to 0.008, pointing out that management was not effectively using bank assets. The ICR was dropped at 0.132 showing the banks weakness to meeting it expenses. The P/E ratio moved to 9.690 indicating the increasing expectation of investor for the future earnings. The EPS was at 8.100 which indicated that the banks earnings capacity continuously declined its, EV/PBDITA at –0.040 indicated the total debts to profit of the banks.

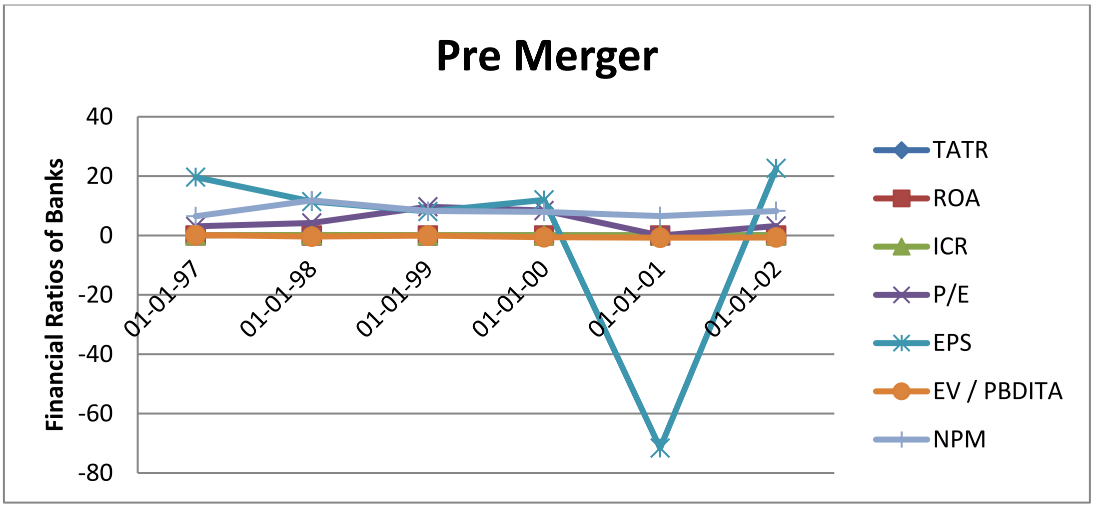
In the year 2000, the TATR remained stable at 0.095 but ROA was marginally changed at 0.008. The ICR fluctuated and moved at 0.115 showing the in capabilities of banks to pay back its debt. However the P/E marginally diminished at 8.420 leading to loss of interest of shareholder in potential stock of banks. The EPS for the year 2000 improved and stirred to 11.990. The EV/PBDITA was also negative at -0.580 which showed the decreasing value of banks with declining of market capital. The NPM recorded at 7.951 indicating the issue for strategic decision for drop off the profitability. For the year 2001 the NPM dropped at 6.553. The P/E of bank experienced huge decline at 0.000. The ICR moved to 0.099 and EPS showed negative performance at -71.610 but EV/PBDITA at -0.740. But the TATR along with ROA stayed nearly stable at 0.092 and 0.006 respectively, however the banks were failing to utilize the assets to generate profit.

In the year 2002, the net profit margin registered at 8.285. The EV/PBDITA decreased at -0.0662. The P/E was recorded at 3.222 which indicated future expectation of earnings. However the EPS for the year 2002 was 22.610 which showed banks efficiency and improved financial position. The TATR and ROA were at 0.091 and 0.008 while the ICR was at 0.125. Also figure1 depicts the Pre Merger combined ratio analysis of banks.

**Table 1** Pre Merger combined Ratio analysis of Punjab National Bank and Nedungadi Bank.

| YEARS | TATR | ROA | ICR | P/E | EPS | EV / PBDITA | NPM |
|---|---|---|---|---|---|---|---|
| 31/03/1997 | 0.104 | 0.007 | 0.099 | 3.070 | 19.650 | 0.170 | 6.491 |
| 31/03/1998 | 0.101 | 0.012 | 0.188 | 4.240 | 11.440 | -0.380 | 11.836 |
| 31/03/1999 | 0.096 | 0.008 | 0.132 | 9.690 | 8.100 | -0.040 | 8.275 |
| 31/03/2000 | 0.095 | 0.008 | 0.115 | 8.420 | 11.990 | -0.580 | 7.951 |
| 31/03/2001 | 0.092 | 0.006 | 0.099 | 0.000 | -71.610 | -0.740 | 6.553 |
| 31/03/2002 | 0.091 | 0.008 | 0.125 | 3.222 | 22.610 | -0.662 | 8.285 |

