CHAPTER - IV

DYNAMICS OF CHANGES ADOPTED BY BANKS IN MIGRATING TOBASEL-III NORMS

Introduction:

Basel -III Norms were announced on December 16, 2010 and sufficient timeline was given by BIS to all banks with international operations to gradually migrate to the Norms by January 1, 2018. The experience of successful implementation of these Basel- Norms I and II is a well-documented in its significance as India could withstand the GFC 2007 which otherwise crippled even the many developed economies in the world. Having tasted the success in the implementation of earlier Norms, India readily agreed to implement the new set of Basel-III Norms. RBI issued draft guidelines for banks to implement Basel-III Norms on December 30, 2012 and final guidelines on May 2, 2013. These Norms have been mandated to be implemented by banks progressively with effect from April 1, 2013 and all banks are required to be fully compliant now by March-end 2019[1]. This study being exploratory research in nature, it is therefore, imperative to trace and evaluate comprehensively the concrete steps taken by banks in India to be enabled to become Basel-III compliant as mandated by RBI.

Objective of the Chapter:

The objective of this chapter is to trace the dynamics of changes that have evolved since the implementation of Basel-II Norms in 2009 till the onset of migration process based on issuance of Basel-III guidelines by RBI to be implemented progressively by banks in India starting from the financial year 2013-14.

Research method used to study the preparedness of banks in India to migrate to Basel-III Norms:

Research design of the study is both descriptive and analytical. The study is based on the data collected from the published Annual Reports. Appropriate statistical techniques have been applied to analyze the data and draw meaningful conclusions.

Period of Study:

Basel-III Norms were formally published in 2010 yet, the salient provisions were in public domain for discussion and suggestions from 2008-09 itself. So, the financial year 2008-09 was ideally suited to be taken as base year for study of the preparedness of banks in India for migrating to implement the new set of Basel-III Norms. Further as said earlier, Basel-II proposals were effective worldwide in 2004 and implemented in India in 2009. The NCAF for

[1]RBI Circular number – RBI/2013-14/538 DBOD No- BP-BC-102/21.06.201/2013-14 Dated 27-3-2014

complying with the first pillar[2](Capital adequacy based on Credit-risks, Operational risks and Market risks) and SREP & ICAAP which together form the second pillar of the Basel-II capital adequacy framework[3](both pertain to quantifying capital requirement and putting in place sound risk assessment and management systems) were mandated by RBI to be implemented from April 1, 2008. Also, financial year 2008-2009 is the immediate aftermath of GFC year, so it was worthwhile to know how banks in India are shaping a fresh there from in achieving latest mandated global Norms.

Sources of Data and Sample Design:

To study preparedness of banks in capital adequacy/identifying the migration strategies adopted by banks in India we collected, Annual Reports starting with the implementation of Basel-II Norms in 2009 (March-end) till the onset of migration process starting from financial year 2013-14. The same has been used in the study as basis of our source of each of the bank's data information. The published Annual Reports[4] for all years of the study period were collected from bank's offices & websites and also visit to various libraries. Banks under RBI guidelines for Basel-II implementation effective April 2008 to 2014 March end were required to make mandatory disclosers in Basel Disclosure Formats DF-1 to DF-13 as part of balance-sheet in their Annual Report. From these published Annual Reports of each of the banks during the study period ending 2014 March, the data information for the following six parameters viz. The strengthening of capital plough back, Enhancement of quality in capital by boosting of T-1, Composition of capital charges for various risks with a view to augment the CAR, 'Growth in assets as well as in RWAs and pro-active steps aiming to reduce exposures to high-risk assets, were collected. We found, that the required data information were available continuously for all the six years of study period only for the following 25[5]banks referred as 'Sample Banks' consisting of A) 12 nationalized banks, of which 8 were nationalized in July 1969 and other 4 were nationalized in April 1980, and B) IDBI Bank Limited. This bank group we call as "Other PSBs Banks Group"**,** C) all 6 banks of State Bank of India and Its 5 Associate banks. This bank group we call as "State Bank Group" and D)

[2] RBI Circular number: DBOD.No.BP.BC.90/20.06.001/2006-07 dated April 27, 2007 on the 'Guidelines on the implementation of NCAF and Market Discipline'.

[3] RBI Circular Number: DBOD No. BP.BC.66/21.6.001/2007-08 Dated March 26, 2008, on Guidelines for Pillar2-Supervisory Review Process.

[4] Although, The IBA, Mumbai Publication called 'Indian Banking at a Glance' provides data information for all scheduled commercial banks operations in India yet we have used the published Annual Reports of banks as IBA Report does not provide details from the prescribed Basel Disclosure Formats.

[5]Basel disclosure data available on public domain were for the following 25 Banks: **A) Nationalized Banks (12)** viz., 1. Bank of Baroda, 2.Bank of India, 3. Canara Bank, 4. Indian overseas Bank, 5. Indian Bank, 6.Punjab National Bank, 7. Syndicate Bank, 8.Union Bank of India, 9. Andhra Bank, 10. Corporation Bank, 11. Oriental Bank of Commerce and 12.Vijaya Bank**B) Other PSB:** IDBI Bank Ltd. **C) State Bank of India and its 5 Associate Banks, Viz.**:1. State Bank of Bikaner and Jaipur, 2.State Bank of Mysore, 3. State Bank of Hyderabad, 4. State Bank of Patiala and 5.State Bank of Travancore, and **D)**S**ix New Generation Private Sector Banks:** 1, HDFC Bank Ltd., 2. ICICI Bank Ltd., 3. Kotak Mahindra Bank Ltd., 4. Axis Bank Ltd, 5. IndusInd Bank Ltd and 6. Yes Bank Ltd.

Another 6 New Generation Private Sector Banks. This bank group we call as "New Pvt. Banks Group", established mainly in the post reform period of the last decade of bygone century.

It is heartening to note that these 12 nationalized banks for which necessary Basel Disclosure Formats data information details were available and one IDBI Bank Limited together comprised the 78 percent market share of all 20 (19 nationalized and one IDBI Bank Limited) banks in terms of business (Total Deposits plus Outstanding Advances) as on March-end 2014. Similarly, for the same period, these 6 new generation private sector banks be treated as true representative as these 6 together comprised the 78.5[6] percent market share as on March-end 2014 among all (New and Old together) 25 private sector banks.

4.1: Migration Strategies: Global Experience:

Before undertaking the exploratory research study in Indian context, it may be worthwhile to review and understand the dynamics of change in global banks in their efforts to migrate to Basel-III Norms. Accordingly, an attempt has been made here to review the dynamics of changes that have evolved globally, as documented in BIS[7] Working Papers No. 443.

The BIS Working Paper above examined the various strategies adopted by sample of 94 large banks of which 66 Banks were from advanced economies covering USA, Europe and other Countries and remaining 28 banks from the emerging economies[8] for the period 31 December, 2009 and 31 December, 2012 to boost capital ratio so as to be fully compliant by 2018.

Study finds sufficient evidence that after the GFC, both the regulators and stakeholders have exerted pressure on banks to build larger buffers of high-quality capital and reduce the riskiness of their portfolios. The said BIS Study exhibits the broad patterns in how banks with international presence have gone about achieving higher CRAR since the GFC. The key findings of the Study as presented in the executive summary concludes that the "bulk of the adjustment has taken place through the accumulation of retained earnings, rather than through sharp adjustments in lending or asset growth. Other important findings consist in the fact that the advanced-economy banks in the sample increased their asset by 8% from 2009 to 2012, while the emerging-economy banks increased assets by 47%, and European banks have increased their lending more slowly than banks based in other regions. In the advanced economies, a reduction in RWAs relative to Total Assets (TAs) has also played a role, albeit a secondary one".

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[6] Banking at a Glance, 2014, Published by Indian Banks' Association, Mumbai.

[7] BIS Working paper No. 443. Banks and Capital Requirements; Channels of Adjustments- by Benjamin H Cohen and Michela Scatigna (March) 2014

[8] The Study (BIS-443) of 94 banks includes 2 Banks from India viz., SBI and ICICI Bank Ltd.

The other important observations which can be made from the following Table No. 4.1 drawn from the said BIS Study are: 1) Capital ratios of all the sample banks have gone up during the study period. 2) Capital has increased in all economies bank-groups with 7.9% in European Bank-group to as high as 100.9% for 'Emerging' economies bank-group and the highest 105.2% in 'other Advanced' economies group banks. 3) RWAs have not decelerated steeply and registered only small decline at the rate of 0.6% in both US Banks and other advanced economies group banks. European Banks have shown deceleration of 11.2%. On the contrary banks RWAs have registered increase in cases of emerging economies (as high as 75%) and also other advanced economies bank-group by 28.8%

Table No.4.1:

Sources of Changes in Banks' CAR

2009-end to 2012-end (in %)

Bank Groups	CAR 2009	CAR 2012	Increase in Capital	Increase in RWAs	Increase in TAs	Increase in RWAs /TA	Total Banks (No.)
1	2	3	4	5	6	7	8
All banks	11.4	13.9	45.6	14.4	22.4	-7.7	94
Advanced	11.8	14.6	31.9	-0.6	11.2	-10.6	66
Emerging	10.2	11.4	100.9	75.0	67.6	4.2	28*
G-SIB[146]	11.7	14.5	36.4	5.3	14.5	-8.4	29
Advanced non G-SIB	11.6	14.0	28.0	6.5	20.6	-12.9	39
U.S.A.	14.0	17.6	24.3	-0.6	12.4	-11.6	16
Europe	12.1	14.5	7.9	-11.2	-1.7	-9.9	35
Other Advanced	8.9	11.9	105.2	28.8	46.0	-11.8	15

(Source: Bankscope, Bloomberg SNL; BIS calculations: as compiled in BIS-WP-443, page12, Table-5)

4.1.1: Other Findings:

It is pertinent to note here that the BIS Study finds that these international banks/banking groups across different economies have employed retained earnings as the main strategy and channels of adjustments to boost their capital and CAR in their efforts for migration to Basel-III as evident from the following Table No. 4.2. The table indicates that all Bank-groups have reduced dividend pay-out during the post GFC period except those of emerging economies. Similarly all bank-groups (except of 'emerging economies') have registered decline in ROE.

Table No. 4.2:

Dividend Payout and ROE of banks 2005-2012

Economies	2005-2007		2010-2012	
	Dividend Payout			
	Ratio	ROE	Ratio	ROE
1	2	3	4	5
All	40.5	18.0	30.3	8.6
Advanced	41.9	18.2	29.4	5.9
Emerging	29.4	16.9	33.6	18.9
G-SIB	39.1	18.4	24.3	7.9
Advanced - non-G-SIB	46.7	16.9	47.4	4.2
U.S.A.	58.1	15.9	20.8	7.6
Europe	38.1	18.0	25.8	3.7
Other Advanced	34.0	21.6	46.5	9.8

(Source: Bankscope, Bloomberg, SNK, BIS as per BIS-WP-443)

The BIS Working Paper also presents the findings of study on likely impact of one percentage point increase in CARs by various authors and agencies and the same is summarized in Table No.:4.3 as under:

Table No. 4.3:

Summarized Result of Impact of 1% Point Increase in CAR

Author/Agency	Lending Spread	Lending Volume	Growth in Annual Rate
MAG (2010)	+ 15-17 basis points	-1 -2 %	-4 bps over 4 years
BCBS (2010)	+ 13 basis points	Not Estimated	-9 bps permanent
IIF (2011)	+ 30-80 basis points	-0.8 % -1.0 %	-6-12 bps over 5-10 years
OECD (2011)	+ 8-20 basis points	Not Estimated	-4 bps over 9years
Elliot et al (2012)	+ 5-15 basis points	Not Estimated	not estimated
Miles et al (2013)	+ 5.5 basis points	Not Estimated	-4.5 bps permanent
Oxford Economics (2013)	+ 15 basis points	Not Estimated	-1.6 bps over 9 years

(Source: Benjamin H. Cohen and Michela Scatigna: BIS Publication-Working paper -443 of 2014).

Almost all agencies/authors have predicted increase in lending spreads. Though the magnitude of change has wide variations ranging from as low as 5 basis points (0.05%) to as high as 80 (0.8%) basis points. And as per the estimates lending volumes are expected to decrease. Lastly, all studies have consistently projected a slow-down in annual growth rate of all economies.

In sum, the said BIS Study concludes that most of the global banks have achieved most of the adjustment to date through the accumulation of retained earnings. Further, banks in advanced economies have reduced dividend payouts and banks in emerging economies have enjoyed high earnings and asset growth, and as such have had little trouble in using some of their strong earnings to increase their CAR. Also, an additional though secondary role has been played by the shift to assets with lower risk-weights on the part of advanced economy banks. Finally ….."as a result, there has been a pronounced shortfall in lending growth on the part of European Banks, though these banks have accumulated other assets in the form of cash and securities. Some banks, especially in Europe, have cut back their trading portfolios"[9].

4.2: Dynamics of Changes Adopted By Sample Banks in India:

After reviewing the channel of adjustments adopted by global banks as presented in the BIS Working Paper 443 as above, now it is worthwhile to undertake a detailed empirical study of dynamics of migration process adopted by banks in India to improve/consolidate their CAR during the period 2009-2014 which may be called as the preparatory period so as to be fully compliant with new sets of Basel-III Norms.

The CAR has numerator as "risk adjusted capital" or simply "capital". To increase the "capital" a bank may employ any or all or a combination of the following strategies to boost capital. viz.

1. By Increasing 'Plough Back of Profit' and/or reducing the dividend pay-out as far as possible.
2. By increasing profit either by way of increasing lending rates and/or decreasing cost of funds by canvassing CASA and realigning deposit-mix,
3. By reducing overheads,
4. Shrinking credit portfolio itself by slowing down lending,
5. By financing to less risky assets and last but not the least,
6. By shifting the portfolio from 'High-risk assets to 'Low risk assets.

Using the data information from the Basel Disclosure Formats for the study period, an attempt has been made here under to empirically examine and statistically analyze whether the sample banks in India have employed the possible channels of adjustments during the 6

[9]**COHEN & SCANTIGNA (BIS-343- March -2014)**

years of study period ending March 2014. Accordingly, the objective of this chapter is to empirically draw the conclusions from these data information and statistical analysis whether banks in India (Sample banks) have augmented capital by various strategies to prepare themselves for seamless migration to Basel–III Norms as mandated by RBI from the year 2013-2014.

The data so collected from the Annual Reports of sample banks for the 6 years study period ending March 2014 were tabulated and are annexed at the end of the Chapter as Annexure No.: I.1 to Annexure No.: I.5 so as to draw conclusions about the following; (strategies for migration to Basel-III Norms)

1. Whether sample banks in India have taken deliberate attempts to augment capital by increasing plough-back of profit in to capital;
2. Whether sample banks in India have taken deliberate attempts to augment tier-1 capital (T-1) for boosting quality in CAR;
3. Whether sample banks in India have taken deliberate attempts to reduce capital charge for credit risk (CC-Credit) for boosting CAR;
4. Whether sample banks in India have taken deliberate attempts to reduce the assets size to secure better CAR;
5. Whether sample banks in India have taken deliberate attempts to reduce the RWAs to improve CAR; and,
6. Whether sample banks in India have taken deliberate attempts to secure a better CAR by migrating to lower-risk assets and/or by reducing high-risk assets (to reduce the RWAs and thereby increase the CAR)

The statistical analysis has been performed under two parts:

Part A) Variation across the study years and Part B) across the three bank groups.

Under Part A analysis has been carried out in two parts;

a. Descriptive analysis: in this section analysis of mean, standard deviation, minimum, maximum and important three percentiles have been calculated and interpreted.
b. Analysis of changes across the year: To evaluate significant increase/decrease over the years regression analysis with dummy variables has been performed. ANOVA for Model fit, Model summary and coefficient tables are provided and interpreted.

Under Part B the analysis has been carried out again in two parts:

a. Descriptive analysis: in this section analysis of mean, standard deviation, minimum, maximum and important three percentiles have been calculated and interpreted.

b. To find out whether the differences between the banks-groups is statistically significant or not, ANOVA has been carried out and interpreted. Further, when ANOVA is significant then post hoc analysis[10] by Bonferroni test has been performed and interpreted.

4.2.1.: (I) Plough-back of Profit into Capital /Reduced Dividend Pay-out:

Descriptive Analysis

Implementation of Basel-III Norms from 2013-14 under RBI mandate for banks require higher and better quality of capital. It is therefore, relevant to study whether banks in India have made deliberate pro-active attempts to mop-up capital by accelerating the proportion of plough-back of annual profit into capital (and thereby lowering of dividend Pay-out) during the 6 years of study period ending 2014 (March-end).

Annexure No.: I.1 exhibits annual Profit Appropriation by Sample Banks during the study period.

It is heartening to note that all the sample banks during the study period (except Canara Bank and Vijaya Bank) have deployed/plough back majority percentage of annual profit (more than $3/5^{th}$ of annual profit) into capital. The trends thus exhibited by each of the sample banks are consistent with the global pattern as documented in BIS study above and also a proven strategy to boost CAR so as to confirm to Basel Norms.

