

Demonetization a Boon or Curse: A Study of Indian Banking Sector

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ABSTRACT

Demonetization is the cessation of legal tender of currency unit in circulation. On November 8, 2016 government of India announced the demonetization of Rs. 500 and Rs. 1000 banknotes and also introduce new banknotes of Rs. 500 and Rs. 2000. Many sectors of Indian economy were affected by the demonetization in various ways. Banking sector played a pivot role in the early days and event window period. Thus, the present study aims at the analysis of impact of demonetization on the profitability of Indian banks i.e. public and private sector. For the purpose of study 10 Indian banks i.e. public and private (5 banks from each sector) on the basis of largest market capitalization have been selected and three profitability ratios i.e. Return on Net Worth, Operating Profit to Average Working Fund and Profit After Tax to Total assets have been analyzed for a period of 7 years (2013-14 to 2019-20) and found that Indian private sector banks were performed better than Indian public sector banks before as well as after demonetization in terms of profitability.

Keywords: Demonetization, Indian Public Banks, Indian Private Banks, Profitability

Introduction

Demonetization is the cessation of legal tender of currency unit in circulation. On November 8, 2016 government of India announced the demonetization of Rs. 500 and Rs. 2000 banknotes and also introduce new banknotes of Rs. 500 and Rs. 2000. Many sectors of Indian economy were affected by the demonetization in various ways. Banking sector played a pivot role in the early days and event window period. No doubt it enhanced the liquidity of banks, but what were the impact of demonetization on the profitability of the banks this question is still

unanswered. So, the present study aims at the analysis of impact of demonetization on the profitability of Indian banks i.e. public and private sector.

Review of Literature

Before conduct thorough study on the impact of demonetization on Indian Banking Sector. It was necessary to review the work already done related to the same area. Following relevant reviews were found by the researcher in order to identify the research gap:

Chakrabarty, Jha and Ray (2020) analyzed the impact of demonetization on digital payment in India. Researcher found that the impacts were mostly transitory in nature.

Batten and Vo (2019) investigated the determinants of bank profitability in Vietnam during the period 2006-2014. After employing a number of econometric panel data methods, researcher found that bank size, capital adequacy, risk, expenses and productivity had strong impact on banks profitability.

S. & Lourthuraj (2019) examined the impact of demonetization on the performance of selected banks listed in the National Stock Exchange. The objective of the study was to evaluate the risk of the stocks in the particular index. The selected banks were State Bank of India, Bank of Baroda, Punjab National Bank, ICICI, HDFC, and Kotak Mahindra Bank. These banks were selected based on market capitalization. Researchers choose the study period of 90 days (i.e.) 45 days before the announcement of demonetization and 45 days after the demonetization announcement. Secondary data for this period were collected from the NSE website. The study employed Return, Beta Covariance, Paired T-test, and Abnormal Return. The finding indicated that some selected banks were influenced negatively and some were influenced positively post demonetization.

Kaur (2018), the study analyzed the effect of demonetization on the banking sector of India. For the sample data, 13 banks of various cities were taken. The questionnaire had been framed to get opinions about the issues related to online banking accounts, black money, Government's plans for post demonetization, and the individual's preference for keeping money either at home or at the bank. The results were found that 55% of bank employees believe the positive impact of demonetization. 52% of bank employees stated that demonetization successfully curbed out the black money from the Indian market. The researcher compared the 2016 demonetization to the previous two demonetizations and found out that this has given more positive results. It can be termed the most successful, which possesses positive long-term impacts.

Kushwaha, Kumar and Abbas (2018) studied the positive and negative impact of demonetization on Indian economy. Researcher commented that demonetization would bring a positive impact on Indian economy as it curtails the black money and encourages the digital payments.

Singh (2018) analyzed the profitability of Indian scheduled commercial banks and found foreign banks attained highest net interest income, operating profit and return on assets, while private banks attained highest return on equity.

Garg and Kumari (2015) empirically examined the profitability of major private banks working in India over a period of 10 years from 2004-2014. The study revealed that the HDFC bank overperformed on the various profitability variables and lead private banks in India during the study period.

Pervan, Pelivan and Arneric (2015) determined the persistence of profit in an emerging banking sector of the Republic of Croatia. Using a dynamic panel model, researcher identified variables that had significant impact on profitability of banks. While Markov Chains stochastic process showed that the profit persistence was less likely to occur in banks with high profit.

Adhikari, Barman and Kashyap (2014) analyzed the profitability of State Bank of India for the period of 7 years. Performance of bank was analyzed on the basis of various variables like Return on Assets, Return on Equity, Return on Investment and Earning Per Share. Researcher concluded that the profitability performance of the SBI was not consistent during the study period.