***Source*:** Compiled and Calculated from Appendix 1 and 2




***Source***: Table1

**Figure 1** Pre Merger combined Ratio analysis of Punjab National Bank and Nedungadi Bank.

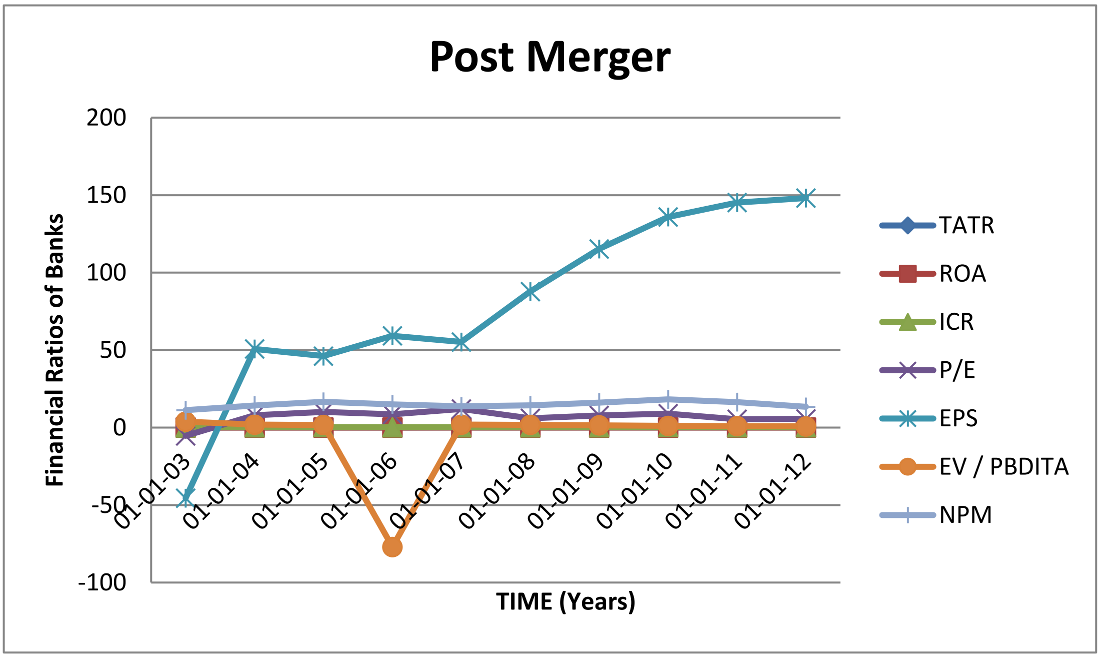
***Post-Merger Ratio Analysis:*** The ratio analysis presented in table 2 reflects that after the merger in the year 2003 NPM was at 11.252 while the TATR marginally declined at 0.085 but ROA was improved after the merger and moved up at 0.010. For the year 2003 after the amalgamation, the EPS of PNB fell down huge low at -45.450. The ICR was increased at 0.177 which showed that banks were strong and equipped to meeting its expenses. The P/E was at -5.302 which exhibited the losing interest of shareholders of the security stock of banks. After the merger, for the year 2003, the EV/PBDITA was at 3.835. The year 2004 NPM achieved at 14.252. The ICR moved to 0.267 along with P/E at 7.990. However the EPS of bank escalated to 50.740 which indicate the sign of higher earnings of PNB after the amalgamation. The EV/PBDITA recorded 1.930 while TATR went down 0.076 but ROA slightly improved to 0.011. For the year 2005 the net profit margin improved to 16.668 and so did ROA to 0.011 indicating better utilization efficiency in operations was reflected through P/E at 10.110. The TATR declined at 0.067 along with the EPS at 46.150. The EV/PBDITA also dropped at 1.690, But the ICR improved to 0.317 showing capabilities to meet the expenses. The year 2006 saw the NPM at 15.018 along with TATR and ROA at 0.066 and 0.010. The ICR was marginally declined at 0.293. However the P/E ratio was dropped at 8.550. The EPS jumped at 59.260. However, the EV/PBDITA dropped off at -77.010.

For the year 2007 the TATR was improved at 0.069 while the ROA was slightly declined at 0.009. The ICR was also declined at 0.256. But the P/E was improved at 12.020. The EPS declined at 55.270 and also EV/PBDITA positively moved up to 1.910. The NET Profit Margin dropped off to 13.706. For the year 2008, the TATR and ROA were at 0.072 and 0.010 while the ICR and P/E came down in that year to 0.235 and 5.990. However the EPS jumped at 87.820 along with EV/PBDITA at 1.770. The NPM was also moved at 14.362. The year 2009 the ratios like TATR, ROA and ICR showing improvement at 0.077, 0.013 and 0.251. But P/E rose up at 7.860. The NPM went up at 16.160. However, the EV/PBDITA dropped at 1.460 and the EPS was at 115.310 which indicating the bank efficiency in earning capacity of bank. For the year 2010, the NPM recorder highest at 18.230 high lightened the operational efficiency of the banks in the foundations of modernizations and expansion which were under taken after the mergers. The TATR was at 0.072 and ROA was increased at 0.013. The ICR moved to 0.302 and P/E ratio rose to 8.990. However the EV/PBDITA at 1.120 showing the declining position towards the meeting of its total debt. The earning per share (EPS) for the year 2010 continues increasing and moved at 135.940. The year 2011, saw the NPM slightly decrease at 16.429. The EV/PBDITA dropped off at 0.930 but the EPS jumped at 145.220. However the P/E also dropped at 5.400. But the ICR at 0.292 put question marks on the ability of Punjab national bank in fulfilling its interest payment. The TATR declined to 0.071 and so did the ROA to 0.012 indicating inefficiency. For the year 2012 the Net Profit margin of Punjab National Bank at 13.408 which was declining position as compared to the last three years. The EV/PBDITA also dropped at 0.770 but EPS jumped at 148.150 which indicating consistent improvement in the EPS year after year and the bank improving earning capacity through efficiency. The P/E ratio remains nearly stable at 5.670 but ICR decreased at 0.213. The TATR was 0.079 indicating better efficiency. ROA slightly fell down at 0.011. Figure2 represents the Post Merger combined ratio analysis of banks.

**Table 2** Post Merger combined Ratio analysis of Punjab National Bank and Nedungadi Bank.

| YEARS | TATR | ROA | ICR | P/E | EPS | EV / PBDITA | NPM |
|---|---|---|---|---|---|---|---|
| 31/03/2003 | 0.085 | 0.010 | 0.177 | -5.302 | -45.540 | 3.835 | 11.252 |
| 31/03/2004 | 0.076 | 0.011 | 0.267 | 7.990 | 50.740 | 1.930 | 14.252 |
| 31/03/2005 | 0.067 | 0.011 | 0.317 | 10.110 | 46.150 | 1.690 | 16.668 |
| 31/03/2006 | 0.066 | 0.010 | 0.293 | 8.550 | 59.260 | -77.010 | 15.018 |
| 31/03/2007 | 0.069 | 0.009 | 0.256 | 12.020 | 55.270 | 1.910 | 13.706 |
| 31/03/2008 | 0.072 | 0.010 | 0.235 | 5.990 | 87.820 | 1.770 | 14.362 |
| 31/03/2009 | 0.077 | 0.013 | 0.251 | 7.860 | 115.310 | 1.460 | 16.160 |
| 31/03/2010 | 0.072 | 0.013 | 0.302 | 8.990 | 135.940 | 1.120 | 18.230 |
| 31/03/2011 | 0.071 | 0.012 | 0.292 | 5.400 | 145.220 | 0.930 | 16.429 |
| 31/03/2012 | 0.079 | 0.011 | 0.213 | 5.670 | 148.150 | 0.770 | 13.408 |

***Source***: Compiled and Calculated from Appendix1




***Source***: Table 2

**Figure 2** Post Merger combined Ratio analysis of Punjab National Bank and Nedungadi Bank.

[1]H10 (Null Hypothesis) = There is no significant difference between Pre and Post merger Profitability of Merged Banks (Punjab National Bank and Nedungadi Bank).