4.2.1.: (II) The Statistical analysis of Profit ploughed-back as Capital:

Part -A: Analysis across the years

Using Annexure No.: I.1 the mean, standard deviation, Minima, Maxima & Percentiles etc. taking across the years as variables have been calculated and presented in following Table No. 4.4:

[10]**Post-hoc Analysis** : In the design and analysis of experiments, post hoc analysis (from Latin *post hoc* ="after this") consists of looking at the data-after the experiment has concluded—for patterns that were not specified *a priori*. In practice, post hoc analyses are usually concerned with finding patterns and/or relationships between subgroups of sampled populations that would otherwise remain undetected and undiscovered were a scientific community to rely strictly upon *a priori* statistical methods

Table No. 4.4:

Descriptive: mean, standard deviation, minimum, maximum and percentiles of the annual profit ploughed back as capital by the sample banks

(Period 2009-2014 March-end)

	Name of Bank	Year	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
								25th	50th (Median)	75th
Ploughed as T-1& T2 capital	Other PSBs Group	2009	13	77.76	5.83	60.90	83.70	76.10	78.40	82.00
		2010	13	76.53	4.92	67.70	84.30	74.15	76.50	79.20
		2011	13	75.59	7.80	55.70	85.90	73.65	76.50	81.95
		2012	13	74.60	9.02	52.40	83.70	72.05	76.50	80.95
		2013	13	70.82	8.61	52.20	76.80	66.75	74.70	76.35
		2014	13	77.80	7.01	60.10	87.30	75.90	76.70	82.85
	State Bank Group	2009	6	82.42	6.54	70.50	88.80	78.38	83.35	87.83
		2010	6	83.23	4.31	76.70	88.20	79.78	83.70	86.78
		2011	6	82.28	8.13	67.80	90.10	75.98	84.45	88.68
		2012	6	82.78	6.40	72.50	91.10	77.90	83.35	87.80
		2013	6	81.57	6.06	73.30	90.70	76.23	81.55	86.50
		2014	6	86.52	8.42	76.80	95.10	76.95	88.00	94.43
	New Pvt. Bank Group	2009	6	74.70	10.39	61.50	89.90	63.53	77.35	80.90
		2010	6	79.35	11.02	62.70	95.00	72.23	77.80	89.30
		2011	6	81.05	10.21	64.70	94.90	74.15	80.75	89.65
		2012	6	81.67	9.24	67.20	95.20	74.78	82.55	87.70
		2013	6	80.98	8.68	68.80	95.50	75.10	80.80	85.98
		2014	6	81.62	8.16	71.10	95.30	75.75	80.65	87.35

(Source: Based on Annexure No.: I.1)

From the above Table No.: 4.4 following inferences are made:

Other PSBs Group: It reveals that the mean annual profit ploughed-back as capital across the years with standard deviation was 77.76±5.83, 76.53±4.92, 75.59±7.8, 74.60±9.02, 70.82±8.61 and 77.80±7.01 respectively in % for the financial years from 2009 to 2014 with minimum of 52.20% and maximum of 76.10%. This also indicates that on the average, Other PSBs Group have ploughed back 75.52% (mean of the means) of profits towards capital during the study period of 2008-2014 (March-end).

Similarly for State Bank Group: the mean annual profit ploughed-back as capital across the years with standard deviation was 82.42±6.54, 83.23±4.31, 82.28±8.13, 82.78±6.4, 81.57±6.06, and 86.52±8.42 respectively in % for the financial years from 2009 to 2014 with minimum of 67.80% and maximum of 95.10%. This also indicates that on the average, State Bank Group has ploughed back 83.13% (mean of the means) of profits towards capital during the study period of 2008-2014 (March-end). And,

New Pvt. Banks Group: Mean annual profit ploughed-back as capital across the year with standard deviation was 74.7±10.39, 79.35±11.02, 81.05±10.21, 81.67±9.24, 80.98±8.68 and

81.62±8.16 respectively in % for the financial years from 2009 to 2014 with minimum of 61.50% and maximum of 95.50%. This also indicates that on the average, New Pvt. Banks Group has annual ploughed back capital of 79.89% (mean of the means) of profits towards capital during the study period of 2008-2014 (March-end).

Further, to test that whether there was any significant difference in plough-back of profit as capital across the study years, regression analysis using Donald B. Keim (1983) regression model with dummy variables was performed as under:

We set up ‘‘Null Hypothesis’’ H_0: there is no significant difference in profit ploughed-back as capital for the different years 2009 to 2014.

H_0: $a_1=a_2=a_3=a_4=a_5$

Year-wise effect/year-wise change over the years 2009 to 2014, regression model is given below:

Model: $C_t=a_0+a_1y_1+a_2y_2+a_3y_3+a_4y_4+a_5y_5+U_t$

Where C_t is the profit ploughed-back as capital in year t

a_i is the mean of profit ploughed back annually as capital for the year I –for example a0 is the mean of profit ploughed back annually for the year 2009

y_1 to y_5 are year dummies that are either 0 or 1 (y_1=1 for the year 2010; and 0 other wise),

U_t is the random error term for the year t.

Since there are 3 Bank Groups, ‘‘Null Hypothesis’’ is subdivided into 3 sub hypotheses as below

H_{01}: $a_1=a_2=a_3=a_4=a_5$ for Other PSBs Group.

H_{02}: $a_1=a_2=a_3=a_4=a_5$ for State Bank Group.

H_{03}: $a_1=a_2=a_3=a_4=a_5$ for New Pvt. Banks Group.

If this hypothesis is ‘Rejected’, it would imply that the mean of profit ploughed back annually across the years is significantly different from each other i.e., there is increasing or decreasing trend over the years.

To test the year wise effect of the mean of profit ploughed back annually regression analysis and ANOVA[11]was performed using SPSS Package which gives the result as presented in Table No. 4.5, 4.6 and 4.7 as under:

[11]The one-way analysis of variance (**ANOVA**) is used to determine whether there are any significant differences between the means of three or more independent (unrelated) groups.

Table No. 4.5:

ANOVA for model fit

Bank Groups	Model		Sum of Squares	Df	Mean Square	F	Sig.
Other PSBs Group	1	Regression	444.984	5	88.997	1.650	.158[a]
		Residual	3883.265	72	53.934		
		Total	4328.248	77			
State Bank Group	1	Regression	91.620	5	18.324	398	.846[b]
		Residual	1380.100	30	46.003		
		Total	1471.720	35			
New Pvt. Banks Group	1	Regression	215.439	5	43.088	461	.802[b]
		Residual	2805.640	30	93.521		
		Total	3021.079	35			

a. Predictors: (Constant), 2014, 2013, 2012, 2010, 2011.
b. Predictors: (Constant), 2014, 2013, 2012, 2011, 2010.
c. Dependent Variable: profit ploughed-back as capital

Table No. 4.6:

Regression Analysis Result-Unstandardized Coefficients and p-values (across years)

Bank Groups	Model	Year	Unstandardized Coefficients		t	Sig.	95% Confidence Interval for B	
			B	Std. Error			Lower Bound	Upper Bound
Other PSBs Group	1	(Constant)	77.762	2.037	38.177	.000	73.701	81.822
		2010	-1.231	2.881	-.427	.670	-6.973	4.512
		2011	-2.169	2.881	-.753	.454	-7.912	3.573
		2012	-3.162	2.881	-1.098	.276	-8.904	2.581
		2013	-6.946	2.881	-2.411	.018	-12.688	-1.204
		2014	.038	2.881	.013	.989	-5.704	5.781
State Bank Group	1	(Constant)	82.417	2.769	29.764	.000	76.762	88.072
		2010	.817	3.916	.209	.836	-7.181	8.186
		2011	-.133	3.916	-.034	.973	-8.131	7.864
		2012	.367	3.916	.094	.926	-7.631	8.364
		2013	-.850	3.916	-.217	.830	-8.847	7.147
		2014	4.100	3.916	1.047	.303	-3.897	12.097
New Pvt. Banks Group	1	(Constant)	74.700	3.948	18.921	.000	66.637	82.763
		2010	4.650	5.583	.833	.412	-6.753	16.053
		2011	6.350	5.583	1.137	.264	-5.053	17.753
		2012	6.967	5.583	1.248	.222	-4.436	18.369
		2013	6.283	5.583	1.125	.269	-5.11-	17.686
		2014	6.917	5.583	1.239	.225	-4.486	18.319

a. Dependent Variable: Growth of assets

Table No.4.7:

Summary of Regression Analysis: Multiple R& R SQUARE &Adj. R-SQUARE etc.

Model Summary

Name of Bank	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Other PSBs Group	1	.321a	.103	.041	7.34399
State Bank Group	1	.250b	.062	-.094	6.78258
New Pvt. Banks Group	1	.267b	.071	-.083	9.67064

a. Predictors: (Constant): 2014, 2013, 2012, 2010, 2011.
b. Predictors: (Constant): 2014, 2013, 2012, 2010, 2011.

Interpretation of Regression Analysis for Other PSBs Group:

The mean of profit ploughed back annually as capital for the year 2009 was 77.76%. In the subsequent years there was 1.23% decrease, 2.16% decrease, 3.16%decrease, 6.94% decrease and finally increase of 0.038% respectively in the year 2011, 2012, 2013 and 2014. **However, as per the Regression Analysis, the changes over the years were statistically 'not significant'** as p=0.158>0.05, and as such hypothesis H_{01} is 'Accepted'. The regression model is also statistically not 'significant' as F=1.65, p=0.158>0.05. So, it is concluded that for Other-PSBs -group, there is no 'significant' difference across the years in the mean of profit ploughed back as capital annually.

Interpretation of Regression Analysis result for State Bank Group:

The mean of profit ploughed back annually as capital for the year 2009 was 82.41.In the subsequent years there was 0.81% increase; 0.13% decrease; 0.367% increase; 0.85% decrease and finally4.10% increase respectively across the years from2010to 2014. **However, as per the Regression Analysis**, **these changes over the years were statistically 'not significant' asp=0.846>0.05,** and as such **the hypothesis H_{02} is 'Accepted'**. The regression model is also statistically not 'significant' as F=0.398, p=0.846>0.05.So, it is concluded that for State Bank Group also, there is no 'significant' difference across the years in profit ploughed back as capital annually.

Interpretation of Regression Analysis result for New Pvt. Banks Group:

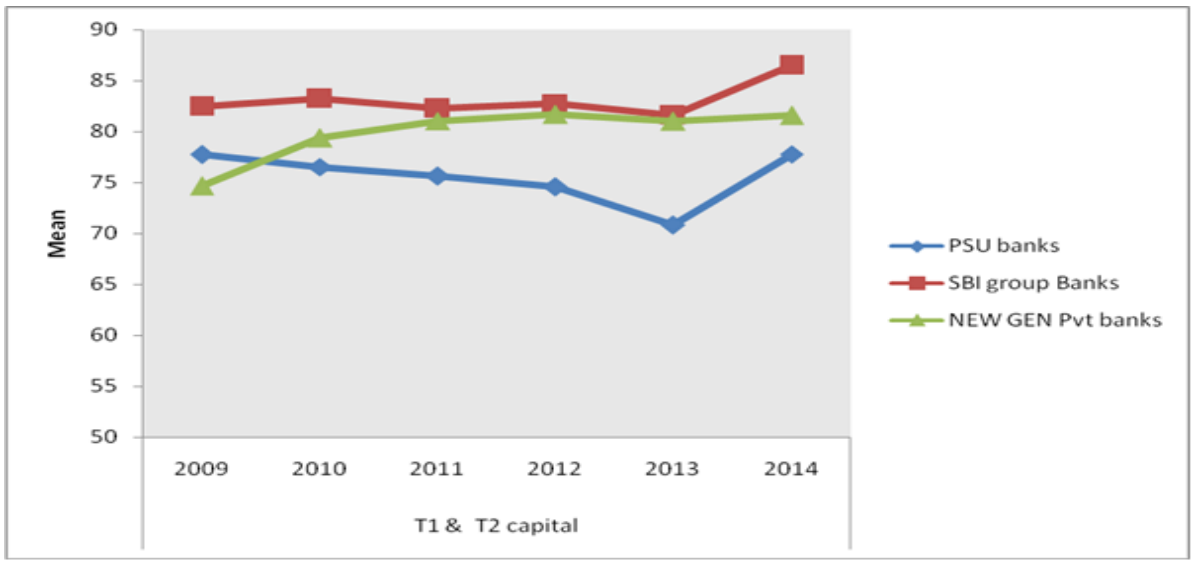
The mean of profit ploughed back annually as capital for the year 2009 was 74.7%.In the subsequent years there was 4.65% increase; 6.35% increase; 6.97% increase; 6.28%increase and finally 6.92% increase respectively from 2010 to 2014.**However, as per Regression Analysis performed, these changes are statistically 'not significant' as p=0.802>0.05 , and as such, hypothesis H_{03} is 'Accepted'**. Further the regression model is also statistically not 'significant' as F=0.461, p=0.802>0.05.

So, it can be concluded that for New Pvt. Banks Group also, there is no 'significant' difference across the years in profit ploughed back as capital annually.

The same has been depicted in Graph-1 below:

Graph 1:

Total Capital Ploughed-back by three bank-groups during 2009-2014.



4.2.1.: (III) The Statistical analysis of Profit ploughed-back as Capital:

Part -B: across 3 Bank Groups:

(a) Descriptive Analysis:

Using Annexure No.I.1, the mean, standard deviation, Minima, Maxima and Percentiles etc. across 3 bank groups as variable have been calculated & is presented in Table No. 4.8 below.

Table No.4.8:

Descriptive: Mean, Standard Deviation, Minimum, Maximum and Percentiles of the profit ploughed back as capital annually: variations across the 3 bank groups

	Year	Name of Bank	N	Mean	Std. Deviation	Mini-mum	Maxi-mum	Percentiles		
								25th	50th (Median)	75th
Ploughed as T-1& T2 capital	2009	Other PSBs Group	13	77.76	5.83	60.90	83.70	76.10	78.40	82.00
		State Bank Group	6	82.42	6.54	70.50	88.80	78.38	83.35	87.83
		New Pvt. Bank Group	6	74.70	10.39	61.50	89.90	63.53	77.35	80.90
	2010	Other PSBs Group	13	76.53	4.92	67.70	84.30	74.15	76.50	79.20
		State Bank Group	6	83.23	4.31	76.70	88.20	79.78	83.70	86.78
		New Pvt. Bank Group	6	79.35	11.02	62.70	95.00	72.23	77.80	89.30
	2011	Other PSBs Group	13	75.59	7.80	55.70	85.90	73.65	76.50	81.95
		State Bank Group	6	82.28	8.13	67.80	90.10	75.98	84.45	88.68
		New Pvt. Bank Group	6	81.05	10.21	64.70	94.90	74.15	80.75	89.65
	2012	Other PSBs Group	13	74.60	9.02	52.40	83.70	72.05	76.50	80.95
		State Bank Group	6	82.78	6.40	72.50	91.10	77.90	83.35	87.80
		New Pvt. Bank Group	6	81.67	9.24	67.20	95.20	74.78	82.55	87.70
	2013	Other PSBs Group	13	70.82	8.61	52.20	76.80	66.75	74.70	76.35
		State Bank Group	6	81.57	6.06	73.30	90.70	76.23	81.55	86.50
		New Pvt. Bank Group	6	80.98	8.68	68.80	95.50	75.10	80.80	85.98
	2014	Other PSBs Group	13	77.80	7.01	60.10	87.30	75.90	76.70	82.85
		State Bank Group	6	86.52	8.42	76.80	95.10	76.95	88.00	94.43
		New Pvt. Bank Group	6	81.62	8.16	71.10	95.30	75.75	80.65	87.35

(Source: Based on Annexure No. I.1)

Analysis of difference across the 3 Bank Groups:

Now, we test whether there is any 'significant' difference in the mean of profit ploughed back annually across the three bank-groups i.e., to know that if is there any 'significant' change in the mean of profit ploughed back annually amongst the three banks-groups. For this purpose ANOVA analysis is used. If ANOVA is 'significant' then post hoc analysis shall be performed using Bonferroni test.

We set up the Null-Hypothesis as under:

Ho: There is no 'significant' difference between the bank-groups with respect to profit plough-back of capital:

ANOVA is performed and the summary results are given hereunder:

Table No. 4.9:

ANOVA for ploughed Capital amongst Bank-groups

	Year	ANOVA F	p
The mean of profit plough back annually as capital	2009	1.727	.201
	2010	2.071	.150
	2011	1.634	.218
	2012	2.507	.104*
	2013	5.189	.014
	2014	2.733	.087

Source: (Based on Annexure No.: I.1 and SPSS Package output)

The ANOVA result shows that as, as p>0.05 in all years except in 2013*, so it is concluded that that there is no ‘‘significant’’ difference among the banks in all the years except for the year 2013.

To further probe into the “significant” difference found in year 2013, Post-hoc analysis was performed by Bonferroni Test[12] which gives the result as under:

Table No. 4.10:

Post-hoc analysis by Bonferroni Test: for the year 2013:

Bank Group	Bank Group	Mean Difference (I-J)	Std. Error	p
Other PSBs Group	State Bank Group	-10.75128	4.00579	.041
	New Pvt. Banks Group	-10.16795	4.00579	.056
State Bank Group	New Pvt. Banks Group	.58333	4.68595	1.000

(Source: SPSS Package output)

From the post-hoc analysis results as tabulated in Table No.: 4.10 above, it may be inferred that in the year 2013:

A) As p=0.041<0.05 for Other PSBs Group and State Bank Group, so there is statistically ‘significant’ difference amongst these two bank groups in 2013. And the ‘Null Hypothesis’ may be ‘rejected’

B) As p=0.056>0.05 for Other PSBs Group and New Pvt. Banks Group, so statistically there is ‘not significant’ difference amongst these two bank-groups and as such the ‘Null Hypothesis’ may ‘accepted’.