Thakarshibhai (2014) measured the relative profitability of Indian private and public sector banks. Researcher commented that selected banks overall profitability has been improved during the study period.

Ayyappan and Sakthivadivel (2013) evaluated the profitability of public and private sector banks in India on the basis of 26 financial variables. Researcher identified the variables having positive and negative impact on the profitability of selected banks during the period.

Aysan, Karakaya, and Uyanik (2011) examined the efficiency and its relation to profitability in Turkish Banking Sector. Panel Stochastic Frontier approached was employed to analyze the panel data of 32 banks between 2002-2007. Researchers found that there was cost efficiency gain & convergence in the efficiency level of bank and foreign banks were less efficient than state bank. It was also concluded that there was no robust relation between efficiency and profitability.

Dash and Das (2009) applied CAMELS framework and measured the Indian bank efficiency in terms of Capital Adequacy, Asset Quality, Management Soundness, Earnings and Profitability, Liquidity and Sensitivity to Market Risk. Researchers concluded that private/foreign banks have better performed than public sector banks on most of the CAMELS factors.

Erdinc (2004) analyzed the bank performance and credit availability in Bulgarian Banking Sector during the period 1997-2001. On the basis of the results of regression analysis researcher commented that banks can potentially increase their overall profitability by expanding loans to the private sector.

With the help of extensive survey of available literature, it was found that there have been many studies conducted on the profitability analysis of banks and impact of demonetization on Indian economy, but researcher could not find a study related to the impact of demonetization on banks profitability. So, the present study is an attempt to analyze the impact of demonetization on the Indian banking sector profitability.

Objectives

Objectives of the study are as follows:

- To analyze and compare the Indian public sector banks profitability before and after demonetization.
- To analyze and compare the Indian private sector banks profitability before and after demonetization.
- To compare the Indian public and private sector banks profitability before and after demonetization.

Data and Methodology

The study is based on Judgemental sampling. The selection of sample was based on the judgement of researcher. Top 5 banks i.e. public (SBI, IDBI, PNB, BOB & Union bank) and private (HDFC, Kotak Mahindra, ICICI, Axis and IndusInd bank) on the basis of largest market capitalization at BSE from Indian banking sector were selected in the sample. For the purpose of the study, the financial data from secondary sources (Published Annual Reports) for the period of 8 years i.e. 2013-14 to 2019-20 were collected. To analyse the profitability the profitability ratio i.e. Return on Net Worth, Operating Profit to Average Working Fund Ratio, and Profit After Tax to Total Assets were computed. Finally, findings of the study are

interpreted to draw the conclusion in relation to the impact of demonetization on the profitability of Indian banking sector.

Hypotheses

For attaining the objectives of the study, following hypotheses have been formulated:

H₀₁: Return on Net Worth of Indian public sector banks have no significant difference before and after demonetization.

H₀₂: Operating Profit to Average Working Fund of Indian public sector banks have no significant difference before and after demonetization.

H₀₃: Profit After Tax to Total Assets of Indian public sector banks have no significant difference before and after demonetization.

H₀₄: Return on Net Worth of Indian private sector banks have no significant difference before and after demonetization.

H₀₅: Operating Profit to Average Working Fund of Indian private sector banks have no significant difference before and after demonetization.

H₀₆: Profit After Tax to Total Assets of Indian private sector banks have no significant difference before and after demonetization.

H₀₇: Return on Net Worth of Indian public and private sector banks have no significant difference before and after demonetization.

H₀₈: Operating Profit to Average Working Fund of Indian public and private sector banks have no significant difference before and after demonetization.

H₀₉: Profit After Tax to Total Assets of Indian public and private sector banks have no significant difference before and after demonetization.

Data Analysis and Interpretation

Table 1 shows the Indian public sector banks Return on Net Worth before (2013-14 to 2015-16) and after demonetization (2016-17 to 2019-20). The average Return on Net Worth before and after demonetization were 4.21 and -10.76 with a standard deviation of 4.65 and 14.90 respectively. There is a huge difference between the Return on Net Worth before and after and this difference is significant at a 5% level of significance with $t_{(0.05, 4)} = 2.829$ (Sig. .047). So, it can be interpreted that the H₀₁ has been rejected or Return on Net Worth of Indian Public sector bank have shown a significant difference before and after demonetization.