***Sub Hypotheses***

H10 (Null Hypothesis) = There is no significant difference between the Pre and Post Merger Net Profit Margin (NPM) of Merged Banks (Punjab National Bank and Nedungadi Bank).

Table: 3 & 4 indicates the Pre and Post Merger Net Profit Margin (NPM) of Punjab National Bank (PNB) and Nedungadi Bank. This hypothesis examined the Pre and Post Merger Net Profit Margin (NPM) of PNB and Nedungadi Bank. Levene's test for equality of variances indicated variances for pre and post merger NPM did not differ significantly from each other. (note: p=.626). Therefore equal variance results are used for t-test. The t- value is calculated for six year pre and ten years post merger. The mean for the pre-merger Net Profit margin is 8.2318 and for the post-merger is 14.9485 which shows that the Performance of bank improved in terms of Net Profit Margin (NPM). The standard deviation for the pre merger Net Profit Margin (NPM) is 1.94538 and for the post merger is 1.99442. But the mean differs significant statistically with the t-statistic-6.579 and the p-value is 0.00 which is less than 0.05 and leads to acceptance of Alternative Hypothesis and rejection of Null hypothesis. Hence, there is significant difference between the Pre and Post Merger Net Profit Margin (NPM) ratio of Merged Banks (Punjab National Bank and Nedungadi Bank).

H20 (Null Hypothesis) = There is no significant difference between Pre and Post merger Earning Per Share (EPS) of Merged Banks (Punjab National Bank and Nedungadi Bank) .

Hα (Alternative Hypothesis) = There is significant difference between Pre and Post merger Earning Per Share (EPS) of Merged Banks (Punjab National Bank and Nedungadi Bank).

Table 4: Indicates that Levene's test for equality of variances shows variances for pre and post merger EPS do not differ significantly from each other. (note: p=.176). Therefore equal variance results are used for t-test. The six years of Earning Per Share (EPS) had a mean of 0.3633 in the pre-merger period, The ten years Earning Per Share (EPS) had a mean of 79.8320 in the post merger period, but the standard deviation for the pre-merger is 35.67850 and for the post merger 59.75785 and the mean did differ significantly with t- value -2.934 showing in table 3. The sig-value (2-tailed) is 0.011 and this value is less than 0.05 which leads to the conclusion that the difference is statistically significant. Therefore, the Null Hypothesis is rejected and alternative hypothesis is accepted. Hence there is significance difference between Pre and Post merger Earning Per Share (EPS) of Merged Banks (Punjab National Bank and Nedungadi Bank). The result of the analysis clarified that Earning Per Share (EPS) of merged banks (Punjab National Bank and Nedungadi Bank) has increased after the merger and amalgamations.

H30 (Null Hypothesis) = There is no significant difference between the Pre and Post Merger Price to Earnings (P/E) ratio of Merged Banks (Punjab National Bank and Nedungadi Bank).

Table: 3 & 4 indicates the t-test analysis of Pre and Post merger Price to Earnings (P/E) ratio of PNB and Nedungadi Bank. Levene's test for equality of variances indicates variances for pre and post merger P/E do not differ significantly from each other. (note : p=.910). Therefore equal variance results are used for t-test. The six years Price to Earnings (P/E) ratio had a mean of 4.7737 and ten years post merger had a mean of 6.7278 along with the standard deviation for the pre merger is 3.62902 and for the post merger is 4.70109. But the mean did not differ significantly with t-value -0.870 and p- value is 0.399 which is more than 0.05 which leads to conclusion that the Alternative hypothesis is rejected and Null Hypothesis is accepted. Hence there is no significant difference between the Pre and Post Merger Price to Earnings (P/E) ratio of Merged Banks (Punjab National Bank and Nedungadi Bank).

H40 (Null Hypothesis) = There is no significant difference between the Pre and Post Merger Enterprise value to Profit before Depreciation Interest Taxes and Amortization (EV/PBDITA) ratio of Merged Banks (Punjab National Bank and Nedungadi Bank).

In the table 3: Shows the descriptive Statistics, the mean for the pre merger EV/PBDITA is -0.3720 and for the post merger is -6.1595. The standard deviation for the pre and post merger EV/PBDITA is 0.36520 and 24.90885. Levene's test for equality of variances indicates that variances between pre and post merger EV/PBDITA do not differ significantly. (note: p=.115). Therefore equal variance results are used for t-test. Table 4, Shows the t-statistic is 0.561 which indicates the mean did not differ significantly. Along with the p-value is 0.584 which is more than 0.05 leads to acceptance of Null Hypothesis and rejection of Alternative hypothesis. Hence, there is no significant difference between the Pre and Post Merger Enterprise value to Profit before Depreciation Interest Taxes and Amortization (EV/PBDITA) ratio of Merged Banks (Punjab National Bank and Nedungadi Bank).

**Table 3** Mean and Standard Deviation of Pre-merger and Post-merger Profitability Ratios of combined Banks (Punjab National Bank and Nedungadi Bank)

| | Group | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| **NPM** | Pre- Merger | 6 | 8.2318 | 1.94538 | .79420 |
| | Post- Merger | 10 | 14.9485 | 1.99442 | .63069 |
| **EPS** | Pre- Merger | 6 | .3633 | 35.67850 | 14.56569 |
| | Post- Merger | 10 | 79.8320 | 59.75785 | 18.89709 |
| **PE** | Pre- Merger | 6 | 4.7737 | 3.62902 | 1.48154 |
| | Post- Merger | 10 | 6.7278 | 4.70109 | 1.48661 |
| **EVPBDITA** | Pre- Merger | 6 | -.3720 | .36520 | .14909 |
| | Post- Merger | 10 | -6.1595 | 24.90885 | 7.87687 |

***Source:*** Compiled and Calculated from Appendix 1 & 2

**Table 4** Independent samples t- test of Pre-merger and Post-merger Profitability Ratios of combined Banks (Punjab National Bank and Nedungadi Bank)