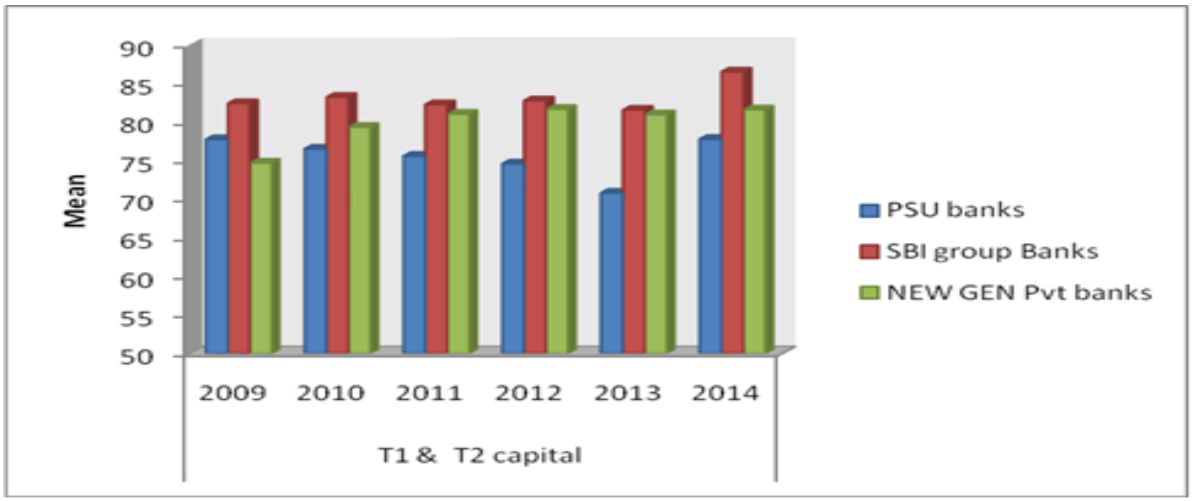
[12] **Bonferroni Test:** (named after Italian mathematician Carlo Emilio Bonferroni) is a type of multiple comparison test used in statistical analysis. The test attempts to prevent data from incorrectly appearing to be statistically ‘significant’ by lowering the alpha value. Statistical hypothesis testing is based on rejecting the null hypothesis if the likelihood of the observed data under the null hypotheses is low. If multiple comparisons are done or multiple hypotheses are tested, the chance of a rare event increases, and therefore, the likelihood of incorrectly rejecting a null hypothesis (i.e., making a Type I error) increases. The Bonferroni test compensates for that increase by testing each individual hypothesis at a significance level.

C) However, as p=1.00>0.05 for State Bank Group and New Pvt. Banks Group, which means that statistically there is 'not significant' difference in these two bank groups in 2013.

The variation of the mean of plough back of profit as capital annually across the 3 bank-groups (as discussed above) has been depicted in Bar-chart No. 1, below:

Bar Chart: 1

The mean of Profit Plough back as Capital: across the bank groups



(Source: SPSS analysis output)

To sum up, it is evident from the data collected and statistically tested above that all the 3 Bank- groups have made deliberate attempts to mop up capital out of retained profit during the preparatory years 2009-2014 and which is also consistent with the global pattern as documented in BIS study above and also a proven strategy to boost CAR so as to conform to Basel Norms.

4.2.2: Consolidation of T-1 Capital:

Under the new sets of Basel-III Norms, banks are required to mop-up not only higher quantity of capital but also of higher quality of T-1 capital. Out of Total CAR requirement as mandated under RBI guidelines banks in India are required to achieve at least 11.5% (of this 7% in T-1, 2.0% in T2 and remaining 2.5% in CCB) of RWAs by March-2019. It is therefore, relevant to study whether banks in India have made deliberate pro-active attempts to consolidate T-1capital (in preference to T2 capital) during the 6 years of study period ending 2014 (March-end).

4.2.2 : (I) Descriptive Analysis:

The data for the sample banks regarding regulatory capital consolidation and its proportion as T-1 of higher quality capital is presented in the Annexure No. I.2 given at the end of the chapter. As said earlier, new sets of Basel-III guidelines stresses more on maintenance of higher quality of capital as T-1 in the total regulatory capital at the end of the financial years. Analyzing the proportion of T-1 in total regulatory capital, we find that annually almost all the

25 sample banks in all the 6 years of study period (Except Yes Bank in the year 2013) had higher proportion of T-1 (minimum 55% and above).

The trends thus, exhibited by each of the sample banks are in conformity with the global pattern as documented in BIS study referred above and also a proven strategy to boost CAR so as to conform to Basel–III Norms.

4.2.2: (II) The Statistical analysis of Consolidation of T-1:

Part -A: Analysis across the years:

Using Annexure No.I.2 the mean, standard deviation, Minima, Maxima and Percentiles etc. taking the years as variables have been calculated and presented in Table No. 4.11 below:

Table No. 4.11:

Mean, Standard Deviation, Minimum, Maximum and Percentiles of the Tier-1 capital as consolidated by banks.

(2009-2014)

Name of Bank Group	Year	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
							25th	50th (Median)	75th
Other PSBs Bank	2009	13	64.22	7.32	56.80	85.01	59.35	62.14	66.91
	2010	13	64.77	8.21	55.27	87.59	59.44	63.61	65.38
	2011	13	68.74	7.13	56.08	81.81	64.34	68.79	71.72
	2012	13	71.43	6.91	57.64	83.16	66.27	73.07	74.71
	2013	13	74.76	8.22	58.58	91.46	69.38	75.43	79.07
	2014	13	74.08	4.38	66.76	81.20	70.03	75.11	76.94
State Bank Group	2009	5	62.37	7.13	55.10	73.82	56.67	61.25	68.63
	2010	5	66.72	4.92	61.51	73.97	62.17	67.27	70.99
	2011	6	67.44	3.36	63.99	71.77	64.41	66.64	71.24
	2012	6	70.21	2.31	66.58	72.88	68.40	70.21	72.50
	2013	6	78.29	10.16	72.14	98.90	73.38	74.88	81.11
	2014	6	79.53	6.61	72.22	91.20	75.00	77.65	84.69
New Pvt. Bank Group	2009	6	69.62	9.27	57.16	80.62	59.99	71.38	77.33
	2010	6	69.67	8.05	62.35	84.03	62.81	68.39	74.94
	2011	6	73.79	11.91	58.51	92.76	62.52	75.17	81.17
	2012	6	73.18	13.03	55.23	92.28	62.78	72.06	84.67
	2013	6	72.90	15.84	51.86	93.23	61.81	68.74	90.60
	2014	6	79.76	11.32	68.22	95.43	70.65	75.74	92.81

(Source: Compiled from Annexure No.: I.2by SPSS Application Software)

Simple observation from Table No. 4.12:

For **Other PSBs-Group,** the above data reveals that the average tier 1 capital T-1 across the year with standard deviation was 64.22±7.32, 64.77±8.21, 68.74±7.13, 71.43±6.91, 74.76±8.22 and 74.76±4.38 respectively for the year 2009, 2010, 2011, 2012, 2013 and 2014 with minimum of 55.27% and maximum = 91.46% over the period.

In **State Bank Group**, the average T-1 capital across the year with standard deviation was 62.37±7.13, 66.72±4.92, 67.44+-3.36, 70.21±2.31, 78.29±10.16 and 79.53±6.61 respectively for the year 2009, 2010,2011,2012,2013 and 2014 with minimum of 55.10% and maximum of 91.20% over the period.

In **New Pvt. Banks Group,** the average T-1 capital across the year with standard deviation was 69.62±9.27, 69.67±8.05, 73.79±11.91, 73.18±13.03, 72.90±15.84 and 79.76±11.32 respectively for the year 2009, 2010, 2011, 2012, 2013 and 2014 with minimum of 51.86% in 2013 and maximum of 95.43% in 2014.

Now we shall be testing statistically whether difference across the years in the consolidation of T-1 capital by banks is statistically 'significant' or not. Similarly whether the consolidation of T-1 capital across the 3 banking groups is statistically ''significant" or not:

a. **Analysis of change across the year:**

To test the year wise effect on consolidation of T-1 i.e., to know that if is there any statistically 'significant' change (increase or decrease) across the years in consolidation of capital T-1, Regression analysis has been performed.

We set up ''Null Hypothesis'':

Ho: There is no 'significant' difference in consolidation of T-1 for the different years 2009 to 2014.

Donald B. Keim (1983) suggested a regression model with dummy variables as a method of testing the year wise effect on the variable.

Year-wise effect or year-wise change over the year 2009 to 2014, Regression model is given below:

Model: $C_t=a_0+a_1y_1+a_2y_2+a_3y_3+a_4y_4+a_5y_5+U_t$

Where C_t is the T-1 capital in year t

a_i is the mean T-1 capital for the year i

y_1 to y_5 are year dummies that are either 0 or 1 (y_1=1 for the year 2010 and 0 other wise, a0 is the mean T-1 capital for the year 2009).

U_t is the random error term for the year t

We set up ''NULL HYPOTHESIS'' as:

H_0: $a_1=a_2=a_3=a_4=a_5$

(i.e., there is no significant difference in capital T-1 consolidated for the different years2009 to 2014).

Since there are 3 banks groups, ‘‘Null Hypothesis’’ is subdivided into 3 sub hypotheses as below

H_{01}: $a_1=a_2=a_3=a_4=a_5$ for Other PSBs Group.

H_{02}: $a_1=a_2=a_3=a_4=a_5$ for State Bank Group

H_{03}: $a_1=a_2=a_3=a_4=a_5$ for New Pvt. Banks Group

If this hypothesis is ‘rejected’, it would imply that the consolidation of T-1 across the years is ‘significantly’ different from each other i.e., there is increasing or decreasing trend over the years.

To test the year wise effect on consolidation of capital T-1 i.e. Regression analysis has been done by employing SPSS package. The results are as under:

Table No.4.12: ANOVA for model fit:

ANOVA[c]

Name of the bank	Model		Sum of Squares	df	MeanSquare	F	Sig.
Other PSBs Group	1	Regression	1340.438	5	268.088	5.252	.000[a]
		Residual	3675.203	72	51.044		
		Total	5015.641	77			
State Bank Group	1	Regression	1298.327	5	259.665	6.506	.000[b]
		Residual	1117.593	28	39.914		
		Total	2415.921	33			
New Pvt. Bank Group	1	Regression	412.033	5	82.407	.588	.709[a]
		Residual	4207.387	30	140.246		
		Total	4619.420	35			

a. Predictors: (Constant), 2014, 2013, 2012, 2011, 2010

b. Predictors: (Constant), 2014, 2010, 2013, 2012, 2011

c. Dependent Variable: Tier 1 Cap (%)

(Source: ‘Statistical Analysis output by SPSS package ‘)

Table No. 4.13: Regression Analysis: un-standardized Coefficients and p-value(across the years):

Name of Bank Group	Model		Unstandardized Coefficients		Standardized Coefficients	t	Significant	95% Confidence Interval for B	
			B	Std. Error	Beta			Lower Bound	Upper Bound
Other PSBs Group	1	Constant	64.220	1.982		32.409	.000	60.270	68.170
		2010	.547	2.802	.025	.195	.846	-5.040	6.133
		2011	4.521	2.802	.210	1.613	.111	-1.066	10.107
		2012	7.207	2.802	.335	2.572	.012	-1.621	12.794
		2013	10.543	2.802	.490	3.762	.000	4.957	16.129
		2014	9.863	2.802	.458	3.520	.001	4.277	15.449
State Bank Group	1	Constant	62.373	2.825		22.076	.000	56.585	68.160
		2010	4.345	3.996	.183	1.088	.286	-3.839	12.530
		2011	5.071	3.826	.229	1.326	.196	-2.765	12.907
		2012	7.838	3.826	.354	2.049	.050	.002	15.674
		2013	15.921	3.826	.720	4.162	.000	8.084	23.757
		2014	17.154	3.826	.776	4.484	.000	9.318	24.991
New Pvt. Banks Group	1	Constant	69.618	4.835		144.400	.000	59.744	79.492
		2010	.055	6.837	.002	.008	.994	-13.909	14.019
		2011	4.177	6.837	.137	.611	.546	-9.787	18.141
		2012	3.559	6.837	.117	.521	.607	-10.405	17.523
		2013	3.284	6.837	.108	.480	.634	-10.679	17.248
		2014	10.137	6.837	.334	1.483	.149	-3.826	24.101

(Source: 'Statistical Analysis output by SPSS package')

Table No. 4.14: Summary of Regression Analysis: Multiple R & R Square& Adj. R-Square etc.

Name of Bank Group	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Other PSBs Group	1	.517[a]	.267	.216	7.14454
State Bank Group	1	.733[b]	.537	.455	6.31776
New Pvt. Banks Group	1	.299[a]	.089	-.063	11.84256

a. Predictors: (Constant), 2014, 2013, 2012, 2011, 2010.
b. Predictors: (Constant), 2014, 2010, 2013, 2012, 2011.

(Source: Statistical Analysis output by SPSS package)

Interpretation of Regression Analysis for Other PSBs Group:

An average T-1 capital for the year 2009 was 64.22%.In the subsequent years, there was 0.547%, 4.521%, 7.207%, 10.543% and 9.863% increase respectively in the year 2011, 2012,2013 and in 2014. It is also heartening to find that during these years 2009-2014 there has been consistent increase in T-1 capital % by this bank group.

However, as per Regression analysis done, the changes over the years are statistically 'significant' as p=0.001<0.05, and as such the hypothesis H_{01} is 'rejected'. The regression model is also statistically 'significant' as F=5.252, p=0.001<0.05. So, it can be concluded that for Other PSBs Group, there is 'significant' difference across the years in consolidation of T-1 capital.

Interpretation of Regression analysis for State Bank Group: The average T-1 capital for the year 2009 was 62.373%. In the subsequent years there was increase of 4.345%, 5.071%, 7.838%,15.921%, and finally 17.154% respectively in the year 2011, 2012, 2013and in 2014. It is also heartening to find that during these years 2009-2014 there has been consistent increase in T-1 capital % by this bank group.

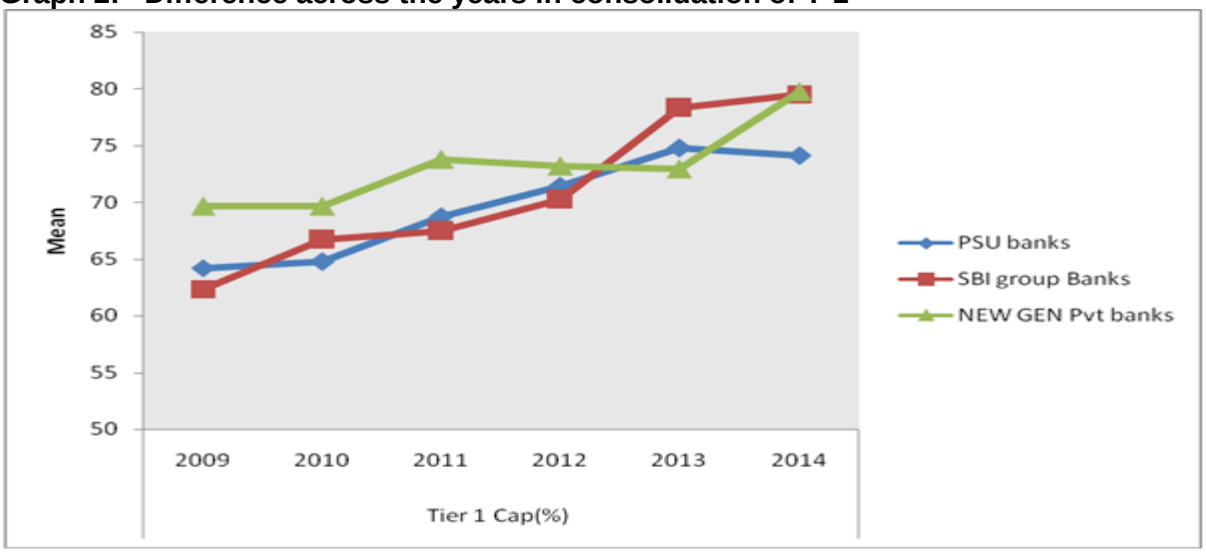
However, as per Regression analysis done, these changes over the years were statistically 'significant' as p=0.001<0.05, and as such the hypothesis H_{02} is 'rejected'. The regression model is also statistically 'significant' as F=6.506, p=0.001<0.05.So, it can be concluded that for State Bank Group also, there is 'significant' difference across the years in consolidation of T-1.

Interpretation of Regression analysis for New Pvt. Banks Group: An average T-1 capital for the year 2009 was 69.618%.In the subsequent years there was increase of 0.055%; 4.177%, 3.559%, 3.284% and finally 10.137% respectively for the years 2011, 2012, 2013 and in 2014. It is also heartening to find that during these years 2009-2014 there has been consistent increase in T-1 capital% by this bank group.

However, as per Regression Analysis performed, these percentage of increase is statistically 'not significant' as p value=0.709>0.05 and as such the Null-hypothesis H_{03} is 'Accepted'. So, it can be concluded that for New Pvt. Banks Group, there is no 'significant' difference across the years in consolidation of T-1 capital.

