International Journal of Trade and Commerce-IIARTC
July-December 2016, Volume 5, No. 2 pp. 346-355
ISSN-2277-5811 (Print), 2278-9065 (Online)

COSMOS (Germany) JIF : 4.24; ISRA JIF : 3.957; NAAS Rating 3.55

An Analytical Study of Profitability of Punjab National Bank

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Abstract

The paper attempts to analyse the profitability of Punjab National Bank for the period of six years. Apart from studying the trend of different components of both income and expenditure, performance of the bank has been analysed with the parameters like OPTWF, ROA, ROE, ROI and EPS. There is a significant difference not only between the components of income but also across the components of expenditure. The paper concludes that the profitability performance of the PNB is not consistent during the study period. The bank should focus more on diversification of income and should also curtail operating expenses in order to improve profitability performance.
Keywords: *Income, Expenditure, Operating Expenses, Profit, Interest.*

PAPER/ARTICLE INFO
RECEIVED ON: 18/08/2016
ACCEPTED ON: 20/09/2016

Reference to this paper should be made as follows:

A. K. Agarwal (2016), "An Analytical Study of Profitability of Punjab National Bank", *Int. J. of Trade and Commerce-IIARTC*, Vol. 5, No. 2, pp. 346-355

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1. INTRODUCTION

1.1 Background of the Study

Financial system has a great role to play in economic development of a country. A well-functioning financial sector facilitates efficient intermediation of financial resources, which creates money in the economy. In a country like India, public sector banks have an edge over private sector banks in terms of size, geographical reach and access to low cost deposits. Large size of business enables them to cater to the larger credit needs of corporate as well as other sections of the society. Geographical reach through a large number of branches increases their access to low cost deposits and lowers the portfolio risk through diversification. The access to low cost deposits enables them to the corporate at competitive rates **(Pathak, 2005:479)**. At present, there are 26 public sector banks in India out of which 19 nationalised banks, one IDBI bank and other six banks are SBI and its Associates. PNB is the second largest commercial bank in India. Compared to other Indian commercial banks it has wide business networks and been able to access to a wide coverage of areas. Thus, the assessment of profitability performance of such a big bank has its own importance having implication towards its own financial health as well as economic condition of the economy. Besides, if the profitability performance shows increasing trend, it signals that the concern is moving towards the development stage along with right strategy welcoming future benefits and opportunities.

1.2 Review of Literature

The theoretical literature implies that profit earned by a particular concern indicates its strength in yielding benefits from all sorts of its efforts injected in earning the same. On the other hand, profitability indicates the earning ability or earning power of a particular source to which it is affected. Over the period, there are various profitability-based studies conducted in the area of banking and some of them have been reviewed as follows:

D'suza (2002) discovered that the profitability of the public sector banks in late nineties improved relatively to that of private and foreign banks. In this context, **Mathur (2002) and Nayak (2001)** argued that private banks perform better than public banks only because the private sector banking has a legal support and makes them free from the adversaries of extraneous pressures as well as they are least involved in socio-economic policies of the government. **Vijayakumar (2002)** discovered declining trend of gross profit ratio of public sector banks in pre-reform period indicating the funds not used profitably. However, **Bhide, Prasad and Gosh (2002) and Ketkar and Ketkar (2009)** experienced positive impact of the banking sector reforms on the profitability of the public sector banks but RBI mandate of priority sector lending and inadequate risk management techniques etc continues to hurt both the efficiency and profitability. **Chauduri (2002)** suggested that the public sector banks in India are neither strong nor very weak but they do not have any further capacity to bear the burden of government policies. **Patnaik and Patnaik (2005)** concluded that the profitability position of PNB is better than that of other public sector bank groups. In contrast to it, **Kaur and Kapoor (2007)** found that the relative efficiency of Nationalized Banks was higher than the relative efficiency of State Bank of India and associates of SBI Group. **Guruswamy (2012)** evaluated the profitability performance of State Bank of India and found that among the associate banks, state bank of Patiala, State Bank of Hyderabad, State Bank of Indore and State Bank of Bikaner proved to be most dynamic in earning profit compared to