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference: Lower | 95% Confidence Interval of the Difference: Upper |
| **NPM** | Equal variances assumed | .249 | .626 | -6.579 | 14 | .000 | -6.71667 | 1.02094 | -8.90637 | -4.52696 |
| | Equal variances not assumed | | | -6.623 | 10.889 | .000 | -6.71667 | 1.01416 | -8.95160 | -4.48173 |
| **EPS** | Equal variances assumed | 2.030 | .176 | -2.934 | 14 | .011 | -79.46867 | 27.08146 | -137.55262 | -21.38472 |
| | Equal variances not assumed | | | -3.331 | 13.985 | .005 | -79.46867 | 23.85916 | -130.64652 | -28.29081 |
| **PE** | Equal variances assumed | .013 | .910 | -.870 | 14 | .399 | -1.95413 | 2.24563 | -6.77054 | 2.86227 |
| | Equal variance | | | -.931 | 12.882 | .369 | -1.95413 | 2.09881 | -6.49255 | 2.58428 |

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| | s not assumed | | | | | | | | | |
| EVPBDITA | Equal variances assumed | 2.828 | .115 | .561 | 14 | .584 | 5.78750 | 10.31386 | -16.33353 | 27.90853 |
| | Equal variances not assumed | | | .735 | 9.006 | .481 | 5.78750 | 7.87828 | -12.03247 | 23.60747 |

***Source:*** Compiled and Calculated from Appendix 1 & 2

[2]H20 (Null Hypothesis) = There is no significant difference between Pre and Post merger Operational efficiency and Asset utilization capacity of Merged Banks (Punjab National Bank and Nedungadi Bank).

Sub Hypotheses:

H10 (Null Hypothesis) = There is no significant difference between the Pre and Post Merger Total Asset Turnover Ratio (TATR) of Merged Banks (Punjab National Bank and Nedungadi Bank).

Table 5 & 6: depicts the results of testing the Hypothesis to test the difference between the Pre and Post merger Total Asset Turnover Ratio (TATR) of PNB and Nedungadi Bank. In descriptive analysis the mean for the pre merger TATR is 0.0965 and mean for the post merger is 0.0734. The standard deviation for the pre merger is 0.00509 and for the post merger is 0.00587. Levene's test for equality of variances indicates that variances for pre and post merger TATR do not differ significantly from each other. (note: p=.666). Therefore equal variance results are used for t-test. The t-value is 7.980 and p- value is 0.00 which is statistically highly significant and thus leads to the acceptance of Alternative Hypothesis and rejection of Null Hypothesis. Hence, there is significant difference between the Pre and Post Merger Total Asset Turnover Ratio (TATR) of Merged Banks (Punjab National Bank and Nedungadi Bank).

H20 (Null Hypothesis) = There is no significant difference between the Pre and Post Merger Return on Assets (ROA) of Merged Banks (Punjab National Bank and Nedungadi Bank).

Table 5 & 6: examine the effects of the merger on the Return on Assets (ROA) Of Punjab National Bank (PNB) and Nedungadi Bank (NB). The descriptive statistics shows that the mean for the pre merger Return and Assets (ROA) is 0.0082 and for the post merger is 0.0110. The standard deviation for the pre merger 0.00204 and for the post merger is 0.00133 when six year in the pre merger and ten years in the post merger data of Return on Assets (ROA) had been undertaken. Levene's test for equality of variances indicates that variances for pre and post merger ROA do not differ significantly from each other. (note: p=.633). Therefore equal variance results are more powerful for t-test.

The analysis of the Pre and Post-merger Return on Assets (ROA) of PNB and Nedungadi Bank gives the t-statistic is -3.383 and also the p- value is 0.004 which is lower than 0.05 level which leads to acceptance of Alternative Hypothesis and rejection of Null Hypothesis. Hence, we can conclude that there is significant difference between the Pre and Post Merger Return on Assets (ROA) of Merged Banks (Punjab National Bank and Nedungadi Bank).

**Table 5** Mean and Standard Deviation of Pre-merger and Post-merger Operational efficiency and Asset utilization capacity Ratios of combined Banks (Punjab National Bank and Nedungadi Bank)

| | Group | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| TATR | Pre- Merger | 6 | .0965 | .00509 | .00208 |
| | Post- Merger | 10 | .0734 | .00587 | .00186 |
| ROA | Pre- Merger | 6 | .0082 | .00204 | .00083 |
| | Post- Merger | 10 | .0110 | .00133 | .00042 |

***Source:*** Compiled and Calculated from Appendix 1 & 2

**Table 6** Independent samples t- test of Pre-merger and Post-merger Operational efficiency and Asset utilization capacity Ratios of combined Banks (Punjab National Bank and Nedungadi Bank).

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| | | | | | | | | | Lower | Upper |
| TATR | Equal variances assumed | .194 | .666 | 7.980 | 14 | .000 | .02310 | .00289 | .01689 | .02931 |
| | Equal variances not assumed | | | 8.289 | 11.945 | .000 | .02310 | .00279 | .01703 | .02917 |
| ROA | Equal variances assumed | .238 | .633 | -3.383 | 14 | .004 | -.00283 | .00084 | -.00463 | -.00104 |
| | Equal variances not assumed | | | -3.034 | 7.611 | .017 | -.00283 | .00093 | -.00501 | -.00066 |

***Source:*** Compiled and Calculated from Appendix 1&2

[3]H30 (Null Hypothesis) = There is no significant difference between Pre and Post merger Solvency of Merged Banks (Punjab National Bank and Nedungadi Bank).

Sub Hypothesis:

H10 (Null Hypothesis) = There is no significant difference between the Pre and Post Merger Interest Coverage Ratio (ICR) of Merged Banks (Punjab National Bank and Nedungadi Bank).