To sum up, we find that there is statistically 'significant difference' in consolidation of T-1 capital across the years for both the Other PSB Group banks well as for State Bank Group. However, there is no "significant" difference across the years for New Pvt. Banks Group. The same has been depicted graphically in Graph-2, below:

Graph 2: Difference across the years in consolidation of T-1



Now we move on to test whether there is any 'significant' difference in consolidation of T-1 capital across the three banking-group as under:

4.2.2. (III): Part-B: Comparison of Consolidation Capital T-1 across 3 Banking Groups.

a. Descriptive Analysis

Using Annexure No.I.2, mean, standard deviation, minimum, maximum and percentiles of the capital T-1 taking the three bank-groups as variables have been tabulated as under:

TableNo.4.15: Mean, Standard Deviation, Minima and Maxima during 2009-2014: Consolidation of T-1 (across the 3 bank-groups)

Year	Name of Bank Group	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
							25th	50th (Median)	75th
2009	Other PSBs Group	13	64.22	7.32	56.80	85.01	59.35	62.14	66.91
	State Bank Group	5	62.37	7.13	55.10	73.82	56.67	61.25	68.63
	New Pvt. Banks Group	6	69.62	9.27	57.16	80.62	59.99	71.38	77.33
2010	Other PSBs Group	13	64.77	8.21	55.27	87.59	59.44	63.61	65.38
	State Bank Group	5	66.72	4.92	61.51	73.97	62.17	67.27	70.99
	New Pvt. Banks Group	6	69.67	8.05	62.35	84.03	62.81	68.39	74.94
2011	Other PSBs Group	13	68.74	7.13	56.08	81.81	64.34	68.79	71.72
	State Bank Group	6	67.44	3.36	63.99	71.77	64.41	66.64	71.24
	New Pvt. Banks Group	6	73.79	11.91	58.51	92.76	62.52	75.17	81.17
2012	Other PSBs Group	13	71.43	6.91	57.64	83.16	66.27	73.07	74.71
	State Bank Group	6	70.21	2.31	66.58	72.88	68.40	70.21	72.50
	New Pvt. Banks Group	6	73.18	13.03	55.23	92.28	62.78	72.06	84.67
2013	Other PSBs Group	13	74.76	8.22	58.58	91.46	69.38	75.43	79.07
	State Bank Group	6	78.29	10.16	72.14	98.90	73.38	74.88	81.11
	New Pvt. Banks Group	6	72.90	15.84	51.86	93.23	61.81	68.74	90.60
2014	Other PSBs Group	13	74.08	4.38	66.76	81.20	70.03	75.11	76.94
	State Bank Group	6	79.53	6.61	72.22	91.20	75.00	77.65	84.69
	New Pvt. Banks Group	6	79.76	11.32	68.22	95.43	70.65	75.74	92.81

(Source: 'Statistical Analysis output by SPSS package')

b. Analysis of difference across the Bank groups:

Now, we test whether there is any 'significant' difference in consolidation of T-1 capital across the three bank-groups i.e., to know that if is there any 'significant' change (increase or decrease) in T-1 capital amongst the three banks-groups. For this purpose ANOVA analysis has been used. If, however, ANOVA is 'significant' then post hoc test has been performed using Bonferroni test.

We set up the Null-Hypothesis as under:

Ho: There is no 'significant' difference between the bank-groups with respect of consolidation of T-1 capital.

To compare the difference in consolidation of tier T-1 capital among the banks-group, ANOVA was performed as under. The results are summarized as under:

Table No.4.16: ANOVA across Banks: Consolidation of Tier 1 Cap

Year	ANOVA F	P	Result
2009	1.395	.270	Not Significant
2010	.849	.442	Not Significant
2011	1.143	.337	Not Significant
2012	.204	.817	Not Significant
2013	.390	.681	Not Significant
2014	1.947	.167	Not Significant

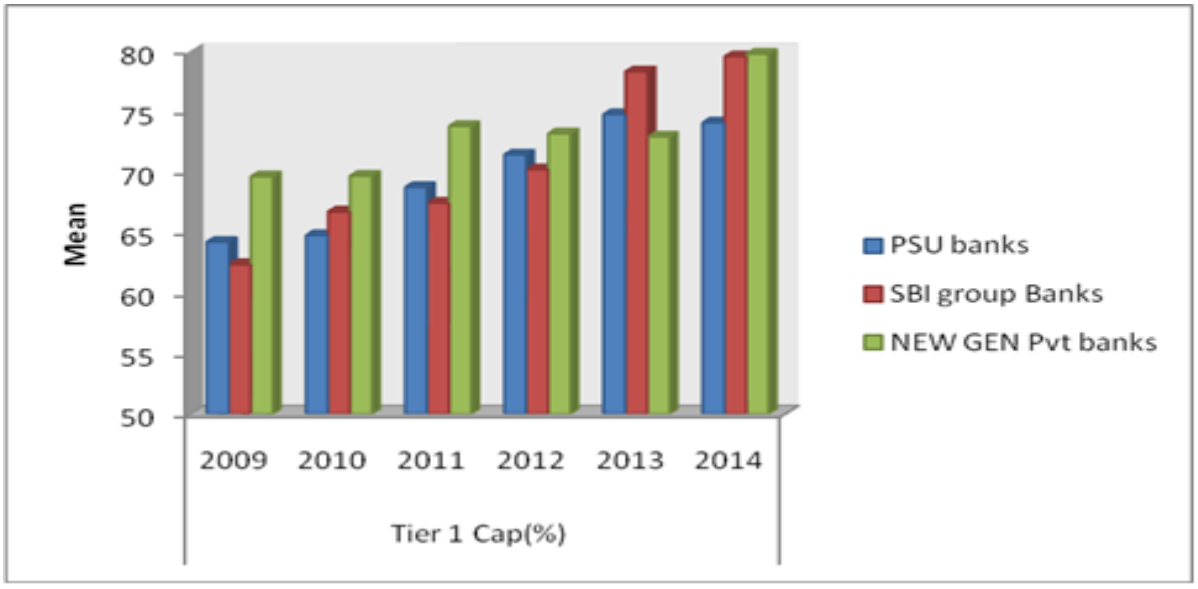
(Source: Statistical Analysis output by SPSS package)

ANOVA results as above vide Table No.4.16, shows that as p=0.270/0.442/0.337/0.817/0.6891/0.167 i.e., always>0.05, hence it is concluded that that there is statistically 'no significant' difference across the banks-groups.

N.B.: As in none of years the differences in T-1 capital growth across the banks was 'significant', so post-hoc analysis by Bonferroni test has not been done here.

To sum up, it may be concluded that all banks (across all the 3 banks-groups) have surely and certainly consolidated their T-1 capital with respect to T-2 capital over the years (2009-2014) in process of preparation for migration to Basel-III framework. And there is statistically 'not significant' difference in variations over the three bank-groups and the same may be depicted graphically as under:

Bar Chart 2: Consolidation of T-1 across the banks:



It may also be noted in this context that RBI[13] found that All Banks In India are operating at higher level of about 12.8% of CAR (against the stipulated limit of 9%) though the crunch is coming up.

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[13] Financial Stability Report (Including Trend and Progress of Banking in India 2013-14) December 2014: https://rbi.org.in/scripts/PublicationReportDetails.aspx?UrlPage=&ID=809.

4.2.3: Growth in Capital charges for Credit Risks:

The importance of risk management and the nature of various risks associated with the banking business are already explained in Chapter-III. Prudent risk management is the cornerstone feature of Basel Accords and has led huge emphasis for the maintenance of total as well as specific capital allocation to counter various risks associated with the business of banking which are popularly called as 'Capital Charge'(CC) - for Credit risks, Market risks and Operation risks. As capital charge for credit risk CC-Credit) is the most dominant charge on capital, a bank's credit risk management tools and techniques therefore, needs to be very effective and efficient so as to have better quality of asset's portfolio with good security including collateral (Technically referred to as Risk Mitigants tools). Hence, to have better capital adequacy, the CC-Credit is to be minimized as far as possible by maintaining the better quality of loans and advances portfolio. The data information regarding the Capital charge for Credit-Risk (CC-Credit), Market Risks (CC-Market) and Operational Risks (CC-Operation) were collected from the Basel Disclosure Formats for each of the sample banks during the study period and is presented in the Annexure No.I.3 at the end of the chapter.

4.2.3: (I) Descriptive Analysis:

Annexure No.I.3 exhibits composition of various charges for credit risk for the sample banks for the study period. Analyzing the trends in total capital charge as percentage of regulatory capital we find that banks belonging to New Pvt. Bank Group have been successful in maintaining relatively lower % of capital charge compare to all other sample banks under the study. This indicates that the health of these banks' overall credit portfolio is sound. Similarly, analyzing the proportion of CC-credit, we find that almost all the sample banks in all the years under study are having lion's share of more than $4/5^{th}$ of total capital charge. These past trends of very high proportion of cc-credit risk indicates besides others, a very high adherence for riskiness of the credit portfolio and also that in the credit risk is the most dominant of the risks. Lastly, it is interesting to observe that most of the sample banks across all the bank groups, in the last year of the study period i.e. 2014 have shown significant decline in the proportion of CC-credit in comparison with the past years of the study. These trends exhibited by each of the sample banks are in tune with the general desired road map for migrating to new set of Basel capital adequacy Norms with strong first foot forward, within prescribed timeline.

4.2.3: (II) The Statistical analysis of Variations in CC-Credit:

Part-A: Analysis across the years

Using Annexure No. I.3, the mean, standard deviation, Minima, Maxima and Percentiles etc. taking the years as variables have been calculated and presented in Table No. 4.17 below:

Table No. 4.17: Mean, Standard Deviation, Minimum, Maximum and Percentiles of CC-Credit across the years:

Bank Group	Year	N	Mean	s.d. (σ)	Minima	Maxima	Percentile		
							25^{th}	50^{th} (Median)	75^{th}
Other PSBs Bank	2009	13	88.9846	4.29861	83.70	100.00	86.6000	87.9000	89.7000
	2010	13	88.7769	2.05514	85.30	92.60	87.4500	88.8000	90.4000
	2011	13	89.1000	2.09682	86.50	93.50	87.5500	88.2000	90.9000
	2012	13	89.4308	1.76795	86.80	92.40	88.1000	89.0000	90.8000
	2013	13	87.9846	1.62627	84.70	89.80	86.6500	88.5000	89.2000
	2014	13	87.4615	1.88615	83.90	90.50	86.0500	88.0000	88.7500
State Bank Group	2009	4	89.0250	1.16440	88.00	90.70	88.1750	88.7000	90.2000
	2010	5	89.2200	1.36088	87.10	90.90	88.2000	89.3000	90.2000
	2011	6	89.9667	1.27854	87.80	91.40	88.9250	90.2500	90.9500
	2012	5	91.2000	2.86618	87.80	95.50	88.7000	91.5000	93.5500
	2013	6	89.0667	1.79183	86.60	91.00	87.5000	89.1000	90.8500
	2014	6	88.3333	1.85652	85.60	90.60	86.3500	89.0500	89.4750
New Pvt. Banks Group	2009	5	80.4600	17.34800	50.00	92.30	66.5000	88.3000	90.5000
	2010	6	86.4167	5.11015	78.90	92.10	81.3000	87.1500	91.3500
	2011	6	80.8167	15.02151	50.50	89.50	74.9500	86.5000	88.9750
	2012	6	87.6000	2.60691	85.10	91.10	85.3250	87.3000	89.8250
	2013	6	85.0167	4.46023	76.20	88.50	82.8750	86.5500	87.5250
	2014	6	87.1000	2.31171	84.00	90.60	84.9000	87.3500	88.7250

(Source: Based on Annex No. I.3 and Statistical Analysis output by SPSS package)

It may be observed from the above Table No. 4.18 that:

In **Other PSBs Group,** it reveals that the mean proportion of CC-Credit across the years with standard deviation was 88.98±4.29; 88.77±2.05, 89.10±2.09 , 89.10±1.77, 89.43±1.77 and 87.98±1.62 respectively for the year 2009, 2010, 2011, 2012, 2013 and 2014 with minimum of CC-Credit = 83.71% and maximum = 100.00% .

Taking the average of 5-years means, it is find that on the average Other PSBs Group had a proportion of 88.95% as CC-Credit during 2009-2014.

In **State Bank Group**, the mean proportion% of CC-Credit across the year with standard deviation was89.02±1.16,89.22±1.36,89.96±1.28, 91.2±2.86, 89.07±1.79and88.33±1.87 respectively in % for the year 2009, 2010, 2011, 2012, 2013 and 2014 with minimum CC-Credit =85.60percent and maximum =95.50 . Taking the average of 5-years mean, it is also found that on the average State Bank Group had a proportion of 89.46% as CC-Credit during 2009-2014.

In **New Pvt. Banks Group**, the mean proportion of CC-Credit across the years with standard deviation was 80.46±17.34, 86.41±5.11, 80.82±15.02, 87.60±2.60, 85.02±4.46 and 87.10±2.31 respectively for the year 2009, 2010, 2011, 2012, 2013 and 2014 with minima=50.50 and maxima= 92.30.

By taking the average of 5-years mean, it is found that on the average New Pvt. Banks Group had a proportion of 84.55% as CC-Credit during 2009-2014.

Now, we shall statistically 'test' that whether there was any ''significant'' difference across the years.

Analysis of change across the year: To test the year wise effect on CC-Credit i.e., to know that if is there any statistically 'significant' change across the years in capital charge for credit-risks, Regression analysis has been used as under:

Donald B. Keim (1983) suggested a regression model with dummy variables as a method of testing the year wise effect on the variable.

Year-wise effect or year-wise change over the year 2009 to 2014, the Regression model is given below:

Model: $C_t = a_0 + a_1y_1 + a_2y_2 + a_3y_3 + a_4y_4 + a_5y_5 + U_t$

Where C_t is the CC-Credit in year t

a_i is the mean CC-Credit for year i,

y_1 to y_5 are year dummies that are either 0 or 1 (y_1=1 for the year 2010 and 0 other wise, a0 is the mean CC-credit for the year 2009).

U_t is the random error term for the year t

We set up ''Null Hypothesis'' as:

H_0: $a_1=a_2=a_3=a_4=a_5$

(i.e., there is no significant difference in mean proportion of CC-Credit for the different years 2009 to 2014).

Since there are 3 banks groups, ''Null Hypothesis'' is further subdivided into 3 sub hypotheses as below:

H_{01}: $a_1=a_2=a_3=a_4=a_5$ for Other PSBs Group;

H_{02}: $a_1=a_2=a_3=a_4=a_5$ for State Bank Group;

H_{03}: $a_1=a_2=a_3=a_4=a_5$ for New Pvt. Banks Group;

If this hypothesis is 'rejected', it would imply that the CC-Credit across the years is 'significantly' different from each other i.e., there is increasing or decreasing trend over the years.

Accordingly now Regression analysis has been done. The results are summarized below:

Table No.4.18: ANOVA for model fit:

ANOVA

Name of Bank Group	Model		Sum of Squares	Df	Mean Square	F	Sig.
Other PSBs Group	1	Regression	36.283	5	7.257	1.195	.320[a]
		Residual	437.115	72	6.071		
		Total	473.398	77			
State Bank Group	1	Regression	26.265	5	5.253	1.592	.197[b]
		Residual	85.796	26	3.300		
		Total	112.060	31			
New Pvt. Banks Group	1	Regression	283.666	5	56.733	.627	.680[a]
		Residual	2622.777	29	90.441		
		Total	2906.443	34			

a. Predictors: (Constant), 2014, 2013, 2012, 2011, 2010.
b. Predictors: (Constant), 2014, 2012, 2010, 2013, 2011.
c. Dependent Variable: CC-Credit.

(Source: statistical analysis output from SPSS package)

Table No. 4.19: Regression Analysis: un-standardized Coefficients and p-value (across the years):

Name of Bank Group	Model	Year	Unstandardized Coefficients		Standardized Coefficients	t	Significant	95% Confidence Interval for B	
			B	Std. Error	Beta			Lower Bound	Upper Bound
Other PSBs Bank	1	Constant	88.985	.683		130.213	.000	87.622	90.347
		2010	-.208	.966	-.031	-.215	.830	-2.134	1.719
		2011	.115	.966	.017	.119	.905	-1.811	2.042
		2012	.446	.966	.067	.462	.646	-1.480	2.373
		2013	-1.000	.966	-.151	-1.035	.304	-2.927	.927
		2014	-1.523	.966	-.230	-1.576	.119	-3.450	.403
State Bank Group	1	Constant	89.025	.908		98.016	.000	87.158	90.892
		2010	.195	1.219	.038	.160	.874	-2.310	2.700
		2011	.942	1.173	.196	.803	.429	-1.469	3.352
		2012	2.175	1.219	.422	1.785	.086	-.330	4.680
		2013	.042	1.173	.009	.036	.972	-2.369	2.452
		2014	-.692	1.173	-.144	-.5	.560	-3.102	1.719
New Pvt. Banks Group	1	Constant	80460	4.253		18.918	.000	71.762	89.158
		2010	5.957	5.759	.246	1.034	.310	-5.821	17.734
		2011	.357	5.759	.015	.062	.951	-11.421	12.134
		2012	7.140	5.759	.295	1.240	.225	-4.638	18.918
		2013	4.557	5.759	.188	.791	.435	-7.221	16.334
		2014	6.640	5.759	.275	1.153	.258	-5.138	18.418

(Source: Statistical analysis output from SPSS package)

Table No.4.20: Summary of Regression Analysis: multi R, R-square and Adjusted R-square: Model Summary

Name of Bank Group	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Other PSBs Bank	1	.277[a]	.077	.013	2.46395
State Bank Group	1	.484[b]	.234	.087	1.81654
New Pvt. Banks	1	.312[a]	.098	-.058	9.51003

a. Predictors: (Constant), 2014, 2013, 2012, 2011, 2010.
b. Predictors: (Constant), 2014, 2012, 2010, 2013, 2011.
c. Dependent Variable: CC-Credit.
(Source: Statistical analysis output from SPSS package)

Interpretation of Regression analysis for Other PSBs Group: The mean proportion of CC-Credit for the year 2009 was 88.89%. In subsequent years there was changes at 0.683%, -0.209%, +0.113%, +.446%, -0.995% and finally-1.530% respectively in the year 2010, 2011, 2012, 2013 and 2014. However, as per Regression Analysis done the changes over the years were statistically 'not significant' as p= 0.320>0.05, and as such the Null-Hypothesis H_{01} is 'accepted'. The regression model is also statistically 'not significant' as F=1.200, p=0.138>0.05.

So, it is concluded that for Other PSBs-group, there is 'not significant' difference across the years in mean proportion of CC-credit.

Interpretation of Regression analysis for State Bank Group: The mean proportion of CC-Credit for the year 2009 was 89.25%, in the year 2009. In subsequent years, there was consistent increase of 0.195%; .942%; 2.175%, 0.42% respectively in the year 2010, 2011, 2012, 2013. But interestingly, in 2014 there was decrease of 0.692%.However, as per Regression Analysis done, these changes over the years were statistically 'not significant' as p=0.19>0.05 and as such the Hypothesis H_{02} is 'accepted'. The regression model is also statistically 'not significant' as F=1.592, p=0.197>0.05.