State Bank of India. **Badola and Verma (2006)** concluded that explanatory power of spread, non-interest income, provisions and contingencies, operating expenses is significant while credit deposit ratio, non-performing asset as percentage to net advances and business per employee are found with low explanatory power. **Jha and Hui (2012)** compared the financial performance of different ownership structured commercial banks in Nepal. The results showed that public sector banks are significantly less efficient than their counterpart are; however domestic private banks are equally efficient to foreign-owned (joint venture) banks. **Ekta Bhatia (2010),** The performance appraisal or review is essentially an opportunity for the individual and those concerned with their performance in the bank , most usually their line manager - to get together to engage in a dialogue about the individual's performance, development and the support required from the manager. It should not be a top down process or an opportunity for one person to ask questions and the other to reply. It should be a free flowing conversation in which a range of views are exchanged.

2. OBJECTIVES OF THE STUDY

- To analyze the trend of income and expenditure of Punjab National Bank;
- To assess the degree of correlation across the various components of profit earned by the Punjab National Bank.
- To evaluate the profitability performance of Punjab National Bank over the study period.

3. HYPOTHESES OF THE STUDY

The following hypothesis are taken for this study:

H_{01} : There are no significant differences across the different components of income and expenditure.

H_{02} : There is no significant difference between the trend of income and expenditure.

H_{03} : The profitability performance of the Punjab National Bank is not significant during the study period.

4. SCOPE AND METHODOLOGY

The present study is based on secondary data collected from the Annual Reports of State Bank India. The analysis of profitability of the bank is being carried out from 2010-11 to 2015-16. In order to analyse the profitability performance of the bank certain ratios have been considered such as Operating Profit as a percentage to Working Funds, Return on Assets, Return on Equity, Return on Investment, Earning per share. Such ratios as well as the components of profit of the bank have been further analysed through index, mean, coefficient of variation and compound annual growth rate. The study employed Karl Pearson's coefficient in order to find the correlation of various components of income and expenditure with the net profit earned as well as across the components. Further, the study used student's t test and ANOVA for testing the hypotheses. All the calculation and testing of hypotheses have been processed through MS Excel and PASW 18 version.

5. RESULTS AND DISCUSSION

5.1 Trend of Income

Table 1 analyses the trend of income of Punjab National Bank for the period 2010-11 to 2015-16. During the study period, the bank earned average total income of ₹ 45274.39 crores with coefficient of variation of 19.09 percent out of which interest income amounted to ₹ 40378.47 crores with coefficient of variation of 18.87 percent and other income to ₹ 4895.93 crores with coefficient of variation of 25.19 percent. The bank earned highest income of ₹ 54301.40 crores in 2015-16 and lowest of ₹ 30599.10 crores in 2010-11 resulting compound annual growth rate of 11.94 percent. However, the bank's income earning performance was finest in 2011-12 with index of 132.78 percent compared to previous as well as succeeding index values.

Table 1: Trend of Income

Year	Interest	Index	Other Income	Index	Total Income	Index
2010-11	26986.48	100.00	3612.58	100.00	30599.06	100.00
2011-12	36428.03	134.99	4202.60	116.33	40630.63	132.78
2012-13	41893.33	115.00	4215.92	100.32	46109.25	113.48
2013-14	43223.25	103.17	4576.71	108.56	47799.96	103.67
2014-15	46315.36	107.15	5890.73	128.71	52206.09	109.22
2015-16	47424.35	102.39	6877.02	116.74	54301.37	104.01
Average	**40378.47**		**4895.93**		**45274.39**	
C.V.	**18.87**		**25.19**		**19.09**	
CAGR	**11.94**		**13.74**		**12.16**	

Source: Annual reports of PNB

With regard to other income, the highest index was in 2014-15 and lowest in 2012-13 with 100.32 percent. Like interest income, the bank earned highest income of ₹ 6877.02 crores in 2015-16 but its compound annual growth rate is higher by 2 percent. Besides, the relative share of interest income is lower than the other income over the study period. Thus, during the entire study period, the trend of income and of its components fluctuated and the bank's highest source of revenue is interest income earned on all types of its loans and advances as well as investment but it has a comparatively high degree of variation.