Table 7 & 8: show the results of independent sample t-test for examining the effect of merger on the ICR of PNB and Nedungadi Bank. Levene's test for equality of variances indicates that variances for pre and post mergerICR do not differ significantly from each other. (note: p=.367). Therefore equal variance results are used for t-test. The descriptive statistics gives the mean value for the pre merger Interest Coverage ratio as 0.1263 and for the post merger0.2603. The standard deviation for the Pre-merger is 0.03304 and for the post merger is 0.04345 and by comparing the mean of Pre and Post merger gives the t-value as -6.478 which refers the mean differ significantly. The P-value is 0.000 which is less than 0.05amd leads to the acceptance of alternative Hypothesis and rejection of Null Hypothesis. Hence, we can conclude that there is significant difference between the Pre and Post Merger Interest Coverage Ratio (ICR) of Merged Banks (Punjab National Bank and Nedungadi Bank)

**Table 7** Mean and Standard Deviation of Pre-merger and Post-merger Solvency Ratios of combined Banks (Punjab National Bank and Nedungadi Bank)

| | Group | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| ICR | Pre- Merger | 6 | .1263 | .03304 | .01349 |
| | Post- Merger | 10 | .2603 | .04345 | .01374 |

***Source:*** Compiled and Calculated from Appendix 1&2

**Table 8** Independent samples t-test of Pre-merger and Post-merger Solvency Ratios of combined Banks (Punjab National Bank and Nedungadi Bank)

| | | **Levene's Test for Equality of Variances** | | **t-test for Equality of Means** | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | **F** | **Sig.** | **t** | **df** | **Sig. (2-tailed)** | **Mean Difference** | **Std. Error Difference** | **95% Confidence Interval of the Difference** | |
| | | | | | | | | | **Lower** | **Upper** |
| **ICR** | Equal variances assumed | .868 | .367 | -6.478 | 14 | .000 | -.13397 | .02068 | -.17832 | -.08961 |
| | Equal variances not assumed | | | -6.957 | 12.990 | .000 | -.13397 | .01926 | -.17557 | -.09236 |

***Source:*** Compiled and Calculated from Appendix 1&2

[4] H40 (Null Hypothesis) = There is no significant difference between Pre and Post merger Enterprise value (EV) of Merged Banks (Punjab National Bank and Nedungadi Bank) .

This hypothesis examines that the difference between the Pre and Post Merger Enterprise value of PNB and Nedungadi Bank. Levene's test for equality of variances indicates that variances for pre and post merger EV did differ significantly from each other. (note: p=.001). Therefore unequal variance results are used for t-test. Table 9, shows that the six year mean for the pre-merger enterprise value is -5335.7233 and the ten year mean for the post merger is 152468.5210. The standard deviation for the pre merger is 11906.33192 and for the post merger is 134598.85023 and it seems that the mean did differ significantly with the t-statistic is -2.825 shown in table 10. The sig-value (2-tailed) is 0.013 which is less than 0.05 which leads to the acceptance of Alternative Hypothesis and rejection of Null Hypothesis. Hence, there is significance difference between Pre and Post merger Enterprise value (EV) of Merged Banks (Punjab National Bank and Nedungadi Bank). The outcome of the analysis explained that the enterprise value of Banks has increased after the merger and amalgamation.

**Table 9** Mean and Standard Deviation of Pre-merger and Post-merger Enterprise Value of combined Banks (Punjab National Bank and Nedungadi Bank)

| | Group | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| **Enterprise value (EV)** | Pre- Merger | 6 | -5335.7233 | 11906.33192 | 4860.73965 |
| | Post- Merger | 10 | 152468.5210 | 134598.85023 | 42563.89372 |

***Source:*** Compiled and Calculated from Appendix 1 & 2

**Table 10** Independent samples t- test of Pre-merger and Post-merger Enterprise Value of combined Banks (Punjab National Bank and Nedungadi Bank)

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference Lower | Upper |
| **Enterprise value(EV)** | Equal variances assumed | 16.520 | .001 | -2.825 | 14 | .013 | -157804.24433 | 55850.21772 | -277591.04782 | -38017.44084 |
| | Equal variances not assumed | | | -3.684 | 9.233 | .005 | -157804.24433 | 42840.53966 | -254344.06117 | -61264.42750 |

***Source:*** Compiled and Calculated from Appendix 1&2

[5]H50 (Null Hypothesis) = There is no significant difference between Pre and Post merger Business performance of Merged Banks (Punjab National Bank and Nedungadi Bank).

Sub Hypotheses:

H10 (Null Hypothesis) = There is no significant difference between Pre and Post merger Total Income (TI) of Merged Banks (Punjab National Bank and Nedungadi Bank).

The difference between the Pre and Post-merger Total Income (TI) is explored in table 11, where six years of the pre-merger and ten years post-merger data of Total Income (TI) are undertaken. Levene's test for equality of variances indicates that variances for pre and post merger(TI) did differ significantly from each other. (note: p=.004). Therefore unequal variance results are used for t-test. The mean for the pre-merger Total Income (TI) is 59226.20 and for the post merger is 189466.9600. The Standard deviation for the Pre-merger is 13536.69458 and for the post-merger is 105897.26844. Table 12, shows that the t-test is further undertaken which gives the t-value -3.837and sig-value (2-tailed) is 0.004 which is less than 0.05 therefore it is statistically significant and leads to acceptance of Alternative Hypothesis and rejection of Null Hypothesis. Hence there is significance difference between Pre and Post merger Total Income (TI) of Merged Banks (Punjab National Bank and Nedungadi Bank). So it is concluded that the Total Income (TI) of Merged Banks has increased significantly after the merger.

H20 (Null Hypothesis) = There is no significant difference between Pre and Post merger Total Expense (TE) of Merged Banks (Punjab National Bank and Nedungadi Bank).

Table 11: Indicates that the six years of Total Expense (TE) had a mean of 55030.95 in the pre-merger period, The ten years Total Expense (TE) had a mean of 164826.48 in the post merger period, but the standard deviation for the pre-merger is 12783.13180 and for the post merger 91362.604 and the mean did differ significantly with t- value -3.740 showed in table 12. The sig-value (2-tailed) is 0.004 and this value is less than 0.05 which leads to the conclusion that the difference is statistically significant. Levene's test for equality of variances indicates that variances for pre and post merger TE did differ significantly from each other. (note: p=.007). Therefore unequal variance results are used for t-test. Therefore, the Null

Hypothesis is rejected and Alternative Hypothesis is accepted. Hence there is significance difference between Pre and Post merger Total Expense (TE) of Merged Banks (Punjab National Bank and Nedungadi Bank). The outcome of the analysis clearly indicated that the merger has an impact on the Business performance of banks in terms of total expense.