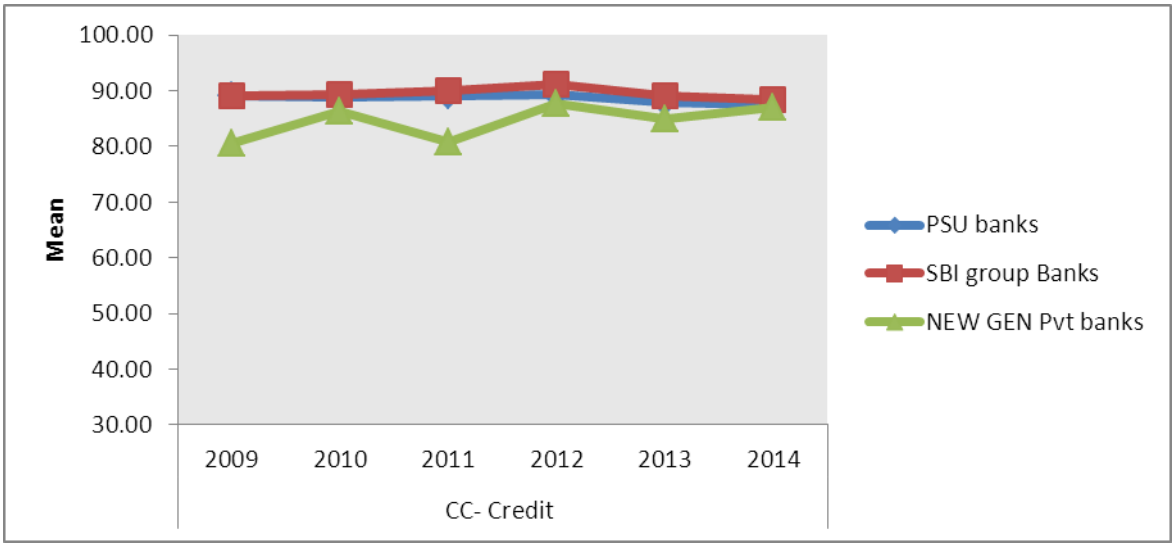
So, it is concluded that for State Bank Group, there is 'no significant' difference across the years in proportion ion of CC-credit.

Interpretation of Regression analysis for New Pvt. Banks Group: The mean proportion % of CC-Credit for the year 2009 was 80.460%. In the year 2009 and there were changes of +5.957%, 0.357%, +7.140%, +4.557% and +6.640% respectively in years from2010to 2014 (consistent Increase).However, as per Regression Analysis performed these percentage of increase/decrease is statistically 'not significant' as p value=0.680>0.05. So Hypothesis H_{03} is ''ACCEPTED''. Further the regression model is also statistically 'not 'significant' as F=0.627; p=0.680>0.05.

So, It can be concluded that for New Pvt. Banks Group also, there is no 'significant' difference across the years in consolidation of CC-credit.

The above result can be graphically depicted in Graph: 3, as under**:**

Graph3: Consolidation of C-Credit across the years:



4.2.3: (III) The Statistical analysis of CC-credit: across 3 Banking Groups:

Now the variation/difference in CC-credit across the 3 bank-groups shall be examined:

(a) Descriptive Analysis

To analyze the difference in CC-credit across the 3 bank groups, ANOVA is performed as under:

With the help of Annexure No: I.3, Mean, Standard Deviation, Minimum, Maximum and Percentiles of CC-credit across the three bank-groups has been re-tabulated as under.

Table No.4.21: Mean, Standard Deviation, Minimum, Maximum and Percentiles of CC-Credit (variation across the bank-groups)

Name of the bank	Year	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
							25th	50th (Median)	75th
Other PSBs Group	2009	13	88.9846	4.29861	83.70	100.00	86.6000	87.9000	89.7000
	2010	13	88.7769	2.05514	85.30	92.60	87.4500	88.8000	90.4000
	2011	13	89.1000	2.09682	86.50	93.50	87.5500	88.2000	90.9000
	2012	13	89.4308	1.76795	86.80	92.40	88.1000	89.0000	90.8000
	2013	13	87.9846	1.62627	84.70	89.80	86.6500	88.5000	89.2000
	2014	13	87.4615	1.88615	83.90	90.50	86.0500	88.0000	88.7500
State Bank Group	2009	4	89.0250	1.16440	88.00	90.70	88.1750	88.7000	90.2000
	2010	5	89.2200	1.36088	87.10	90.90	88.2000	89.3000	90.2000
	2011	6	89.9667	1.27854	87.80	91.40	88.9250	90.2500	90.9500
	2012	5	91.2000	2.86618	87.80	95.50	88.7000	91.5000	93.5500
	2013	6	89.0667	1.79183	86.60	91.00	87.5000	89.1000	90.8500
	2014	6	88.3333	1.85652	85.60	90.60	86.3500	89.0500	89.4750
New Pvt. Banks Group	2009	5	80.4600	17.34800	50.00	92.30	66.5000	88.3000	90.5000
	2010	6	86.4167	5.11015	78.90	92.10	81.3000	87.1500	91.3500
	2011	6	80.8167	15.02151	50.50	89.50	74.9500	86.5000	88.9750
	2012	6	87.6000	2.60691	85.10	91.10	85.3250	87.3000	89.8250
	2013	6	85.0167	4.46023	76.20	88.50	82.8750	86.5500	87.5250
	2014	6	87.1000	2.31171	84.00	90.60	84.9000	87.3500	88.7250

(Source: Based on Annex No: I.3 and statistical analysis output from SPSS package)

Observation from Table No.4.21:

a. Analysis of difference between the Banks:

Now we test whether there is any 'significant' difference in CC-Credit across the three bank-groups i.e., to know that if is there any 'significant' change (increase or decrease) in CC-Credit amongst the three banks-groups. For this purpose ANOVA analysis has been used. If ANOVA is 'significant' then post hoc test may be performed using Bonferroni test. We set up the Null-Hypothesis as under:

Ho: There is no 'significant' difference between the bank-groups with respect to CC-Credit.

Regression analysis was performed and the summarized results are asunder**:**

Table No. 4.22: ANOVA for Comparison of CC-Credit across bank-group:

Year	ANOVA F	p	
2009	1.870	.181	NS
2010	1.584	.229	NS
2011	3.117	.064	NS
2012	3.579	.046	significant
2013	4.090	.031	significant
2014	.631	.541	NS

(N.B: NS= Not Significant & HS= Highly Significant difference)
(Source: Statistical Analysis output by SPSS package)

The ANOVA result shows, as p>0.05 in all years except 2012 and 2013, it is concluded that that as such Null Hypothesis is accepted and therefore for all years except 2012and 013 there is 'not significant' difference among the banks in the years 2009, 2010, 2011, 2014.So the 'Null Hypothesis' may be 'accepted' for the years 2009, 2010 and 2011 and also for 2014.

However, as p<0.05 in 2012 & 2013,and as such the Null hypothesis is 'rejected' therefore it is concluded that there is 'significant' differences in year 2012 as well as 2013 for which further elaboration by multiple-comparison has been done under:

Table No. 4.23:

Multiple Comparisons: Dependent Variable: CC-Credit (Bonferroni[14] Test)

Year	(I)Name of the Bank	(J) Name of the Bank	Mean Difference (I-J)	Std. Error	p
2009	Other PSBs Group	State Bank Group	-.04038	4.95970	1.000
		New Pvt. Banks Group	8.52462	4.56470	.232
	State Bank Group	New Pvt. Banks Group	8.56500	5.81888	.472
2010	Other PSBs Group	State Bank Group	-.44308	1.57728	1.000
		New Pvt. Banks Group	2.36026	1.47931	.377
	State Bank Group	New Pvt. Banks Group	2.80333	1.81495	.412
2011	Other PSBs Group	State Bank Group	-.86667	3.62860	1.000
		New Pvt. Banks Group	8.28333	3.62860	.097
	State Bank Group	New Pvt. Banks Group	9.15000	4.24471	.127
2012	Other PSBs Group	State Bank Group	-1.76923	1.17304	.439
		New Pvt. Banks Group	1.83077	1.10017	.333
	State Bank Group	New Pvt. Banks Group	3.60000	1.34979	.043
2013	Other PSBs Group	State Bank Group	-1.08205	1.27690	1.000
		New Pvt. Banks Group	2.96795	1.27690	.089
	State Bank Group	New Pvt. Banks Group	4.05000	1.49372	.038
2014	Other PSBs Group	State Bank Group	-.87179	.97946	1.000
		New Pvt. Banks Group	.36154	.97946	1.000
	State Bank Group	New Pvt. Banks Group	1.23333	1.14577	.880

N.B.: **=Highly significant and *=significant
(Source: Statistical analysis output from SPSS package)

[14] In practice, "post hoc analyses" are usually concerned with finding patterns and/or relationships between subgroups of sampled populations that would otherwise remain undetected and undiscovered were a scientific community to rely strictly upon a priori statistical methods. Post hoc tests—also known as a posteriori tests—greatly expand the range and capability of methods that can be applied in exploratory research. Post hoc examination strengthens induction by limiting the probability that significant effects will seem to have been discovered between subgroups of a population when none actually exist. **Bonferroni test:** This post hoc test can be used to determine the significant differences between group means in an analysis of variance setting. The Bonferroni test is very conservative when a large number of group means are being compared.

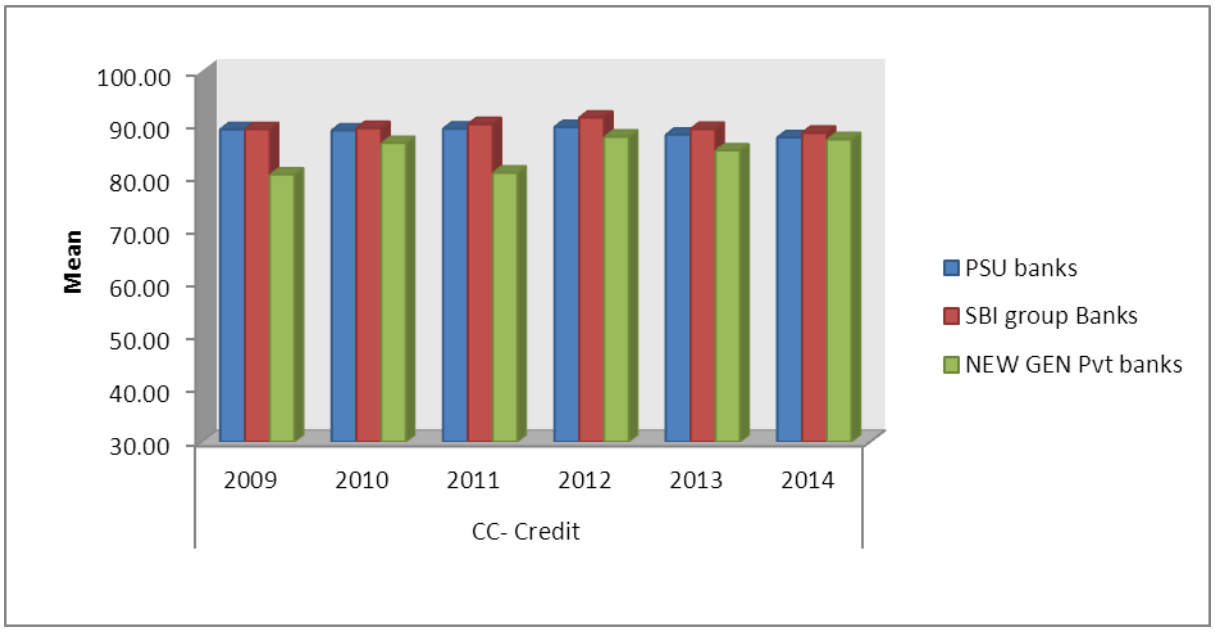
The multiple -comparison as above reveals that:

A) In 2012, between State Bank Group & New Pvt. Banks Group as p=0.043<0.05, as such Null Hypothesis is 'rejected and therefore it is concluded that there was 'significant' difference between the CC-Credit for these two groups (whereas other Banks Groups had not significant difference)

B) In 2013 also, between State Bank Group and New Pvt. Banks Group again p=0.038<0.05as such Null Hypothesis is 'rejected' and therefore it is concluded that there was 'significant' difference.

The variation of CC-Credit across the three bank-groups has been depicted by bar chart as under:

Bar Chart3: CC-Credit variation across the banking-groups:



It may be reiterated that there is not significant diffrences across the bank groups in CC-Credit except in 2012 and 2013 where the diffrence between State Bank GroupCC-Credit was significantly different with respect to that of New Pvt Bank Group.

4.2.4: Dynamics of Adjustments: Growth of Assets

Basel-III Norms mandate banks with international presence to maintain strong capital to have higher CAR. For higher CAR, banks may either increase the capital (numerator) or they may decrease the RWAs (denominator) which is a function of assets. So, it was widely expected that efforts to boost CAR by reducing the assets would boomerang on the banks by way of shrinking of credit portfolio and decline in profitability. It is therefore, relevant to study whether sample banks have made deliberate pro-active attempts to attain higher CAR by lowering the size of assets portfolio, which comprises of loans and advances and investments in particular. In this section therefore, we examine the patterns in the growth rates of assets of the sample banks.

4.2.4: (I) Descriptive Analysis

The data pertaining to the total asset were collected from the published annual reports of the sample banks for the period under study. The tabulated data for all the banks is presented in the Annexure No.I.4 at the end of the Chapter.

The analysis of trends in annual growth rates of assets in majority of the sample banks as presented in annexure No.I.4 shows by and large a declining trend. Thus, the trend in annual growth of assets of sample banks during the study period was more on expected lines. In sum, these trends exhibits that banks have of late become risk adverse.

4.2.4: (II) The Statistical analysis of growth of assets:

So, now we would statistically 'test' whether there is any 'significant' difference in growth of assets % by the banks: A) across the years; and also B) across the Banks, asunder:

Part -A: Analysis across the years

Using Annexure No. I.4the Mean, Standard Deviation, Minima, Maxima and Percentiles etc. taking across the years as variables have been calculated and presented in Table No. 4.24 below:

Table No. 4.24: Mean, Standard Deviation, Minimum, Maximum and Percentiles of the growth rate of assets across the years:

	Name of the bank Group	Year	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
								25th	50th (Median)	75th
Growth % of assets	Other PSBs Group	2010	13	22.2067	7.63062	9.95	37.82	19.3723	21.8583	25.3080
		2011	13	23.1039	8.31420	6.53	37.57	19.2282	23.9131	27.3734
		2012	13	16.9601	4.79515	7.44	23.49	13.2501	17.1853	21.5877
		2013	13	14.6445	5.65990	2.42	21.32	12.3139	14.9236	19.6840
		2014	13	13.8830	6.45425	2.15	22.80	8.9660	14.6975	19.9997
	State Bank Group	2010	6	16.9382	3.26283	12.13	19.52	13.1102	18.6924	19.2493
		2011	6	10.2540	11.10473	-10.11	20.92	2.3621	13.3828	18.3000
		2012	6	18.0392	4.58378	12.11	23.66	13.5954	18.3219	22.2117
		2013	6	17.5019	3.89904	13.08	24.48	14.5504	17.0210	19.8969
		2014	6	6.8776	5.19607	2.35	15.15	2.7048	4.8259	12.2554
	New Pvt. Banks	2010	6	26.9192	22.72205	-6.00	64.15	11.2171	28.5285	38.0476
		2011	6	49.0147	36.61353	16.21	103.10	21.7655	32.3705	90.5939
		2012	6	20.8989	11.06164	.00	30.56	13.2954	25.1301	27.7746
		2013	6	32.2687	23.53384	11.70	76.71	15.0695	26.0882	46.8036
		2014	6	11.6823	6.21003	3.10	19.84	6.2666	11.2180	18.0101

(Source: Based on Annex. No.: I.4 and statistical analysis output from SPSS package)

Observations on Growth of Assets from Table No. 4.25 above.

In Other PSBs Group, It reveals that the mean growth % of Assets across the years with standard deviation was 22.20±7.63; 23.10±8.31;16.96±4.79; 13.88±6.45; respectively in for the year 2009, 2010,2011,2012,2013 and 2014 with minimum of growth % of 2.15% in 2014 and maximum 37.82% in 2013.

This also indicates that the mean growth % of Assets of Other PSBs Group bank's Assets have registered growth in 2011 (at 23%) and then started to decline i.e. growth rate slowed down from 16.9% in 2012 to 14.6% in 2013 to finally 13.8%. But slow decline in growth percentage from year 2012 to 2014.Thus it is evident that in absolute terms "assets" have grown but the rate of growth has shown declining trends. This (slowdown of assets) may also partially be attributed to concerted efforts taken by banks to reduce assets in efforts for migration to Basel-III compliance.

In State Bank Group, the mean growth % of Assets across the years with standard deviations was 16.93±3.26; 10.25±11.10; 18.03±4.58; 17.50±3.89 and 6.87±5.19 respectively in % for the year 2009, 2010,2011,2012,2013 and 2014 with minimum of growth % = -10.11% in 2011 and maximum24.48% in 2013.

This also indicates that on the mean growth % of assets in State Bank Groups have registered erratic tend in growth % of assets growth percentage from year 2009 to 2014. This is also evident that in absolute terms Assets have grown (exception however in 2011) but the rate of growth has shown declining trends. End to end figures also shows the growth rate of assets have declined from as high as16.9% in2009 to finally 6.8% in 2014.This slowdown of assets may also partially be attributed to the deliberate efforts taken by banks for migration to Basel-III compliance.

In New Pvt. Banks Group, the average growth % of assets across the year with standard deviation was26.91±22.72; 49.01±36.61; 20.89±11.06; 32.26±23.53 and 11.68±6.21 respectively in % for the year 2009, 2010,2011,2012,2013 and 2014 with minimum of growth % = -6.00% in 2010 itself and maximum103.10% in 2013.

