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A Study on Effectiveness of Basel Iii Norms on Indian Banking Industry

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Abstract

The BCBS implemented Basel III norms on December 2010 with the sake of protecting the banking companies from the financial and economic crisis and to intensify the banks supervision, regulation and ability to manage the risk. 2007-08 global financial crisis which adversely affected the banking sector, led to the advent of Basel III norms to safeguard the banks against the recurrence of such crisis. As per the RBI guidelines India decided to operationalize the Basel III norms from 31st March, 2015 in different stages and expected to implement entirely by 31st March 2018. But that was a challenging task for Indian banks as well as for the government of India. Hence the complete execution of Basel III norms in India is still pending and RBI decided to extent the timeline of complete enactment of Basel III guidelines within 31st March 2020.In this paper, we have evaluated the likely effect of Basel III implementation on Indian banking industry by establishing the relationship between the parameters suggested by Basel III accord with the total advances, net profits and net non-performing assets. However, India being still under the phase of implementation, the actual impact of Basel III norms on Indian banking companies can be analysed after its complete implementation.

I. INTRODUCTION

Since 1980 about 130 countries were facing considerable banking sector difficulties. This mainly led to the formulation of Basel Norms in 1988 by the Bank for International Settlement (BIS). Basel I norms focussed particularly on minimising credit risk and maintaining a capital risk adjusted ratio (CRAR) of 8 percent of risk weighted assets. More than 190 countries implemented Basel I accord and India started executing by April 1992.Many amendments were made in Basel I accord during 1996 and as a result market risk was also added to the accord along with the credit risk. The implementation of Basel I accord led to the considerable increase in capital adequacy ratio of major International banks and leads to worldwide adoption thereafter. Inspite of its simple structure and world-wide adoption Basel I accord faces certain weakness like it focuses only on market risk and credit risk .Operational risk were excluded and less emphasis were given on market values, only book values were taken into consideration.

These weakness of Basel I norms led to the advent of Basel II norms on June 26, 2004, a reformed framework of Basel I accord. In Basel II norms along with market risk and credit risk operational risk was given due consideration. Basel II accord was having 3 pillars: -

(a) Minimum Capital Requirement

(b) Supervisory Review by Central bank

(c) Market Discipline

In India Basel II accord was implemented by RBI by March 2008 in case of internationally active banks and other commercial banks implemented by March

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2009. RBI had fixed Capital to risk asset ratio as 9 % as compared to Basel Committee on Banking Supervision requisite of 8%. Also, BCBS fixes standard Tier 1 Capital to risk asset ratio requirement at 4.5% but RBI aim was 6%. RBI every time go for setting Capital Adequacy Standard higher than the global standard for a precautionary approach.

Basel III accord was formulated in December 2010.The main cause for the implementation of Basel III accord was the global financial crisis of 2008 which affected entire global economy. The main concern of Basel III norms was on the capital, leverage, funding and liquidity.

In this paper we analysed the effect of Basel III norms on Indian banking companies and also to establish the correlation between variables indicated by Basel III norms: Capital Adequacy Ratio (CAR)1, Liquidity Coverage Ratio (LCR)3, Liquidity Ratio(LR)2, and Net Stable Funding Ratio(NSFR)4 with the total advances, profitability and Non-Performing Asset(NPA)5.

Major features of Basel III norms are: -

(a) Enhanced Tier I Capital Requirement: The core capital constitute equity and retained earnings and was raised from 2% to 4.5% of Basel II.

(b) Capital Conservation Buffer: In addition to capital adequacy ratio a capital conservation buffer (2.5%) were kept as Tier I capital as per the Basel III guidelines.

(c) Counter Cyclical Buffer: Counter Cyclical Buffer was provided to protect the economies from faster credit growth by maintaining equity capital in the form of risk weighted asset within the range of 0%- 2.5%.

(d) Leverage Ratio (LR)2: It is the ratio of Tier I capital to Total Assets and as per Basel III guidelines the bank has to maintain at least 3% leverage ratio which was not specified in the Basel II accord.

(e) Liquidity Coverage Ratio (LCR)3: Basel III guidelines introduced Liquidity Coverage Ratio in order to preserve highly liquid assets so as to withstand in a liquidity crisis situation. It is the ratio of HQLA to total net cash outflow for the next 30 days.

(f) Net Stable Funding Ratio (NSFR)4: It is the ratio of available stable funding to required stable funding. This ratio should be kept as 100% as per the Basel III guidelines.

II. REVIEW OF LITERATURE

The study has been conducted with the objective of analysing the effectiveness of Basel III norms on Indian banking companies. Substantial amount of study has been conducted about the effect of Basel III on international level and also on Indian banking sector.