H30 (Null Hypothesis) = There is no significant difference between Pre and Post merger Market Capitalization (MCap) of Merged Banks (Punjab National Bank and Nedungadi Bank).

This hypothesis examines the difference between the Pre and Post Merger Market Capitalization (MCap) of PNB and Nedungadi Bank. Levene's test for equality of variances indicates that variances for pre and post mergerMCap did differ significantly from each other. (note: p=.005). Therefore unequal variance results are used for t-test. Six year in the pre merger and ten year in the post merger data have analyzed. Table 11, shows that the mean for the pre-merger Market Capitalization (MCap) is 3791.31 and for the post merger is 205829.761. The standard deviation for the pre merger is 7675.38517 and for the post merger is 96364.26558. The mean of the Market Capitalization (MCap) differ significantly and the t-statistic is -6.595 shown in table 12. The sig-value (2-tailed) is 0.000 which is lower than 0.05, which leads to acceptance of Alternative Hypothesis and rejection of Null Hypothesis. Hence, there is significant difference between Pre and Post merger Market Capitalization (MCap) of Merged Banks (Punjab National Bank and Nedungadi Bank). So we conclude that the Market Capitalization (MCap) of Merged Banks has increased after the merger.

H40 (Null Hypothesis) = There is no significant difference between Pre and Post merger Interest Expense (IE) of Merged Banks (Punjab National Bank and Nedungadi Bank).

Table 11 shows that the descriptive statistics, the mean for the pre merger Interest Expense (IE) is 33659.65 and for the post merger is 96072.6 and the standard deviation for the pre merger 8068.83650 and for the post merger is 62232.38629, when six year in the pre merger and ten years in the post merger data of Interest Expense (IE) have been used. Levene's test for equality of variances indicates variances for pre and post mergerIE did differ significantly from each other. (note: p=.007). Therefore unequal variance results are used for t-test.

Table 12, depicts the analysis of the Pre and Post-merger Interest Expense (IE) of PNB and Nedungadi Bank. The t-statistic is -3.128 and also the sig-value (2-tailed) is 0.011 which is lower than 0.05, which leads to acceptance of Alternative Hypothesis and rejection of Null Hypothesis. Hence, we can conclude that there is significance difference between Pre and Post merger Interest Expense (IE) of Merged Banks (Punjab National Bank and Nedungadi Bank). The outcome of the analysis revealed that the Interest expense of Banks was increased after the merger.

H50 (Null Hypothesis) = There is no significant difference between Pre and Post merger Net Sales (NS) of Merged Banks (Punjab National Bank and Nedungadi Bank).

This hypothesis examines the difference between the Pre and Post Merger Net Sales (NS) of PNB and Nedungadi Bank. Levene's test for equality of variances indicates that variances for pre and post merger NS did differ significantly from each other. (note: p=.006). Therefore unequal variance results are used for t-test. Table 11, shows the mean for the pre-merger Net Sales (NS) is 50962.2667 and for the post merger is 162772.920. The standard deviation for the pre merger is 11818.11594 and for the post merger is 96622.35418 when six years in the pre and ten years of data are used for the analysis. The mean of Net Sales (NS) differ significantly with the t-statistic of -3.615 shown in table 12. The sig-value (2-tailed) is 0.005 which is lower than 0.05, which leads to acceptance of Alternative Hypothesis and rejection of Null Hypothesis. Hence, there is significant difference between Pre and Post merger Net Sales (NS) of Merged Banks (Punjab National Bank and Nedungadi Bank). The result of the analysis reveals that the merger has positive effect on the Net Sales of the Banks.

H60 (Null Hypothesis) = There is no significant difference between Pre and Post merger Net Profit (NP) of Merged Banks (Punjab National Bank and Nedungadi Bank).

Table 11 shows that the six years Net Profit (NP) had a mean of 4148.3500 in the pre-merger period, The ten years Net Profit (NP) had a mean of 24703.0900 in the post merger period, but the standard deviation for the pre-merger is 1082.00673 and for the post merger 14854.91842 and the mean did differ significantly with t- value -4.356 shown in table 12. The sig-value (2-tailed) is 0.002 and this value is less than 0.05 which leads to the conclusion that the variation is statistically significant. Levene's test for equality of variances indicates that variances for pre and post merger NP did differ significantly from each other. (note: p=.000). Therefore unequal variance results are used for t-test. Therefore, the Null Hypothesis is rejected and Alternative Hypothesis is accepted. Hence there is significance difference between Pre and Post merger Net Profit (NP) of Merged Banks (Punjab National Bank and Nedungadi Bank). The result of the analysis clarified that Net Profit (NP) of Merged Banks (Punjab National Bank and Nedungadi Bank) has increased after the merger and amalgamations.

H70 (Null Hypothesis) = There is no significant difference between Pre and Post merger Total Liabilities (TL) of Merged Banks (Punjab National Bank and Nedungadi Bank).

Table 11, shows that the descriptive statistics that the mean for the pre merger Total Liabilities (TL) is 532967.55 and for the post merger is 2203383.79. The standard deviation for the pre mergerfound as148370.63536 and for the post merger 1237749.12880 using six year in the pre merger and ten years in the post merger data of Total Liabilities (TL). Levene's test for equality of variances indicates variances for pre and post merger. TL did differ significantly from each other. (note: p=.006). Therefore unequal variance results are used for t-test.

Table 12, shows the analysis of the Pre and Post-merger Total Liabilities (TL) of PNB and Nedungadi Bank gives the t-statistic is -4.217 and also the sig-value (2-tailed) is 0.002 which is lower than 0.05 level, which leads to Acceptance of Alternative Hypothesis and Rejection of Null Hypothesis. Hence, we can conclude that there is significance difference between Pre and Post merger Total Liabilities (TL) of Merged Banks (Punjab National Bank and Nedungadi Bank). Finally we can say that the effect of merger on the Business performance in terms of total liabilities of the Banks has increased after the merger.