This also indicates that on the average, New Pvt. Banks Groups Assets have registered erratic trend in growth percentage from year 2009 to 2014. This is also evident that in absolute terms Assets rates have grown from 26.9% in 2010 to 49.01% in 2011 then to 20.8% ad again increased to 32.26% and then finally down abruptly to 11.68but the rate of growth has shown declining trends. End to end figures show that the growth rate of Assets have declined from as high as26.9% in2009 to finally abruptly to 11.6% in 2014.However, looking at terminal figure, it may be said that assets growth has declined from 26.9% in 2010 to 11.68% in 2014. This may also partially be attributed to deliberate efforts taken by banks for migration to Basel-III compliance.

Now, we shall statistically 'test' that whether there was any 'Significant' difference across the years amongst the banks:

Regression Analysis to 'test' whether there is 'significant' change across the year:

To test the year wise effect on growth % of assets i.e., to know that if is there any statistically 'significant' change (increase or decrease) across the years in growth of assets, Regression analysis has been used.

Donald B. Keim (1983) suggested a regression model with dummy variables as a method of testing the year wise effect on the variable.

Year-wise effect or year-wise change over the year 2009 to 2014, Regression model is given below:

Model: $C_t=a_0+a_1y_1+a_2y_2+a_3y_3+a_4y_4+a_5y_5+U_t$

Where C_t is the growth rate of assets in year't'

a_i is the mean growth % of Assets for the year 'I',

y_1 to y_5 are year dummies that are either 0 or 1 (y_1=1 for the year 2010 and 0 other wise, a0 is the mean capital for the year 2009).

U_t is the random error term for the year t

We set up ''Null Hypothesis'': there is no 'significant' difference in the mean growth % of Assets for the different years 2009 to 2014.

We set up ''Null Hypothesis'' as:

H0: a1=a2=a3=a4=a5.

(i.e., there is no significant difference in the mean growth % of Assets for the different years-2009 to 2014).

Since there are 3 banks groups, ''Null Hypothesis'' is subdivided into 3 sub hypotheses as below

H_{01}: $a_1=a_2=a_3=a_4=a_5$ for Other PSBs group

H_{02}: $a_1=a_2=a_3=a_4=a_5$for Other PSBs Group banks

H_{03}: $a_1=a_2=a_3=a_4=a_5$forNew Pvt. Banks Group

If this hypothesis is 'Rejected', it would imply that the assets growth rate across the years is 'significantly' different from each other i.e., there is increasing or decreasing trend over the years. For this purpose, Regression analysis has been used. The results can be summarized as under:

Table No. 4.25: ANOVA for model fit.

ANOVA[b]

Name of Bank Group	Model		Sum of Squares	df	Mean Square	F	Sig.
Other PSBs Group	1	Regression	947.807	4	236.952	5.288	.001[a]
		Residual	2688.452	60	44.808		
		Total	3636.259	64			
State Bank Group	1	Regression	611.650	4	152.913	3.878	.014[a]
		Residual	985.869	25	39.435		
		Total	1597.520	29			
New Pvt. Banks Group	1	Regression	4665.468	4	1166.367	2.268	.090[a]
		Residual	12858.041	25	514.322		
		Total	17523.509	29			

a. Predictors: (Constant), 2014, 2013, 2012, 2011.

b. Dependent Variable: Growth % of assets.

(Source: Statistical Analysis output from SPSS package)

Table No. 4.26: Coefficients etc.

Name of Bank Group	Model		Unstandardized Coefficients		t	Significant	95% Confidence Interval for B	
			B	Std. Error			Lower Bound	Upper Bound
Other PSBs Group	1	(Constant)	22.207	1.857	11.961	.000	18.493	25.920
		2011	.897	2.626	.342	.734	-4.355	6.149
		2012	-5.247	2.626	-1.998	.050	-10.498	.005
		2013	-7.562	2.626	-2.880	.006	-12.814	-2.310
		2014	-8.324	2.626	-3.170	.002	-13.576	-3.072
State Bank Group	1	(Constant)	16.938	2.564	6.607	.000	11.658	22.218
		2011	-6.684	3.626	-1.844	.077	-14.151	.783
		2012	1.101	3.626	.304	.764	-6.366	8.568
		2013	.564	3.626	.155	.878	-6.903	8.031
		2014	-10.061	3.626	-2.775	.010	-17.528	-2.594
New Pvt. Banks Group	1	(Constant)	26.919	9.259	2.908	.008	7.851	45.987
		2011	22.096	13.094	1.688	.104	-4.871	49.062
		2012	-6.020	13.094	-.460	.650	-32.987	20.946
		2013	5.349	13.094	.409	.686	-21.617	32.316
		2014	-15.237	13.094	-1.1464	.256	-42.204	11.730

a. Dependent Variable: Growth % of assets.
(Source: Statistical Analysis output from SPSS package)

Table No. 4.27: Model Summary

Name of Bank Group	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Other PSBs Group	1	.511[a]	.261	.211	6.69384
State Bank Group	1	.619[a]	.383	.284	6.27971
New Pvt. Banks Group	1	.516[a]	.266	.149	22.67866

a. Predictors: (Constant): 2014, 2013, 2012, 2011.
(Source: Statistical analysis output from SPSS package)

Interpretation of Regression Analysis for Other PSBs Group:

On the average, there was increase in assets growth percentage at 22.20% in 2010; 23.10% in 2011; 16.96% in 2012; 14.64% in 2013 and finally at the rate of 13.88% in 2014. However, as per Regression Analysis performed as $p=0.001<0.05$, as such the hypothesis H_{01} is 'rejected' and therefore it is concluded that the changes over the years were statistically "significant".

So, it is concluded that for Other PSBs Group, there is 'significant' difference across the years in the mean growth % of assets, though the assets growth has come down in absolute terms as well as in terminal years**.**

Interpretation of Regression Analysis for State Bank Group:

Although for State Bank Group growth rate of Assets was @6.93% in 2009; slightly declined to @10.25% in 2010; slightly increased to218.03% in 2012; again slightly declined to @17.50% in 2013 and finally slightly declined to @5.19% in 2014. However, as per Regression Analysis performed as p = 0.014 <0.05, as such the hypothesis H_{02} is 'rejected' and therefore it is concluded that the changes over the years were statistically "significant".

So, it is concluded that for State Bank Group also, there is "significant difference" across the years in growth rate of assets-though the asset's growth has come down in absolute terms as well as on terminal year-2014.

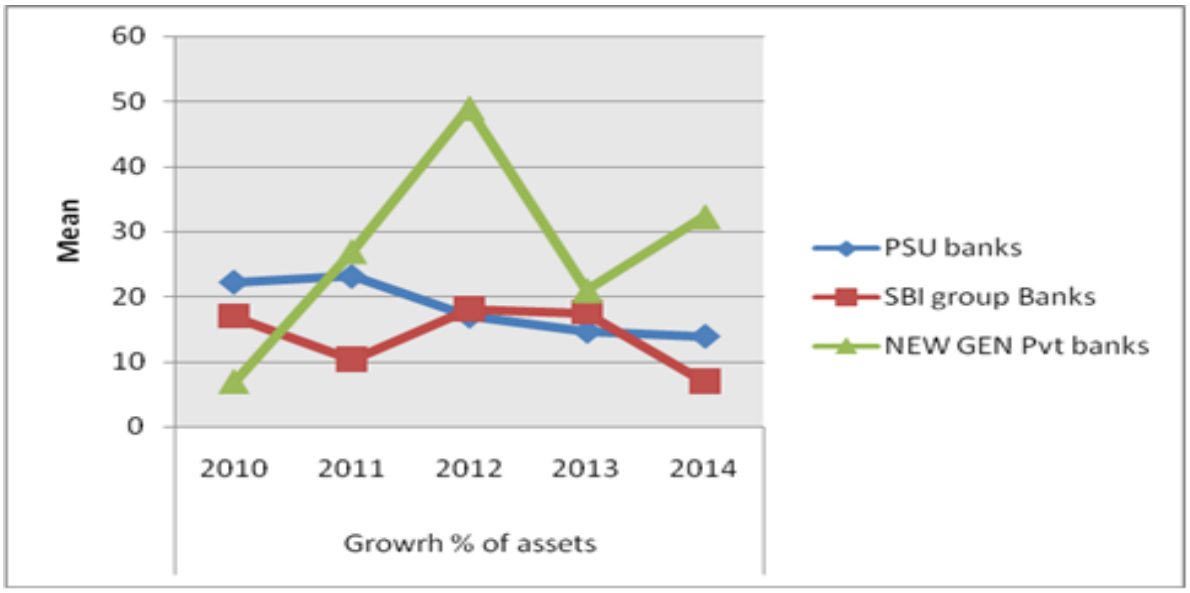
Interpretation of Regression analysis for New Private Banks Group:

For New Pvt. bank group also the growth rate of Assets was as high as @26.9% in 2009; sharply increased to @49.10% in 2010; then sharply declined to @20.89% in 2012; then increased to @32.26% and finally declined to @611.68 % in 2014.However, as per Regression Analysis done, as p value = 0.090>0.05, as such the hypothesis H_{01} is 'accepted' and therefore it is concluded that the changes over the years were statistically 'not significant''

So, it is concluded that for New Pvt. Banks Group groups however, there is 'not significant' difference across the years in growth % assets though the assets growth percentage has come down in absolute terms as well as on terminal year2014**.**

The variations in growth rate of assets across the years (as discussed above) has been depicted in the Graph Below.

Graph4: Growth rate of assets across the years:



N.B.: The 'significant' difference across the years for New Pvt. Banks Group is reflected in the wide fluctuations of green line above.

4.2.4(III): Part B: Comparison across Banking Groups:

Statistical analysis of growth of assets (Contd.)

With the help of Annexure No.: I.4 the Mean, Standard Deviation, Minima, Maxima and Percentiles of the growth % of assets were re-tabulated across the three bank-groups as depicted in Table No.: 4.28 below:

Table No. 4.28: Mean, Standard Deviation, Minimum, Maximum and Percentiles of the growth % of assets across the three bank-groups:

	Year	Name of the bank Group	N	Mean	Std. Deviation	Mini-mum	Maxi-mum	Percentiles		
								25th	50th (Median)	75th
Growth % of assets	2010	Other PSBs Group	13	22.2067	7.63062	9.95	37.82	19.3723	21.8583	25.3080
		State Bank Group	6	16.9382	3.26283	12.13	19.52	13.1102	18.6924	19.2493
		New Pvt. Banks Group	6	26.9192	22.72205	-6.00	64.15	11.2171	28.5285	38.0476
	2011	Other PSBs Group	13	23.1039	8.31420	6.53	37.57	19.2282	23.9131	27.3734
		State Bank Group	6	10.2540	11.10473	-10.11	20.92	2.3621	13.3828	18.3000
		New Pvt. Banks Group	6	49.0147	36.61353	16.21	103.10	21.7655	32.3705	90.5939
	2012	Other PSBs Group	13	16.9601	4.79515	7.44	23.49	13.2501	17.1853	21.5877
		State Bank Group	6	18.0392	4.58378	12.11	23.66	13.5954	18.3219	22.2117
		New Pvt. Banks Group	6	20.8989	11.06164	.00	30.56	13.2954	25.1301	27.7746
	2013	Other PSBs Group	13	14.6445	5.65990	2.42	21.32	12.3139	14.9236	19.6840
		State Bank Group	6	17.5019	3.89904	13.08	24.48	14.5504	17.0210	19.8969
		New Pvt. Banks Group	6	32.2687	23.53384	11.70	76.71	15.0695	26.0882	46.8036
	2014	Other PSBs Group	13	13.8830	6.45425	2.15	22.80	8.9660	14.6975	19.9997
		State Bank Group	6	6.8776	5.19607	2.35	15.15	2.7048	4.8259	12.2554
		New Pvt. Banks Group	6	11.6823	6.21003	3.10	19.84	6.2666	11.2180	18.0101

(Source: Based on Annex No: I.4 and statistical analysis output from SPSS package)

Observation from Table No.: 4.29

Analysis of difference between the Banks:

Now we shall test whether there is any 'significant' difference in growth % of assets across the three bank-groups i.e., to know that if is there any 'significant' change (increase or decrease) in growth % of assets amongst the three banks-groups. For this purpose ANOVA

analysis has been used. If ANOVA is 'significant' then post hoc test (as and when required) may be performed using Bonferroni test. We set up the Null-Hypothesis as under:

Ho: There is no 'significant' difference between the bank-groups with respect of growth of assets.

ANOVA was performed on SPSS package and the results are summarized as under**:**

Table No.4.29: ANOVA for growth of assets amongst Bank-group

ANNOVA for Comparison across the bank-group

Year	F	P	
2010	.988	.388	NS
2011	6.443	.006	HS
2012	.707	.504	NS
2013	4.457	.024	Sig
2014	2.677	.091	NS

N.B: Sig=Significant; NS=Not significant and HS=Highly Significant
(Source: Statistical analysis output from SPSS package)

The ANOVA shows that the difference amongst the bank-groups is 'highly significant' in the year 2011 only and significant for year 2013 for which multiple-comparison may be done by Bonferroni[15] post hoc analysis:

Table No. 4.30: Bonferroni for post hoc analysis for 2011 & 2013.

	Year	(I) Name of the Bank	(J) Name of the Bank	Mean Difference (I-J)	Std. Error	p
Dependent Variable	2011	Other PSBs Group	State Bank Group	12.84988	9.49874	.570
			New Pvt. Banks Group	-25.91081(*)	9.49874	.037
		State Bank Group	Other PSBs Group	-12.84988	9.49874	.570
			New Pvt. Banks Group	-38.76069(*)	11.11158	.006
		New Pvt. Banks Group	Other PSBs Group	25.91081(*)	9.49874	.037
			State Bank Group	38.76069(*)	11.11158	.006
	2013	Other PSBs Group	State Bank Group	-2.85739	5.97991	1.000
			New Pvt. Banks Group	-17.62413(*)	5.97991	.022
		State Bank Group	Other PSBs Group	2.85739	5.97991	1.000
			New Pvt. Banks Group	-14.76674	6.99527	.139
		New Pvt. Banks Group	Other PSBs Group	17.62413(*)	5.97991	.022
			State Bank Group	14.76674	6.99527	.139

* The mean difference is significant at the .05 level.
(Source: Statistical analysis output from SPSS package)

[15]The **Bonferroni** post-hoc procedure - In the design and analysis of experiments, **post hoc** analysis is mainly used with planned contrasts, it can be used as a **post hoc test** for comparisons between data groups of interests. (https://en.wikipedia.org/wiki/**Post_hoc**_analysis.)

Analysis of difference across banks:

In year 2011:

A) Between Other PSBs Group and New Pvt. Banks Group as p =0.037<0.05 as such the Null hypothesis is 'rejected' and therefore it is concluded that the changes cross the bank-groups were statistically 'significant'.

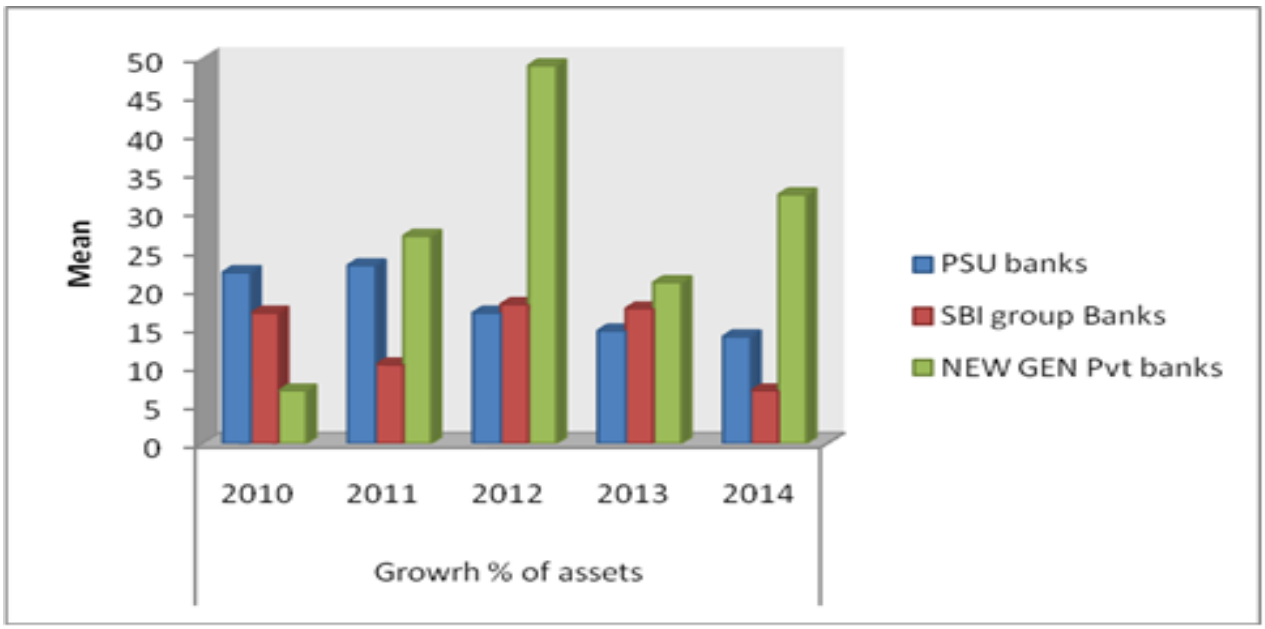
B) Between State Bank Group and New Pvt. Banks Group is 'significant' as p=0.006<0.05 as such the Null hypothesis is 'rejected' and therefore it is concluded that the changes across the bank-groups were statistically 'significant'.

Similarly in year 2013:

C) Between Other PSBs Group and New Pvt. Banks Group, as p=0.022<0.05 as such the Null hypothesis is 'rejected' and therefore it is concluded that the changes across the bank-groups were statistically "significant".