Dr. VighneswaraSwamy in his study observed that there is a positive impression of Basel III norms on Indian banking context. Capital specification under Basel III accord increases the bank's core capital through capital conservation buffer which helps the banks to withstand in any financial stress and crisis situation. Dr. Swamy also pointed out that the liquidity standard requirement will help the banks to manage liquidity at any stressful situation and enables them to operate efficiently.

Anita Mirchandari and Swati Rathore opine that public sector banks in India have adequate capital to meet new capital requisites as per Basel III norms. But still complete implementation of Basel III in India will be challenging task, because of its increase in requirement of Tier 1capital.

PallabSikdar and MunishMakkad from their study arrived at a conclusion that Indian banks are moving in the right direction of RBI vision of implementing Basel III within the stipulated time period. Execution of Basel III norms increases the ability of Indian banks to withstand in any financial and

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economic crisis by enhancing capital requirements and maintaining high liquidity standard.

Dr. Mani Bhatia, Palak Mehta in their research study concluded that the complete implementation of Basel III norms results in Indian banking economy to become more profitable and stable. Also, they pointed out that Indian banks will faces a lot of difficulties in complete operationalization of Basel III due to the requirement of stringent capital and liquidity standard.

Thus, a considerable amount of study is been carried out to analyse the effect of Basel III on Indian banking sector. However, real effectiveness of Basel III norms on Indian banking economy can be analysed only after its complete implementation.

III. RESEARCH METHODOLOGY

This study has been conducted in order to analyse the result of Basel III norms on Indian banks and to determine a correlation between variables indicated by the Basel Committee as per the Basel III norms i.e., Capital Adequacy Ratio (CAR1), Liquidity Coverage Ratio (LCR2), Leverage Ratio (LR3) and Net Stable Funding Ratio (NSFR4) with the amount of advances, non-performing assets and profitability. Multiple regression analysis technique is being employed here to analyse the relationship between the variables specified under Basel III norms and with the amount of advances, non-performing assets and profitability.

Source of Data

The data has been collected from the Bloomberg and also from financial statements of various banks published periodically.

We have collected data and analysed five PSBs and five Private Sector Banks in India during 2009-018 to study the effectiveness of Basel III.

The particulars of data collected is mentioned as below:

Table No. 1 Particulars of amount of advance, non-performing assets (NPAs5) and net profits

YEAR	ADVANCES	NET PROFITS	NET NPAs[5]	CAR[1]	LR[2]	LCR[3]	NSFR[4]
2009	8050343.6	133363.2	3039345	0.14495	0.056444976	8.697607652	0.257649768
2010	8831712.4	154484.2	2737120.8	0.14923	0.057610258	3.918329277	0.250457493
2011	11064430.3	202370.3	3196965.9	0.14275	0.039990281	7.372117538	0.2584987
2012	13129655.8	243854	3683054.6	0.13818	0.052916792	16.88098516	0.260210706
2013	14910660.1	269052.9	4264678.9	0.13592	0.050731572	3.386469727	0.235162766
2014	17984398.2	283110.6	5514882.9	0.12856	0.052108333	8.017730439	0.255289211
2015	18498805.1	286001.7	5798766.5	0.13069	0.050204878	34.91982329	0.251271838
2016	20683543.8	79356.8	7142586.9	0.1299	0.260839637	6.113594566	0.249055637
2017	21444927.5	144403.3	7738126.6	0.13313	0.05653428	-25.93506005	0.23793882
2018	23118461.2	-72298	9201264.3	0.13667	0.058276164	-7.078179901	0.244040163

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IV. DATA ANALYSIS AND INTERPRETATION

Based on the multiple regression analysis undertaken to study the correlation between variables indicated by Basel III i.e., Capital Adequacy Ratio (CAR1), Liquidity Coverage Ratio (LCR2), Liquidity Ratio and Net Stable Funding Ratio (NSFR4) with the total advances, net non-performing assets and net profits the following results were obtained: -

Table No. 2. SPSS Output-Correlation between Advances and variables indicated by Basel III

PARTICULARS	CO-EFFICIENT (b)	STANDARD ERROR SE (b)	STANDARDISED COEFFICIENT (β)	P - VALUE
(Constant)	825095.871	5028199.827		.875
CAR	-458429371.532	274575689.246	-2.749	.146
LR	13518790.801	26956477.996	.129	.634
LCR	-214586.661	123013.445	-.456	.132
NSFR	311578785.659	155587677.621	3.387	.092

Table No. 2.1. SPSS Output-Model Summary

MODEL	R	R^2	ADJUSTED R^2	DURBIN-WATSON
1	.828[a]	.686	.477	1.671

From the above summary we found that the R-square value is .686, it means this model shows 68.6% of variability of data. The beta values of independent variables LR^3, CAR^1, LCR^2, $NSFR^4$ are 0.129, -2.749 -0.456, 3.387 respectively. This shows that there is a negative correlation of LCR^2 and CAR^1 with advances and positive correlation between LR^3, and $NSFR^4$ with the level of advance.