**Table 11** Mean and Standard Deviation of Pre-merger and Post-merger Business performance parameters of combined Banks (Punjab National Bank and Nedungadi Bank)

| | Group | N | Mean | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| **TotalIncome** | Pre- Merger | 6 | 59226.2000 | 13536.69458 | 5526.33242 |
| | Post- Merger | 10 | 189466.9500 | 105897.26844 | 33487.65663 |
| **TotalExpense** | Pre- Merger | 6 | 55030.9500 | 12783.13180 | 5218.69170 |
| | Post- Merger | 10 | 164826.4800 | 91362.60400 | 28891.39216 |
| **Mcap** | Pre- Merger | 6 | 3791.3100 | 7675.38517 | 3133.46288 |
| | Post- Merger | 10 | 205829.7610 | 96364.26558 | 30473.05643 |
| **InterestExpense** | Pre- Merger | 6 | 33659.6500 | 8068.83650 | 3294.08871 |
| | Post- Merger | 10 | 96072.6000 | 62232.38629 | 19679.60849 |
| **NetSales** | Pre- Merger | 6 | 50962.2667 | 11818.11594 | 4824.72563 |
| | Post- Merger | 10 | 162772.9200 | 96622.35418 | 30554.67121 |
| **Net Profit** | Pre- Merger | 6 | 4148.3500 | 1082.00673 | 441.72740 |
| | Post- Merger | 10 | 24703.0900 | 14854.91842 | 4697.53767 |
| **TotalLiablities** | Pre- Merger | 6 | 532967.5500 | 148370.63536 | 60572.05824 |
| | Post- Merger | 10 | 2203383.7900 | 1237749.12880 | 391410.64189 |

***Source:*** Compiled and Calculated from Appendix 1&2

**Table12** Independent samples t- test of Pre-merger and Post-merger Business performance parameters of combined Banks (Punjab National Bank and Nedungadi Bank)

| | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | 95% Confidence Interval of the Difference | |
| | | F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | Lower | Upper |
| **Total Income (TI)** | Equal variances assumed | 11.482 | .004 | -2.957 | 14 | .010 | -130240.75000 | 44044.19721 | -224706.15786 | -35775.34214 |
| | Equal variances not assumed | | | -3.837 | 9.484 | .004 | -130240.75000 | 33940.58774 | -206426.28668 | -54055.21332 |
| **Total Expense(TE)** | Equal variances assumed | 9.951 | .007 | -2.887 | 14 | .012 | -109795.53000 | 38032.86072 | -191367.90338 | -28223.15662 |
| | Equal variances not assumed | | | -3.740 | 9.579 | .004 | -109795.53000 | 29358.93874 | -175603.59642 | -43987.46358 |
| **Market Capitalization (MCap)** | Equal variances assumed | 11.018 | .005 | -5.055 | 14 | .000 | -202038.45100 | 39968.84568 | -287763.09915 | -116313.80285 |
| | Equal variances not assumed | | | -6.595 | 9.189 | .000 | -202038.45100 | 30633.73562 | -271119.57495 | -132957.32705 |
| **InterestExpense (IE)** | Equal variances assumed | 9.894 | .007 | -2.411 | 14 | .030 | -62412.95000 | 25886.69809 | -117934.39545 | -6891.50455 |
| | Equal variances not assumed | | | -3.128 | 9.498 | .011 | -62412.95000 | 19953.39597 | -107192.48752 | -17633.41248 |
| **NetSales (NS)** | Equal variances assumed | 10.248 | .006 | -2.783 | 14 | .015 | -111810.65333 | 40171.35992 | -197969.65132 | -25651.65535 |
| | Equal variances not assumed | | | -3.615 | 9.444 | .005 | -111810.65333 | 30933.24927 | -181288.40468 | -42332.90199 |
| **Net Profit (NP)** | Equal variances assumed | 23.103 | .000 | -3.337 | 14 | .005 | -20554.74000 | 6159.57807 | -33765.72105 | -7343.75895 |
| | Equal variances not assumed | | | -4.356 | 9.159 | .002 | -20554.74000 | 4718.26061 | -31200.08227 | -9909.39773 |
| **Total Liabilities (TL)** | Equal variances assumed | 10.491 | .006 | -3.247 | 14 | .006 | -1670416.24000 | 514518.27456 | -2773948.18596 | -566884.29404 |
| | Equal variances not assumed | | | -4.217 | 9.427 | .002 | -1670416.24000 | 396069.77267 | -2560246.71780 | -780585.76220 |

***Source:*** Compiled and Calculated from Appendix 1&2

## 8. CONCLUSION

The study was undertaken to test whether the Mergers/Amalgamations led to the profitable situation or not for the Indian banking sector. The case of bank mergers was examined and compared pre and post mergers financial performance in terms of profitability, asset utilization and operational efficiency, solvency, enterprise value and business parameters.

Profitability: The result shown by independent sample t-test reveals that after the merger, the profitability of PNB has increased in terms of Net Profit Margin (NPM) and Earning Per Share (EPS). The p-values were 0.000 and 0.011 which are less than 0.05 at 5% level of significance and leads to statistically significant position. But the Price to earnings (P/E) and Enterprise Value to Profit before Interest, Depreciation, Tax and Amortizations (EV/PBIDTA) has not significantly differed with the p-values 0.399 and 0.584 which are more than 0.05 at 5% level of significance and it is statistically insignificant. Hence, Null hypothesis is accepted and Alternative hypothesis is rejected. Therefore the profitability of PNB has not significantly differed after the merger.

Assets utilization and Operational efficiency: After using independent sample t-test, it has been found that the post merger performance of PNB has increased after the merger in terms of assets utilization and operational efficiency. The total asset turnover ratio (TATR) and return on asset (ROA) have increased and shown the t-values as 7.98 and -3.383 with the p-values 0.000 and 0.000 which are statistically significant and lead to the conclusion that the after the merger the bank assets utilization and operational efficiency have significantly changed. Hence the null hypothesis is rejected and alternative hypothesis is accepted.

Solvency: The result shown by independent sample t-test reveals that the solvency position of PNB has also improved after the Amalgamations / Merger, the Interest Coverage ratio (ICR) has significantly improved in the post merger with the t-value -6.478 and p- value 0.000, which is less than 0.05 at 5% level of significance, therefore its leads to the conclusion that solvency position of PNB has improved after the merger. Hence the null hypothesis is rejected and alternative hypothesis is accepted.