Table 1

Bank	SBI	IDBI	PNB	BOB	UBI	Mean	SD	t Statist-ics	Sig.
Return on Net Worth Before	9.80	-1.63	2.26	2.58	8.03	4.21	4.65	2.829	.047
Return on Net Worth After	2.92	-34.94	-12.12	-0.12	-9.56	-10.76	14.90		

(Source: Own computation)

Table 2 shows the Indian public sector banks Operating Profit to Average Working Fund before (2013-14 to 2015-16) and after demonetization (2016-17 to 2019-20). The average Operating Profit to Average Working Fund before and after demonetization were 1.76 and 1.68 with a standard deviation of 0.24 and 0.05 respectively. There is a difference between the Operating Profit to Average Working Fund before and after demonetization but this difference is not significant at a 5% level of significance with $t_{(0.05, 4)} = .801$ (Sig. .468). So, it can be interpreted that the H_{02} could not be rejected or Operating Profit to Average Working Fund of Indian public sector bank before and after demonetization have not shown any significant difference.

Table 2

Bank	SBI	IDBI	PNB	BOB	UBI	Mean	SD	t Statist-ics	Sig.
Operating Profit to Average Working Fund Before	1.88	1.86	2.04	1.47	1.56	1.76	0.24	.801	.468
Operating Profit to Average Working Fund After	1.73	1.63	1.69	1.72	1.62	1.68	0.05		

(Source: Own computation)

Table 3 shows the Indian public sector banks Profit After Tax to Total Assets before (2013-14 to 2015-16) and after demonetization (2016-17 to 2019-20). The average Profit After Tax to Total Assets before and after demonetization were 0.25 and -0.84 with a standard deviation of 0.28 and 1.36 respectively. There is a difference between the Profit After Tax to Total Assets

before and after demonetization but this difference is not significant at a 5% level of significance with $t_{(0.05, 4)} = 2.133$ (Sig. .100). So, it can be interpreted that the H_{03} could not be rejected or Profit After Tax to Total Assets of Indian public sector bank before and after demonetization have not shown any significant difference.

Table 3

Bank	SBI	IDBI	PNB	BOB	UBI	Mean	SD	t Statist-ics	Sig.
Profit After Tax to Total Assets	0.60	-0.13	0.19	0.15	0.45	0.25	0.28	2.133	.100
Profit After Tax to Total Assets	0.16	-3.20	-0.66	-0.01	-0.52	-0.84	1.36		

(Source: Own computation)

Table 4 shows the Indian private sector banks Return on Net Worth before (2013-14 to 2015-16) and after demonetization (2016-17 to 2019-20). The average Return on Net Worth before and after demonetization were 15.99 and 11.05 with a standard deviation of 3.55 and 5.36 respectively. There is a difference between the Return on Net Worth before and after but this difference is not significant at a 5% level of significance with $t_{(0.05, 4)} = 2.065$ (Sig. .108). So, it can be interpreted that the H_{04} could not be rejected or Return on Net Worth of Indian Private sector bank before and after demonetization have not shown any significant difference.

Table 4

Bank	HDFC	Kotak	ICICI	Axis	Indus-Ind	Mean	SD	t Statist-ics	Sig.
Return on Net Worth Before	19.74	11.39	13.12	18.10	17.62	15.99	3.55	2.065	.108
Return on Net Worth After	17.33	11.68	6.79	4.55	14.88	11.05	5.36		

(Source: Own computation)

Table 5 shows the Indian private sector banks Operating Profit to Average Working Fund before (2013-14 to 2015-16) and after demonetization (2016-17 to 2019-20). The average Operating Profit to Average Working Fund before and after demonetization were 3.25 and 3.67 with a standard deviation of 0.22 and 1.04 respectively. There is a slight difference between the

Operating Profit to Average Working Fund before and after demonetization but this difference is not significant at a 5% level of significance with $t_{(0.05, 4)} = -0.908$ (Sig. .415). So, it can be interpreted that the H_{05} could not be rejected or Operating Profit to Average Working Fund of Indian Private sector bank before and after demonetization have not shown any significant difference.

Table 5

Bank	HDFC	Kotak	ICICI	Axis	Indus-Ind	Mean	SD	t Statist-ics	Sig.
Operating Profit to Average Working Fund Before	3.39	2.86	3.31	3.33	3.36	3.25	0.22	-0.908	.415
Operating Profit to Average Working Fund After	3.56	3.03	5.46	2.73	3.56	3.67	1.04		

(Source: Own computation)

Table 6 shows the Indian private sector banks Profit After Tax to Total Assets before (2013-14 to 2015-16) and after demonetization (2016-17 to 2019-20). The average Profit After Tax to Total Assets before and after demonetization were 1.80 and 1.32 with a standard deviation of 0.13 and 0.67 respectively. There is a slight difference between the Profit After Tax to Total Assets before and after demonetization but this difference is not significant at a 5% level of significance with $t_{(0.05, 4)} = 1.710$ (Sig. .163). So, it can be interpreted that the H_{06} could not be rejected or Profit After Tax to Total Assets of Indian private sector banks before and after demonetization have not shown any significant difference.