In respect of the equality of earning under the two heads, the t test finds that there is a significant difference between interest income and other income at the 0.05 level (2-tailed) with t value of 5.558 and p value of .0001 and, therefore, rejecting the null hypothesis of no significant difference between the interest income and other income.

5.2 Trend of Expenditure

Table 2 depicts the trend of expenditure of Punjab National Bank for the period 2010-11 to 2015-16. During the study period, the bank incurred average total expenditure of ₹ 42358.54 crores with coefficient of variation of 26.16 percent in which interest expenses amounted to ₹ 25696.53 crores with coefficient of variation of 23.30 percent, operating expenses of ₹ 8389.04 crores with coefficient of variation of 20.89 percent and provisions & contingencies of ₹ 8272.97 crore with coefficient of variation of 50.53 percent. Although, the bank incurred highest expenditure of ₹58275.77 crores in 2015-16 with compound annual growth rate of 17.37 percent, its cost saving performance was moderate during the year evident by comparatively lower index of 118.58 percent. Further, in absolute term, all the components of expenditure increases over the study period. The compound annual growth of Provision & Contingencies is highest with 28.49 percent followed by **Interest Expended** with 16.17 percent while it is lowest in case of operating expenses with 9.40 percent. However, index of the interest expenses was highest in 2011-12 with151.61 percent and comparatively lower in 2013-14 with 100.15 percent. In case of operating expenses, the index fluctuating during the study period and rose to 130.33 percent in 2013-14 but it was drastically down to 95.05 percent in 2015-16.

Table 2: Trend of Expenditure

Year	Interest Expended	Index	Operating Expenses	Index	Provision & Contingencies	Index	Total Expenditure	Index
2010-11	15179.14		6364.22		4622.20		26165.57	
2011-12	23013.59	151.61	7002.75	110.03	5730.09	123.97	35746.43	136.62
2012-13	27036.82	117.48	7165.06	102.32	6159.70	107.50	40361.58	112.91
2013-14	27077.28	100.15	9338.21	130.33	8041.89	130.56	44457.38	110.15
2014-15	29759.79	109.91	10491.55	112.35	8893.17	110.59	49144.51	110.54
2015-16	32112.57	107.91	9972.46	95.05	16190.74	182.06	58275.77	118.58
Average	**25696.53**		**8389.04**		**8272.97**		**42358.54**	
C.V.	**23.30**		**20.89**		**50.53**		**26.16**	
CAGR	**16.17**		**9.40**		**28.49**		**17.37**	

Source: Annual reports of PNB

The index of provisions & contingencies was highest in 2015-16 with 182.06 percent and lowest in 2012-13 with 107.50 percent. Besides, the relative share of interest expended is higher than the other components over the study period. Thus, the trend of expenditure as well as its components are not steady over the study period and the bank incurred highest expenditure under the head of interest expended which includes interest paid on all types of deposits, borrowings and all other payments like interest on participation certificates, penal interest paid etc. However, the incurrence of operating expenditure is more consistent to interest expenditure while the provisions & contingencies have a highest degree of variation. About the first hypothesis, single factor ANOVA finds that there exist statistically significant differences across the various components of expenditure at the 0.05 level (2-tailed) with F value of 18.141and p value of .000.

5.3 Correlation Matrix

Table 3 shows the correlation matrix of various components of net profit earned by the PNB. Among the components of income, interest income has a very high degree correlation with net profit and it is significant at the 0.05 level while other income has a fairly high degree correlation with net profit and it is significant at the 0.01 level. In case of expenditure, both interest expended and operating expenses have a very high degree positive correlation with net profit at the 0.05 level of significance but the former is highly correlated than the later. On the other hand, provisions & contingencies have a fairly high degree correlation with net profit at the 0.01 level of significance. Besides, all the heads of expenditure have a very high degree of correlation with interest income and operating expenses is comparatively have high degree of correlation with other income.