The variation in mean growth rate of assets across the three bank-groups has been graphically depicted in Bar Chart4 below:

Bar Chart 4: Growth of Assets % across the banks:



It may be noted from the above Bar chart that New Pvt. Banks Group and State Bank Group have wide fluctuations, as also established by Statistical Analysis including Bonferroni Test.

4.2.5: Dynamics of Adjustments: Growth of RWAs:

Basel-III Norms mandate banks with international presence to maintain strong capital to have higher CAR. For higher CAR, banks may either increase the capital (numerator) or they may decrease the RWAs (denominator) which is a function of assets also. So, it was widely expected that banks would strive to reduce RWAs by not only reducing assets but also by improving quality of assets by better credit-management and utilizing other tools of credit risk management. It is therefore, relevant to study whether sample banks have made

deliberate pro-active attempts to attain higher CAR by lowering the RWAs portfolio, which comprises of loans and advances and investments also. In this section therefore, we examine the patterns in the growth rates of RWAs' of the sample banks.

4.2.5: (I) Descriptive Analysis

The data pertaining to the RWAs were collected from the published annual reports (Basel disclosure Formats) of the sample banks for the period under study. The tabulated data for all the banks is presented in the Annexure No.: I.4 at the end of the Chapter.

The analysis of trends in annual growth rates of RWAs in majority of the sample banks as presented in Annexure No.: I.4 shows by and large a declining trend. Almost all sample banks except BOI, Canara, SBT and Kotak Mahindra Bank have registered decline in growth % of RWAs in the terminal year 2014 with respect to 2009. Thus, the trend in annual growth of RWAs of sample banks during the study period was more on expected lines. In sum, these trends exhibits that on one hand banks have of late become risk averse at the same time, on the other hand, many banks could not do much to improve quality of loan assets due to rampant NPAs.

It is heartening to note that all the sample banks (except 4 banks as mentioned above) have been successful in reducing the growth rate of RWAs from end 2009 to end 2014.

Thus, these trends exhibited by majority of the sample banks are consistent with the global pattern as documented in the said BIS study above and also a proven strategy to boost CAR so as to conform to Basel Norms.

4.2.5: (II) The Statistical analysis of growth of RWAs:

Part A: Analysis across the years

Using Annexure No.: I.4 the Mean, Standard Deviation, Minima, Maxima and Percentiles etc. taking across the years as variables have been calculated and presented in Table No.: 4.31 below:

Table No. 4.31: Mean, Standard Deviation, Percentile, Minima and Maxima of Growth % of RWAs

Bank Group	Year	N	Mean	s.d (σ)	Minima	Maxima	Percentile		
							25th	50th (Median)	75th
Other PSBs Group	2010	13	18.62	9.801	0.85	32.90	12.26	19.77	25.19
	2011	13	25.58	11.501	6.56	43.24	16.20	26.47	38.45
	2012	13	17.66	5.266	9.71	26.22	13.67	17.38	19.63
	2013	13	17.66	4.902	6.70	27.87	15.44	17.26	20.57
	2014	13	12.44	8.076	0.57	24.12	4.60	13.10	19.59
State Bank Group	2010	6	15.87	4.935	10.54	22.99	11.18	16.83	20.07
	2011	6	12.93	18.941	-23.65	25.29	74.72	21.55	24.37
	2012	6	18.31	11.497	1.30	36.46	10.31	18.36	25.62
	2013	6	12.41	9.356	0.63	26.56	41.06	11.72	20.28
	2014	6	8.46	7.921	-3.08	19.63	3.37	6.69	16.11
New Pvt. Banks Group	2010	6	3.43	44.932	-55.57	62.33	-38.00	3.31	44.12
	2011	6	62.04	32.105	33.78	115.97	36.46	53.86	87.06
	2012	6	16.97	1.218	-1.10	27.83	6.66	19.16	27.63
	2013	6	18.48	11.546	7.59	36.04	9.40	13.97	30.94
	2014	6	24.88	17.237	11.38	56.64	12.03	20.09	35.77

(Source: Based on Annex. No: I.4 and statistical analysis output from SPSS package)

Observations on Growth of RWAs:

In Other PSBs Group: It reveals that the mean growth % of RWAs across the years with standard deviation was 18.62±9.80, 25.58±11.50, 17.66±5.26, 91.52±263.04, and 5.04±29.43 respectively in % for the year 2009, 2010,2011,2012,2013 and 2014.

This also indicates that on the average, Other PSBs Group mean growth % of RWAs have registered increasing growth % in 2010 to 2011 and then started decline regularly till 2014. The high decline in 2014 may also be attributed to greater preparedness towards Basel-III compliance. Looking at terminal figures also, it may be noted that the average growth rate of RWAs has declined from18.62% in 2010 to12.44% in 2014.

The relatively higher 'Standard Deviation' (with respect to mean) also indicates vast difference amongst the banks in same group (which shall be further probed in foregoing pages).

In State Bank Group, the mean growth % of RWAs, across the year with standard deviation was 15.86±4.93, 12.92±18.94, 18.31±11.49, 12.41±9.35,and 8.46±7.92 respectively in % for the year 2010,2011,2012,2013 and 2014 with minimum growth of RWAs = -23.85% in 2011 and maximum =36.46% in 2012.The terminal figures (for the group as whole) also indicate

that the mean growth % of RWAs average rate of growth of RWAs has come down from 15.386% in 2010 to 8.46% in 2014.

This is also relevant to note that mean growth % of RWAs in State Bank Group increased to 18.3% in 2012 and then declined to12.4% in 2013 and finally to 8.46 in 2014 which may also be attributed to the banks deliberate attempt to reduce RWAs to boost CAR in their preparedness towards Basel-III compliance

The relatively higher 'Standard Deviation' (with respect to mean) also indicates vast difference amongst the banks in same group.

In New Pvt. Banks Group: the mean growth % of RWAs across the year with standard deviation was 3.43±44.93, 82.05±61.44, 8.63±21.74, 18.47±11.54,and24.87±17.23 respectively in % for the year 2010,2011,2012,2013 and 2014 with minimum growth % -53% in 2010 and maximum =189.22% in 2011.

This also indicates that Pvt. Banks have registered erratic growth trend in mean growth % of RWAs during 2009-2014. The mean growth % of RWAs was @3.43% in 2010 which jumped steeply to @62.04% in 2011 then came down to 16.9% in2012, again marginally increased to @18.47% in 2013 and finally made significant increase to @24.87% in 2014. If look only at terminal figures then also, the mean growth % of RWAs at 43% in 2010 increased to 24.87% in 2014.The relatively higher standard deviation (with respect to mean) also indicates vast difference amongst the banks in same group.

So, we find that while Other PSBs Group banks and State Bank Group overall registered a decline in growth rate of RWAs, on the other hand banks in New Pvt. Bank Group registered an increase in growth rate in RWAs over 2009-2014.

Now, we shall statistically 'test' that whether there was any 'significant' difference in growth rate of RWAs across the years.

To test the year wise effect on Growth % of RWAs i.e., to know that if is there any statistically 'significant' change (increase or decrease) across the years in mean growth % of RWAs For this purpose, Regression analysis has been used.

We set up ''Null Hypothesis'': there is no 'significant' difference in growth of RWAs for the different years 2009 to 2014.

Donald B. Keim (1983) suggested a regression model with dummy variables as a method of testing the year wise effect on the variable.

Year-wise effect or year-wise change over the year 2009 to 2014, Regression model is given below:

Model: $C_t = a_0+a_1y_1+a_2y_2+a_3y_3+a_4y_4+a_5y_5+U_t$

Where C_t is the growth % of RWAs in year t

a_i is the mean growth of RWAs for the year i,

y_1 to y_5 are year dummies that are either 0 or 1 (y_1=1 for the year 2010 and 0 other wise, a0 is the mean growth rate of RWAs for the year 2009).

U_t is the random error term for the year t

We set up ''Null Hypothesis'' as:

H_0: $a_1=a_2=a_3=a_4=a_5$

(i.e., there is no significant difference ingrowth % of RWAs for the different years 2009 to 2014).

Since there are 3 banks groups, ''Null Hypothesis'' is subdivided into 3 sub hypotheses as below

H_{01}: $a_1=a_2=a_3=a_4=a_5$ for Other-PSBs Group

H_{02}: $a_1=a_2=a_3=a_4=a_5$forOther PSBs Group Banks

H_{03}: $a_1=a_2=a_3=a_4=a_5$ for New Pvt. Banks Group

If this hypothesis is 'Rejected', it would imply that the growth of RWAs across the years is 'significantly' different from each other i.e., there is increasing or decreasing trend over the years.

To test the year wise effect on growth of RWAs i.e., to know that if is there any 'significant' change (increase or decrease) across the years in Growth % of RWAs , Regression analysis has been used.

Table No.4.32: ANOVA for model fit: Growth of RWAS (Across the years)

ANOVA[c]

Name of Bank Group	Model		Sum of Squares	df	Mean Square	F	Sig.
Other PSBs Group	1	Regression	1146.589	4	286.647	4.150	.005[a]
		Residual	4144.264	60	69.071		
		Total	5290.852	64			
State Bank Group	1	Regression	328.227	4	82.057	.596	.669[b]
		Residual	3303.759	24	137.657		
		Total	3631.986	28			
New Pvt. Banks Group	1	Regression	11664.004	4	2916.001	4.043	.012[a]
		Residual	18029.824	25	721.193		
		Total	29693.829	29			

a. Predictors: (Constant): 2014, 2013, 2012, 2011.

(Source: Statistical analysis output from SPSS package)

Table No.4.33: Regression Analysis Result- Unstandardized Coefficients and p-values: Growth of RWAs (across the years)

Coefficients[a]

Name of Bank Group	Model		Unstandardized Coefficients		Standardized Coefficients	t	Significant	95% Confidence Interval for B	
			B	Std. Error	Beta			Lower Bound	Upper Bound
Other PSBs Group	1	(Constant)	18.621	2.305		8.079	.000	14.011	23.232
		2011	6.959	3.260	.309	2.135	.037	.438	13.479
		2012	-.959	3.260	-.043	-.294	.770	97.480	5.561
		2013	-.960	3.260	-.043	-.294	.769	-7.481	5.561
		2014	-6.180	3.260	-.274	-1.896	.063	-12.701	.341
State Bank Group	1	(Constant)	18.312	4.790		3.823	.001	8.426	28.197
		2011	-5.386	6.774	-.195	-.795	.434	-19.366	8.595
		2012	-5.898	6.774	-.213	-.871	.393	-19.879	8.082
		2013	-9.849	6.774	-.356	-1.454	.159	-23.829	4.132
		2014	-2.444	7.105	-.082	-.344	.734	-17.107	12.219
New Pvt. Banks Group	1	(Constant)	3.437	10.964		.314	.756	-19.142	26.017
		2011	58.606	15.505	.745	3.780	.001	26.674	90539
		2012	13.539	15.505	.172	.873	.391	-18.394	45.471
		2013	15.039	15.505	.191	.970	.341	-16.893	46.972
		2014	21.440	15.505	.273	1.383	.179	-10.493	53.373

a. Dependent variable: Growth % of RWAs

(Source: Statistical analysis output from SPSS package)

Table No. 4.34: Model summary

Name of Bank Group	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Other PSBs Group	1	.466[a]	.217	.164	8.31090
State Bank Group	1	.301[b]	.090	-.061	11.73272
New Pvt. Banks Group	1	.627[a]	.393	.296	26.85504

A. Predictors: (Constant, 2014, 2013, 2012, 2011

B. Predictors: (Constant), 2014, 201-, 2013, 2011.

(Source: Statistical analysis output from SPSS package)

Interpretation of Regression Analysis for Other PSBs Group:

The mean growth % of RWAs for the year 2009 was18.62%, in the year 2010 there was +6.95% increase, in the year 2011, -0.959% (decrease) in 2012+72.9% (increase) in 2013and -13.57% (decrease) in 2014.However, as per Regression Analysis performed as p = 0.005<0.05, as such the hypothesis $H_{01}$is 'rejected' and therefore it is concluded that the changes over the years were statistically "significant. The regression model is also

statistically significant as F=4.150, p=0.005<0.05. So, it is concluded that for Other PSBs Group, there is 'significant' difference across the years in growth of RWAs.

Interpretation of Regression Analysis for State Bank Group:

The mean growth % of RWAs in year 2009 was 15.86%.In the year 2010 there was change of -2.44% (decrease)in 2011 there was -5.38% change (decrease); in the year 2013 again -5.89% change(decrease), in the year 2014again -9.84% change(decrease).

However, However, as per Regression Analysis performed as p = 0.669>0.05, as such the hypothesis H_{02} is 'accepted' and therefore it is concluded that the changes over the years were statistically 'not significant'. The regression model is also statistically 'not significant' as F=0.596; p=0.669>0.05. So, it is concluded that for State Bank Group, there is 'no significant' difference across the years in growth % of RWAs.

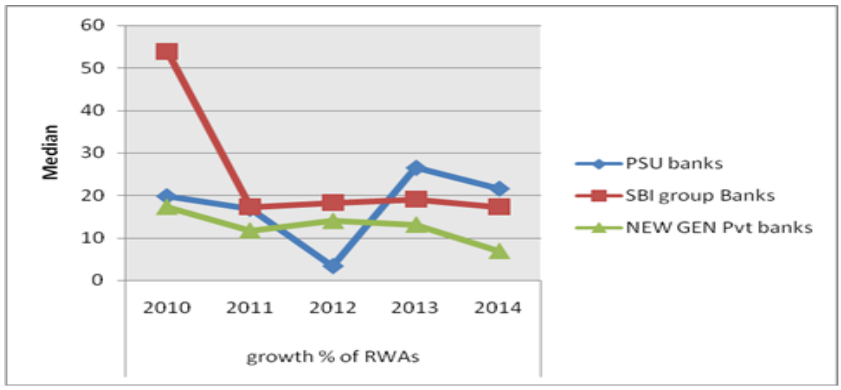
Interpretation of Regression Analysis ANOVA result for New Pvt. Banks Group:

The mean growth % of RWAs for the year 2009 was 3.43%, in the year 2011 there was steep increase of 78.61% and all the subsequent years from 2011 to 2014 shown increase of 5.2%, 15.03% and finally 21.44% respectively. However, as per Regression Analysis performed as p = 0.012<0.05, as such the null hypothesis $H_{03}$is 'rejected' and therefore it is concluded that the changes over the years were statistically "significant. Further the regression model is also statistically 'significant' as F=4.043, p=0.012<0.05.

So, it is concluded that for New Pvt. Banks Group also however, there is 'significant' difference across the years in growth % of RWAs,

To sum up, the differences across the years is found to be 'significant' for both Other PSBs Group as well as New Pvt. Banks Group whereas the same is 'not significant' for State Bank group. The same has been depicted in the Graph No.: 6 below

Graph No. 5: Growth of RWAs across the years:



4.2.5 (III):

Part -B: Comparison across Banking Groups:

Now we shall study whether there is any statistically "significant" differences across the banking groups in growth of RWAs; with the help of data in Annexure No.: I.4, the mean, standard deviation, minimum, maximum and percentiles of the growth % of RWAs were re-tabulated across the three bank-groups as under:

Table No. 4.35: Mean, Standard Deviation, Minimum, Maximum and Percentiles of the growth % of RWAs across the three bank-groups.

Year	Bank Group	N	Mean	s.d.(σ)	Minima	Maxima	Percentile		
							25th	50th (Median)	75th
2010	Other PSBs Group	13	18.62	9.80	0.85	0.85	12.26	19.77	25.19
	State Bank Group	6	15.87	4.94	10.94	10.94	11.18	16.63	20.08
	New Pvt. Banks Group	6	3.44	44.93	-53.57	-53.57	-38.00	3.31	14.12
2011	Other PSBs Group	13	25.58	11.50	6.56	6.56	16.19	26.47	38.45
	State Bank Group	6	12.92	18.94	-23.85	-23.85	0.75	21.55	24.38
	New Pvt. Banks Group	6	62.01	32.11	33.78	33.78	36.46	53.86	87.06
2012	Other PSBs Group	13	17.66	5.27	9.71	9.71	11.66	17.38	19.83
	State Bank Group	6	18.31	11.50	1.39	1.39	10.32	18.36	25.62
	New Pvt. Banks Group	6	16.98	11.22	-1.10	-1.10	6.66	19.16	27.62
2013	Other PSBs Group	13	17.66	4.90	6.70	6.70	15.44	17.28	20.57
	State Bank Group	6	12.41	9.35	0.63	0.63	4.10	11.72	20.57
	New Pvt. Banks Group	6	18.48	11.55		7.59	9.40	13.99	30.94
2014	Other PSBs Group	13	12.44	8.08		0.57	4.60	13.09	19.59
	State Bank Group	6	8.46	7.92		-3.08	3.37	6.89	16.11
	New Pvt. Banks Group	6	24.88	17.24		11.38	12.03	20.09	35.77

Observation from Table No.: 4.35

a. Analysis of difference between the Banks:

Now we test whether there is any 'significant' difference in growth % of RWAs across the three bank-groups. i.e., to know that if is there any 'significant' change (increase or decrease) in growth % of RWAs, amongst the three banks groups. For this purpose, ANOVA analysis has been used. If ANOVA is 'significant' then post hoc analysis may be performed using Bonferroni test etc.

Table No.4.36: ANOVA for a growth of RWAs amongst Bank-group:

Year	Growth % of RWAs		
	KW test Value	P	
2010	.425	.809	NS
2011	10.267	.006	HS
2012	.189	.910	NS
2013	2.318	.314	NS
2014	4.680	.096	NS

N.B.: NS = Not Significant, HS=Highly Significant.
(Source: Based on Annex No: I.4 and statistical analysis output from SPSS package)

The ANOVA analysis gives the following results:

The Result indicate that as p> 0.05 in all years except 2011 , as such the null hypothesis is 'accepted' and therefore it is concluded that the difference amongst the bank groups was 'not significant' in all years except in the year 2011 (when it was 'highly significant').