Table No.3 SPSS Output-Correlation between net NPA and variables indicated under Basel III

PARTICULARS	CO-EFFICIENT (b)	STANDARD ERROR SE (b)	STANDARDISED COEFFICIENT (β)	P - VALUE
(Constant)	272233.551	2071900.529		.900
CAR	-152077644.074	113140594.091	-2.413	.227
LR	6362632.096	11107581.823	.160	.588
LCR	-96593.708	50688.443	-.543	.105
NSFR	103386542.780	64110855.290	2.973	.158

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Table 3.1 SPSS Output-Model Summary

MODEL	R	R^2	ADJUSTED R^2	DURBIN-WATSON
1	.792[a]	.627	.378	1.460

From the above model summary, it is found that 0.627 is the R-square value, which means that this model shows 62.7% of variability of data. The beta values of independent variables LR, CAR[1], LCR and NSFR are 0.160, -2.413, -0.543 ,2.973 respectively. This shows that there is a negative correlation between LCR and CAR with net NPA and positive correlation between LR and NSFR with the net NPA. Among all the four variables it is visible that NSFR is having high impact.

Table No.4 SPSS Output-Correlation between Net profits and variables indicated under Basel III

PARTICULARS	CO-EFFICIENT (b)	STANDARD ERROR SE (b)	STANDARDISED COEFFICIENT (β)	P - VALUE
(Constant)	6203.794	105402.079		.955
CAR	-3598816.144	5755707.700	-1.278	.555
LR	-647066.441	565066.807	-.365	.296
LCR	2724.523	2578.631	.343	.331
NSFR	2763833.655	3261458.422	1.779	.429

Table 4.1 SPSS Output-Model Summary

MODEL	R	R^2	ADJUSTED R^2	DURBIN-WATSON
1	· 718[a]	.516	.194	1.620

It is found that 0.516 is the R-square value, which means that this model shows 51.6% of variability of data. The beta values of independent variables LR3, CAR1, LCR2 and NSFR4 are 0.365, - 1,278, 0.343, 1.779 respectively. This shows that there is a negative correlation between net profits and CAR1 and positive correlation between LCR2, LR3 and NSFR4 with the net profits. Among all the variables NSFR4 is having high impact on net profits.

FINDINGS: From the analysis it was found that the co-relation coefficient for Capital Adequacy Ratio is negative for all the dependent variables i.e., advances, non-performing assets and net profits. This shows that the rise in CAR1 results in fall in advances, net profits and net non-performing assets.

Correlation co-efficient for LR3 is visible as positive for net non-performing assets and volume of advances. This denotes that when there is an increase in Tier-1 capital there will be rise in total non-performing assets and advances.

It is found that the co-relation co-efficient for LCR2 is positive only for net profits, which infers that short-term liquidity results in the rise of net profits. Whereas the correlation co-efficient of total non-performing assets and advances is negative. Which means that the short-term liquidity does not possess much impact upon advances and net non-performing assets.

It is also found that for all the three variables the co-relation co-efficient for NSFR4 is positive. This shows that if the bank is maintaining stable source

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of funding the advances, total profits and non-performing assets will rise correspondingly.

CONCLUSION

Global Financial crisis of 2007-09 induced the development of Basel III norms by the BCBS to boost the supervision regulation and risk management ability of banks. In accordance with the International standards, RBI decided to implement the Basel 3 norms in India by March 2019.

RBI has prescribed a 1 percent higher CAR1 as compared to Basel III recommendation i.e., 9% of CAR1 instead of 8%, which is expected to have a positive impact upon Indian banks.

From the study conducted it is inferred that the CAR1 and Capital Conservation Buffer will increase the flow of more capital into the banks and at the same time LR3, LCR2, and NSFR4 will help the banks to maintain liquidity and quality capital. Thus, it is expected that the execution of Basel III norms will help the banking industry to withstand in any financial and economic crisis and to manage the risk effectively.

From the annual reports released by BCBS it was stated that there is a very good progress in execution of Basel III in international level. About 100 internationally active banks are able to meet the minimum capital requirements and to maintain their NSFR4 more than 90%.

As per the Indian context RBI decided to implement the Basel III by March 219. But the semi-annual reports of BCBS, disclosed that RBI has fallen short to meet the Basel III requirements completely by March 2019 and extended the time period for complete discharge of Basel III norms by March 31 2020. So, the actual efficiency of Basel III implementation on Indian context can be analysed after 2020.

LIMITATIONS OF THE STUDY: The study has been conducted by analysing five public and five private sector banks. The scope of the study can be extended in order to arrive at a more generalised conclusion about Indian banking sector. Also, the study is based on the objective of analysing the relationship between parameters suggested by Basel III accord i.e., LR3, CAR1, LCR2 and NSFR4 with the total advances, net profits and total non-performing assets. Many other factors can also be considered in order to get a better understanding about the impact.

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