Table 3: Correlation Matrix of Various Components of Net Profit

	Interest Income	Other Income	Interest Expended	Operating Expenses	Prov. & Contingencies
Interest Income	1.0000				
Other Income	0.8056	1.0000			
Interest Expended	0.9942	0.8331	1.0000		
Operating Expenses	0.8552	0.8623	0.8273	1.0000	
Prov. & Contingencies	0.7193	0.9410	0.7623	0.7407	1.0000

Source: Annual reports of PNB

Result of testing of second hypothesis states that the trend between income and expenditure of PNB is not significant at the 0.05 level (2-tailed) with t value of 0.012 and p value of 0.991 which implies that income and expenditure of the bank correlate positively with each other as depicted in the Table 3. In other words, incurrence of marginal increase in expenditure results to marginal increase in income and vice–versa. Thus, management of the PNB is efficient in converting its efforts in terms of expenditure into benefits in terms of earning profit but not the increased volume of output i.e. net profit.

5.4 Profitability Analysis

5.4.1Operating Profit as percentage to Working Fund (OPTWF): It measures the percentage of average of working fund earned by banks as net profit. As per the RBI guidelines, the average working fund means the fortnightly average total of assets. The ratio is calculated by total operating profit divided by average working fund multiplied by hundred. Table 4 shows that during the study period the PNB has been able to generate average of 0.68 percentage of its working fund with coefficient of variation of 103.45 percent. The performance of the parameter is drastically fluctuated over the study period and resulted to CAGR of -20.70 percent. Thus, the profitability performance of the bank is not consistent during the study period. The one-sample t test shows that the profitability performance measured by operating profit as percentage to working fund is significant at the 0.05 level with t value of 25.999 .The bank efficiently utilised its working fund in 2010-11 evident by highest ratio and performed poor in 2015-16 indicated by lowest ratio. However, its growth performance was worst in 2015-16.

Table 4: Operating Profit as percentage to Working Fund

Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Mean	CV
OP/WF	1.34	1.19	1.00	0.64	0.53	-0.61	0.68	103.45
% YOY Growth	0.00	-11.19	-15.97	-36.00	-17.19	-215.09		

Source: Annual reports of PNB

5.4.2 Return on Average Assets (ROA): It indicates the number of cents earned on each rupee of assets and tells how effectively a bank is using the resources at its disposal. An increasing trend of ROA implies a higher asset-intensity as well as improving profitability of the bank and vice versa. It is measured by the net profit divided by average total assets multiplied by hundred.

Table 5 presents that during the study period, on an average; the PNB has generated earnings of 2.36 percent on its average total assets with the variation of 109.87 percent in its yearly performance. The variation in performance for the two extreme study period resulted to CAGR of -18.66 percent.

Table 5: Return on Average Assets

Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Mean	CV
Return on Ave. Assets	4.66	3.98	3.66	2.32	2.04	-2.52	2.36	109.87
YOY Growth	0.00	-14.59	-8.04	-36.61	-12.07	-223.53		

Source: Annual reports of PNB

Thus, the profitability performance of the bank is not consistent over the study period. However, the result of one-sample t test shows that the profitability performance based on the ratio is significant at the 0.05 level with t value of 21.608. The bank earned highest returns from its assets in 2010-11 but its yearly growth performance was worst in 2015-16.

5.4.3 Return on Equity (ROE): It indicates how well a bank uses shareholder's investment fund to generate profit. In other words, it reflects a bank's efficiency at generating profits from every unit of shareholders' equity. It is calculated by dividing net profit by average shareholder's equity multiplied by hundred. Table 6 depicts that during the study period, on an average, the PNB has utilised efficiently the shareholder's equity fund to the extent of 9.91 percent return with the variation of 111.47 percent in its yearly performance. The compound annual growth performance of the parameter figured to -21.49 percent and its yearly growth performance has high variation. One-sample t test shows that the profitability performance measured by return on equity is significant at the 0.05 level with t value of 24.651.