Table 6

Bank	HDFC	Kotak	ICICI	Axis	Indus-Ind	Mean	SD	t Statist-ics	Sig.
Profit After Tax to Total Assets Before	1.98	1.66	1.70	1.78	1.87	1.80	0.13	1.710	.163
Profit After Tax to Total Assets After	1.93	1.76	0.86	0.38	1.67	1.32	0.67		

(Source: Own computation)

Table 7 shows the Indian public and private sector banks Return on Net Worth before (2013-14 to 2015-16) and after demonetization (2016-17 to 2019-20). The average Return on Net Worth of public and private banks before demonetization were 4.21 and 15.99 respectively with a standard deviation of 4.65 and 3.55 respectively. The average Return on Net Worth of public and private banks after demonetization were -10.76 and 11.05 respectively with a standard deviation of 14.90 and 5.36 respectively. There is a huge difference between the Return on Net Worth of public and private banks before demonetization and after demonetization and this difference is found significant with $t_{(0.05, 8)} = -4.503$ (Sig. .002) and $t_{(0.05, 8)} = -3.079$ (Sig. .015). It can be interpreted that there is a significance difference between the Return on Net Worth of Indian public and private sector banks before as well as after demonetization.

Table 7

Bank		Public	Private
Return on Net Worth Before	Mean	4.21	15.99
	SD	4.65	3.55
	t Statistics	-4.503	
	Significance	.002	
Return on Net Worth After	Mean	-10.76	11.05
	SD	14.90	5.36
	t Statistics	-3.079	
	Significance	.015	

(Source: Own computation)

Table 8 shows the Indian public and private sector banks Operating Profit to Average Working Fund (2013-14 to 2015-16) and after demonetization (2016-17 to 2019-20). The average banks Operating Profit to Average Working Fund of public and private banks before demonetization were 1.76 and 3.25 respectively with a standard deviation of 0.24 and 0.22 respectively. The average Operating Profit to Average Working Fund of public and private banks after demonetization were 1.68 and 3.67 respectively with a standard deviation of 0.05 and 1.04 respectively. There is a huge difference between the Operating Profit to Average Working Fund of public and private banks before demonetization and after demonetization and this difference is found significant with $t_{(0.05, 8)} = -10.229$ (Sig. .000) and $t_{(0.05, 8)} = -4.174$ (Sig. .003). It can be

interpreted that there is a significance difference between the Operating Profit to Average Working Fund of Indian Public and Private sector banks before as well as after demonetization.

Table 8

Bank		Public	Private
Return on Net Worth Before	Mean	1.76	3.25
	SD	0.24	0.22
	t Statistics	-10.229	
	Significance	.000	
Return on Net Worth After	Mean	1.68	3.67
	SD	.05	1.04
	t Statistics	-4.174	
	Significance	.003	

(Source: Own computation)

Table 9 shows the Indian public and private sector banks Profit After Tax to Total Assets (2013-14 to 2015-16) and after demonetization (2016-17 to 2019-20). The average Profit After Tax to Total Assets of public and private banks before demonetization were 0.25 and 1.80 respectively with a standard deviation of 0.28 and 0.13 respectively. The average Profit After Tax to Total Assets of public and private banks after demonetization were -0.84 and 1.32 respectively with a standard deviation of 1.36 and 0.67 respectively. There is a huge difference between the Profit After Tax to Total Assets of public and private banks before demonetization and after demonetization and this difference is found significant with $t_{(0.05, 8)} = -11.107$ (Sig. .000) and $t_{(0.05, 8)} = -3.192$ (Sig. .013). It can be interpreted that there is a significance difference between the Profit After Tax to Total Assets of Indian Public and Private sector banks before as well as after demonetization.

Table 9

Bank		Public	Private
Return on Net Worth Before	Mean	0.25	1.80
	SD	0.28	0.13
	t Statistics	-11.107	
	Significance	.000	
Return on Net Worth After	Mean	-0.84	1.32
	SD	1.36	0.67
	t Statistics	-3.192	
	Significance	.013	

(Source: Own computation)

Conclusion

The findings of study show that only Return on Net worth of Indian public sector before and after demonetization have shown a significant difference. While comparing the profitability of Indian public sector banks with private sector banks, it was found that all the ratios of profitability have shown a significant difference before as well as after demonetization. On the basis of results of study, it can be interpreted that the Indian private sector banks performed better than Indian public sector banks in terms of the selected profitability ratios i.e. Return on Net Worth, Operating Profit to Average Working Fund and Profit After Tax to Total Assets before as well as after demonetization.

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