Enterprise Value (EV): After using independent sample t-test, it has been found that the EV of PNB has significantly improved after the merger. The result reveals that the EV of PNB shows the t-value -3.684 and the p-value 0.005 which is less than 0.05 at 5% level of significance and makes it statistically significant. Hence the null hypothesis is rejected and alternative hypothesis is accepted.

Business Parameters (BP): The result shown by independent sample t-test reveals that the performance of PNB in terms of business parameter like TI, TE, MCap, IE, NS, NP and TL significantly increased. After applying independent sample t-test, it has been found that the p-values were 0.04, 0.004, 0.000, 0.011, 0.005, 0.002 and 0.002 which are less than 0.05 at 5% level of significance finds it to be statistically significant. Hence the null hypothesis is rejected and alternative is accepted. Therefore it is concluded that after the merger with the Nedungadi Bank the business performance of PNB has significantly improved.

In all the above results, it has been found that after the merger PNB has sustain its financial performance and has significantly improved after the merger in terms of asset utilization and operational efficiency, solvency, EV and increase business parameters, but the profitability does not significantly differ, therefore it leads to the conclusion that after 10 years PNB started getting benefit from the merger. It is concluded that restructuring of weak bank (Nedungadi Bank) for the survival through Merger/ Amalgamation with PNB has gained long term strategic benefits. It shows that PNB integrate and manage the financial problem with effectively and efficiently and demonstrate its sustainable financial performance after the merger.

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# APPENDICES

## APPENDIX 1: DATA FOR ANALYSIS OF PUNJAB NATIONAL BANK (PNB)

| YEARS | EBIT | TA | NS | IE | NP | EPS | MPS | EV | PBDITA |
|---|---|---|---|---|---|---|---|---|---|
| 31/03/1997 | 2377 | 350431.9 | 36539.9 | 24387 | 2377.1 | | | | |
| 31/03/1998 | 5013 | 398058.3 | 39922.4 | 26990.8 | 4773.5 | | | | |
| 31/03/1999 | 3764 | 463234.9 | 44479.6 | 27953.6 | 3721.2 | | | | |
| 31/03/2000 | 4081 | 541285.9 | 51545.5 | 35382 | 4081.4 | | | | |
| 31/03/2001 | 4636 | 635192.2 | 58634.8 | 38250.5 | 4636.4 | | | | |
| 31/03/2002 | 5624 | 729801.5 | 66478.7 | 43525.8 | 5623.9 | 28.35 | 72.8595 | -28758.45 | 42923.06 |
| 31/03/2003 | 8422 | 862810.9 | 74850.1 | 43612.9 | 8422 | 39.65 | 241.4685 | 5809.06 | 527.1379 |
| 31/03/2004 | 11087 | 1023731 | 77789.4 | 41549.9 | 11086.9 | 50.74 | 405.4126 | 55764.57 | 28893.56 |
| 31/03/2005 | 14101 | 1262687 | 84598.5 | 44531.1 | 14101.2 | 46.15 | 466.5765 | 86762.62 | 51338.83 |
| 31/03/2006 | 14393 | 1453498 | 95841.5 | 49173.9 | 14393.1 | 59.26 | 506.673 | -2075.7 | 26.95364 |
| 31/03/2007 | 15401 | 1625291 | 112361 | 60229.1 | 15400.8 | 55.27 | 664.3454 | 109452.62 | 57305.04 |
| 31/03/2008 | 20488 | 1990488 | 142650 | 87308.6 | 20487.6 | 87.82 | 526.0418 | 93718.58 | 52948.35 |
| 31/03/2009 | 30909 | 2469397 | 191272 | 122953 | 30908.8 | 115.31 | 906.3366 | 196397.17 | 134518.6 |
| 31/03/2010 | 39054 | 2966579 | 214221 | 129440.2 | 39053.5 | 135.94 | 1222.101 | 343140.26 | 306375.2 |
| 31/03/2011 | 44335 | 3783541 | 269865 | 151791.4 | 44335 | 145.22 | 784.188 | 267365.43 | 287489.7 |
| 31/03/2012 | 48921 | 4582221 | 364280 | 230135.9 | 48842 | 148.15 | 840.0105 | 369170.84 | 479442.6 |

***Source:*** Compiled and Calculated from the Annual report of PNB from (1997-2012) retrieved from Center for Indian Economy (CMIE) Prowess Data Base.

## APPENDIX 2: DATA FOR ANALYSIS OF NEDUNGADI BANK (NB)

| YEARS | EBIT | TA | NS | IE | NP | EPS | MPS | EV | PBDITA |
|---|---|---|---|---|---|---|---|---|---|
| 31/03/1994 | 2.2 | 3519.5 | | | | 6.35 | 169.926 | 116.9 | 285.122 |
| 31/03/1995 | 12.5 | 4349.9 | 440.2 | 16.9 | 12.5 | 3.79 | 69.9255 | -440.4 | 331.1278 |
| 31/03/1996 | 18.8 | 5259.7 | 562.8 | 18.3 | 18.8 | 4.8 | 37.2 | -374.35 | 430.2874 |
| 31/03/1997 | 42.2 | 6557.3 | 733.4 | 16.2 | 42.2 | 19.65 | 60.3255 | 104.65 | 615.5882 |
| 31/03/1998 | 72.6 | 9320.6 | 1022 | 37.2 | 72.6 | 11.44 | 48.5056 | -359.7 | 946.5789 |
| 31/03/1999 | 80.8 | 13077.6 | 1468.5 | 1136 | 80.8 | 8.1 | 78.489 | -54.1 | 1352.5 |
| 31/03/2000 | 146.3 | 17391 | 1623.1 | 1250.8 | 146.3 | 11.99 | 100.9558 | -907 | 1563.793 |
| 31/03/2001 | -678 | 18341.3 | 1772.3 | 1574.6 | -678 | -71.61 | | -1179.51 | 1593.932 |
| 31/03/2002 | 12.7 | 15112.8 | 1553.4 | 1453.4 | 12.7 | -5.74 | | -860.23 | 1830.277 |
| 31/03/2003 | -705.1 | 13593.1 | | | | -85.19 | | -820.24 | 773.8113 |

***Source:*** Compiled and Calculated from the Annual report of NB (1994-2003) retrieved from Center for Indian Economy (CMIE) Prowess Data Base.