Table 6: Return on Equity

Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Mean	CV
ROE in Rs	20.61	17.56	14.53	9.31	7.83	-10.37	9.91	111.47
YOY Growth	0.00	-14.80	-17.26	-35.93	-15.90	-232.44		

Source: Annual reports of PNB

5.4.4Return on Investment (ROI): It indicates whether a bank is using its resources in an efficient manner. A high ROI means the investment gains compare favourably to investment cost. It is measured as the return on investment divided by total investments multiplied by hundred.

Table 7: Return on Investment

Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Mean	CV
ROI in Rs	6.67	7.57	7.89	7.85	7.99	7.94	7.65	6.57
YOY Growth	0.00	13.49	4.23	-0.51	1.78	-0.63		

Source: Annual reports of PNB

Table 7 provides that on an average, the PNB could generate 7.65 percent of its investments with the variation of 6.57 percent in its yearly performance. Besides, the parameter registered with

CAGR of 3.55 percent. Thus, the profitability performance based on this parameter is not steady over the study period but significant tested by one-sample t test at the 0.05 level with t value of 26.873.

5.4.5 Earnings per Share (EPS): It indicates whether earning power of the bank has increased. It is calculated by multiplying the net profit after tax with weighted average total number of equity shares.

Table 8: Earnings per share

Year	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	Mean	CV
EPS in Rs	28.12	30.80	27.90	18.78	16.91	-20.82	16.95	114.00
YOY Growth	0.00	9.53	-9.42	-32.69	-9.96	-223.12		

Source: Annual reports of PNB

Table 8 reveals that during the study period, on an average, the PNB has been able to produce per share earnings of 16.95 with the variation of 114.00 in its yearly performance. The EPS was highest in 2011-12 with the amount of ₹ 30.80 and lowest of ₹ -20.82 in 2015-16. Besides, during the study period, the compound annual growth performance of the parameter was -11.94 percent. Thus, the profitability performance based on this parameter was well in 2011-12 along with highest growth rate while worst in 2015-16 as well as its growth performance was worst in 2015-16. One-sample t test shows that the profitability performance measured by earnings per share is significant at the 0.05 level with t value of 9.594.

6. SUMMARY AND CONCLUSION

The main emphasis of the present paper is to assess the profitability performance of Punjab National Bank for the period of six years i.e. from 2010-11 to 2015-16. The study has considered five parameters for measuring the performance such as operating profit as a percentage to working funds, return on assets, return on equity, return on investment, and Earning per share. During the study period, on an average, the bank earned total income of ₹ 45274.39 crores with compound annual growth rate of 12.16 percent for which the bank incurred total expenditure of ₹42358.54 crores with compound annual growth rate of 17.37 percent. The other income out of the components of income has highest coefficient of variation of 25.19 percent and in case of expenditure, it is Provision & Contingencies with coefficient of variation of 50.53 percent. The result of t test proves that there is a significant difference between the components of income and single factor ANOVA also finds that there are significant differences across the components of expenditure. Moreover, the t test shows that there is not a significant difference between the trend of income and expenditure thereby indicating approximately equal marginal performance between the two. All the components of income as well as expenditure correlate positively with net profit earned by the bank. Finally, on an average, the bank has generated return of 0.68 percent of its working fund, 2.36 percent on its total assets, 9.91 percent on its shareholders equity fund, 7.65 percent of its investments. Besides, on an average, the bank could produce per share earnings of 16.95. The analysis of the study reveals that the profitability performance measured by the different parameters fluctuated throughout the study period and the performance measured by the return on investment ratio is more consistent as its coefficient of variation is least with 6.57 percent. However, the result of one-sample t test shows that the profitability performance based on various measurements is statistically significant. Thus, it is to conclude that the profitability performance of the PNB is not consistent during the study period but statistically significant. Further, the management of the bank is efficient in converting its efforts in terms of expenditure into benefits in terms of earning profit but not the increased volume of output i.e. net profit. The bank has no control over external factors having experience of highest volatility in earning interest income and incurring interest expenditure. Thus, the bank should focus more on earning other income, and curtailing operating expenses having comparatively higher degree of consistency in order to have improved profitability performance.

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