So to probe further multiple comparison by post-hoc analysis was done which gives result as tabulated in able No. 4.37 below:

Table No. 4.37: Post-hoc analysis for the Year 2011

(I)Name of the Bank	(J) Name of the Bank	Mean Difference (I-J)	Std. Error	p
Other PSBs Group	State Bank Group	12.65415	15.69792	1.000
	New Pvt. Banks Group	-56.47575(*)	15.69792	.005
State Bank Group	Other PSBs Group	-12.65415	15.69792	1.000
	New Pvt. Banks Group	-69.12989(*)	18.36336	.003
New Pvt. Banks Group	Other PSBs Group	56.47575(*)	15.69792	.005

(Source: Based on Annex No. I.4 and statistical analysis output from SPSS package)

The Bonferroni Test vide above Table No. 4.37 statistically also confirms that:

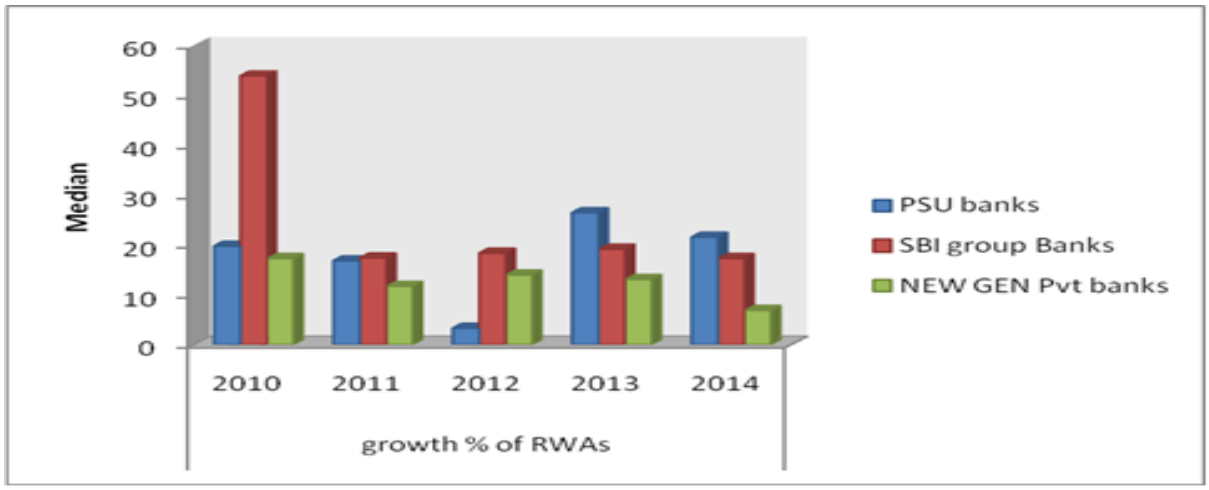
A) Between Other PSBs Group & State Banks Group, as p=1.000>0.05; as such the Null hypothesis is 'accepted' and therefore it is concluded that there 'not significant' difference across the two bank-groups

B) Between Other PSBs Groups & New Pvt. Banks Group as p=0.005<0.05; as such the Null hypothesis is 'rejected' and therefore it is concluded that there is 'no significant' difference across the two bank-groups.

C) Between State bank group and New Pvt. Banks group, as p=0.003<0.05,as such the Null-hypothesis is rejected and therefore it is concluded that there is 'significant' difference across the two bank-groups

This fact is also evident from the table of means ,Other PSBs Group had a Positive growth of RWAs at 6.9%.State Bank Group had negative growth rate of RWAs at -5.4%.New Pvt. Bank Group had very HIGH positive growth rate of 78.6%. The variation across the three bank-groups may be depicted by Bar-chart as under:

Bar Chart No. 5: Growth of RWAs across the 3 Bank-groups



(Source: Statistical Analysis output from SPSS package)

4.2.6: Growth of High-Risk Assets (2009-2014)

Basel-III norms require higher capital-charge for 'High Risk assets. It is therefore relevant to study whether Banks have made deliberate pro-active attempts to reduce their 'High Risk Assets so as to reduce the capital charge for risky assets which would result in lower RWAs and thereby improving CAR.

In our empirical study as above we have found that all sample bank have in majority cases tried to reduce Assets growth as well as growth of RWAs. But as proportion of High risk assets is one important very crucial factor in RWAs, it is further incumbent upon us to study to find out whether High risk assets have also grown or declined.

4.2.6: (I) Descriptive Analysis

Annexure No.-I.5 gives percentage composition of Loan-Assets in terms of their riskiness. A loan -asset is called as "High risk assets" when it carries more than 100% risks. So, an analysis has been made in this section to study about the% composition of high Risk assets out of total loan assets for our sample banks for the different years of study period. It may be observed that:

For Other PSBs Group the average % proportion of rate of High risk assets have shown quite erratic trend during 2009-2014. Different banks under the group have shown different % composition – a high as 19.9% (by Andhra Bank in 2014) and 18.8% (by Punjab National Bank in 2014 to as low as 2.2% (by Andhra bank in 2009 and also by Bank of Baroda in 2010) to 2.5% by Corporation Bank in 2009. However, if we take 2009-end to 2014-end figures then, we find that only Bank of Baroda has registered decline while all 24 others have registered increase.

For State Bank Group also the % proportion of High risk assets have shown quite erratic trend during 2009-2014. Different banks under the group have shown different rate of growth: as high as 25.6% (by State Bank of Hyderabad in 2011) and 16.2% (by State Bank of Patiala in 2014) to as low as 3.4% (by SBBJ in 2009) and 3.9% by State Bank of Patiala in 2009. However, if we take 2009-end to 2014-end figures then also surprisingly all banks have registered an increase in % composition of High risk assets except State Bank of Travancore.

For **New Pvt. Bank Group** also % proportion of High risk assets have shown quite erratic trend during 2009-2014. Different banks under the group have shown different rate of growth: a high as 26.9 % (by HDFC Bank in 2009) and 26.7% (by Kotak Bank in 2011), to as low as -1.6% by Yes Bank in 2009 and 3.7% of IndusInd bank in 2011. However, if we take end to end figures then we find that only banks have been able to lower the % (while in other 3 banks the % composition went up).

It is matter of concerns that that very few of the sample banks (only 3 out of 25 banks as mentioned above) have been successful in reducing the % proportion of High Risk assets. This also high lights the spurt of NPAs in India and widespread Contamination in Assets quality.

4.2.6 (II) Statistical analysis of growth of 'High risk' Assets (2009-2014):

Using Annexure No.: I.5 the Mean, Standard Deviation, Minima, Maxima and Percentiles etc. taking across the years as variables have been calculated and presented and Percentiles etc. have been calculated as depicted in Table No.: 4.38below

Table No. 4.38: Comparison of mean, standard deviation, minimum, maximum and percentiles of the mean growth % high-risk assets across the years

Name of Bank Group	Year	N	Mean	Std. Deviation	Minimum	Maximum	Percentile		
							25th	50th (Median)	75th
Other PSBs Group	2009	13	5.46	2.29	2.17	9.63	3.72	4.86	7.44
	2010	13	6.49	2.29	2.22	9.70	4.35	7.35	8.09
	2011	13	6.34	1.86	3.32	9.58	4.67	6.15	8.02
	2012	13	8.37	2.63	4.84	11.69	5.28	9.10	11.07
	2013	13	10.20	4.29	4.79	17.80	6.05	11.17	14.02
	2014	12	11.81	4.48	6.69	19.92	8.36	10.83	15.80
State Bank Group	2009	4	5.39	2.17	3.39	8.15	3.53	5.00	7.63
	2010	5	5.71	1.47	3.80	7.88	4.57	5.47	6.97
	2011	5	10.14	3.36	6.70	14.95	6.98	10.37	13.20
	2012	5	10.73	3.16	7.30	14.12	7.47	11.22	13.75
	2013	6	12.73	3.61	7.08	16.12	9.01	13.85	15.89
	2014	6	12.93	3.63	7.07	16.20	9.41	13.97	16.20
New Pvt. Banks Group	2009	5	10.00	10.28	1.65	26.93	2.95	4.75	19.68
	2010	6	11.19	10.52	1.86	24.73	3.60	5.92	24.59
	2011	6	11.87	10.88	3.67	26.66	4.55	5.50	25.47
	2012	6	12.45	10.08	4.84	26.10	5.17	6.88	25.07
	2013	6	13.39	10.10	5.11	27.80	5.93	8.28	25.44
	2014	6	13.09	8.25	5.85	24.43	6.11	9.74	23.03

(Source: Based on Annex No- I.5 and statistical analysis output from SPSS)

It may be observed from the Table No.: 4.38 that

In Other PSBs Group the mean % of High-risk-Assets across the years with standard deviation was 5.46±2.29, 6.49±2.29, 6.34±1.86, 8.37±2.63,10.20±4.29 and 11.81±4.48 respectively in % for the year 2009, 2010, 2011, 2012, 2013 and 2014 with minimum of High-risk-Assets as 2.17% and maximum = 19.92%.

This however also highlights that Other-PSU -banks group bank's average proportion of High-risk-Assets have risen from 5.46% in 2009 to 11.81%in 2014. This is commensurate with general perception that there has been rise in Contamination of Assets quality in Other-PSBs -group and also high proportion of NPAs-where Banks have not been able to reduce exposure to such high-risk Assets (NPAs).

In State Bank Group the mean of high-risk-Assets across the year with standard deviation was 5.39±2.17, 5.71±1.47, 10.14±3.36, 10.73±3.16,12.73±3.61 and 12.93±3.63 respectively in % for the year 2009, 2010, 2011,2012, 2013 and 2014 with minimum value =1.65% and maximum of 26.93%.

This however also indicates that on the average, SBI Group bank's average proportion High-risk-Assets have risen from 5.39% in 2009 to 12.93%in 2014. This is commensurate with general perception that there has been rise in Contamination of Assets quality in banks in India and also high proportion of NPAs-where Banks have not been able to reduce exposure to such high-risk-Assets (NPAs).

In New Pvt. Bank Group also, the mean proportion of high-risk-Assets across the year with standard deviation was 10.00±10.28,11.19±10.52, 10.87±10.88, 12.45±10.08, 13.39±10.10 and 13.09±8.25 respectively in % for the year 2009, 2010, 2011, 2012, 2013 and 2014 with minimum=1.65 percent and maximum=26.93 percent of profit ploughed back. This however also indicates that on the average (mean of means), New Pvt. Banks Group average High-risk-Assets have risen from 10.00% in 2009 to 13.09%in 2014. This is commensurate with general perception that there has been rise in Contamination of Assets quality in banks in India and also high proportion of NPAs-where Banks have not been able to reduce exposure to such high-risk-Assets (NPAs).

To test the year wise effect on % of High Risk assets i.e.to know that if is there any 'significant' change (increase or decrease) across the years in proportion of High-Risk Assets.

a. Analysis of change across the year:

Now we test the year wise effect on growth of High-Risk Assets i.e., to know that if is there any statistically 'significant' change (increase or decrease) across the years in growth of High-Risk Assets. For this purpose, Regression analysis has been used.

We set up ''Null Hypothesis'': there is no 'significant' difference in growth of High-risk-Assets for the different years 2009 to 2014.

Donald B. Keim (1983) suggested a regression model with dummy variables as a method of testing the year wise effect on the variable.

Year-wise effect or year-wise change over the year 2009 to 2014, Regression model is given below:

Model: $C_t=a_0+a_1y_1+a_2y_2+a_3y_3+a_4y_4+a_5y_5+U_t$

Where C_t is the growth of High-Risk Assets in year t

a_i is the mean of High Risk Assets for the year i,

y_1 to y_5 are year dummies that are either 0 or 1 (y_1=1 for the year 2010 and 0 other wise, a0 is the mean of High risk Assets for the year 2009).

U_t is the random error term for the year t

We set up ''Null Hypothesis'' as:

H_0: $a_1=a_2=a_3=a_4=a_5$

(i.e., there is no significant difference in growth of High Risk Assets for the different years-2009 to 2014).

Since there are 3 banks groups, ‘‘Null Hypothesis’’ is subdivided into 3 sub hypotheses as below

H_{01}: $a_1=a_2=a_3=a_4=a_5$ for Other-PSBs Group

H_{02}: $a_1=a_2=a_3=a_4=a_5$ for State Bank Group

H_{03}: $a_1=a_2=a_3=a_4=a_5$ for New Pvt. Banks Group

If this hypothesis is ‘Rejected’, it would imply that the growth of High Risk Assets across the years is ‘significantly’ different from each other i.e., there is increasing or decreasing trend over the years.

To test the year wise effect on growth % of High Risk Assets. i.e., to know that if is there any ‘significant’ change (increase or decrease) across the years in growth % of High Risk Assets. For this purpose, Regression analysis has been used.

ANOVA[16] was performed – which gives the result as under

Table No.4.39: ANOVA for model fit:

ANOVA[C]

Name of Bank Group	Model		Sum of Squares	Df	Mean Square	F	Sig.
Other PSBs Group	1	Regression	387.515	5	77.503	7.959	.0001[a]
		Residual	691.365	71	9.738		
		Total	1078.880	76			
State Bank Group	1	Regression	276.013	5	55.203	5.781	.001[b]
		Residual	238.707	25	9.548		
		Total	514.720	30			
New Pvt. Banks Group	1	Regression	43.705	5	8.741	.087	.994[a]
		Residual	2926.674	29	100.920		
		Total	2970.378	34			

A. Predictors: (Constant), 2014, 2013, 2012, 2011, 2010.
B. Predictors: (Constant), 2014, 2012, 2011, 2010, 2013.
C. Dependent Variable: High Risk.

(Source: statistical analysis output from SPSS)

[16]The one-way **analysis** of variance (**ANOVA**) is used to determine whether there are any significant differences between the means of three or more independent (unrelated) groups.

Table No.4.40: Regression Analysis Assets: p-value & Un-standardized Co-efficient:

Name of Bank Group	Model		Unstandardized Coefficients		t	p	95% Confidence Interval for B	
			B	Std. Error			Lower Bound	Upper Bound
Other PSBs Group	1	(Constant)	5.464	.865	6.314	.000	3.739	7.190
		2010	1.029	1.224	.840	.404	-1.412	3.469
		2011	.876	1.224	.715	.477	-1.565	3.345
		2012	2.905	1.224	2.373	.020	.464	5.345
		2013	4.733	1.224	3.867	.000	2.292	7.173
		2014	6.348	1.249	5.081	.000	3.857	8.838
State Bank Group	1	(Constant)	5.387	1.545	3.487	.002	2.205	8.569
		2010	.325	2.073	.157	.877	-3.944	4.594
		2011	4.756	2.073	2.294	.030	.486	9.025
		2012	5.347	2.073	2.579	.016	1.077	9.616
		2013	7.339	1.995	3.680	.001	3.231	11.447
		2014	7.547	1.995	3.784	.001	3.439	11.655
New Pvt. Banks Group	1	(Constant)	10.001	4.493	2.226	.034	.812	19.190
		2010	1.191	6.083	.196	.846	-11.250	13.633
		2011	1.872	6.083	.308	.760	-10.569	14.313
		2012	2.448	6.083	.402	.690	-9.994	14.889
		2013	3.386	6.083	.557	.582	-9.055	15.827
		2014	3.085	6.083	.507	.616	-9.357	15.526

(Source: Statistical analysis output from SPSS)

Table No. 4.41: Summary of Regression Analysis: Multiple-R & R-square & Adj. R-square

Model Summary[c]

Name of Bank Group	Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
Other PSBs Group	1	.599[a]	.359	.314	3.1205
State Bank Group	1	.732[b]	.536	.443	3.0900
/New Pvt. Banks Group	1	.121[a]	.015	-.155	10.0459

a. Predictors: (Constant), 2014, 2013, 2012, 2011, 2010.
b. Predictors: (Constant), 2014, 2012, 2011, 2010, 2013.
c. Dependent Variable: High Risk.

(Source: Statistical analysis output from SPSS)

Summary: Conclusion from the Regression Analysis across the years:

Interpretation of Regression analysis for Other PSBs Group:

The mean of high-Risk-Assets for the year 2009 was 5.46%, in the subsequent years there was of 1.029%, 0.876%, 2.905%, 4.733% and finally 6.348% respectively in growth of High-

risk assets. However, as per Regression analysis done, as p = 0.0001<0.05, as such the hypothesis $H_{01}$is 'rejected' and therefore it is concluded that the changes over the years were statistically "significant. The regression model is also statistically 'significant' as F=7.959, p=0.0001<0.05

So, it is concluded that for Other PSBs Group, there is 'significant' difference across the years in mean growth rate of High-Risk- Assets. This also evident from basic data that instead of effecting decrease in the High Risk Assets, the Other-PSBs Group have registered an increase in their exposure to High Risk Assets.

Interpretation of Regression analysis for State Bank Group:

The average % of high-Risk-Assets for the year 2009 was 5.387%. In the subsequent years, there was consistent increase of 0.325%, 4.756%, 5.347%, 7.339% and finally 7.547% respectively in the years 2010, 2011, 2012,2013 and 2014. Increase i.e., steady and consistent increase in High-Risk-Assets.

However, as per Regression analysis done as p = 0.001<0.05, as such the hypothesis $H_{02}$is 'rejected' and therefore it is concluded that the changes over the years were statistically "significant. The regression model is also statistically 'significant' as F=5.781, p=0.001<0.05.

So, it is concluded that for State Bank Group also, there is 'significant' difference across the years in reduction of 'High-Risk' assets. This also evident from basic data that instead of decrease, the risky assets in Other PSBs Group banks have registered an increase in 2009-2014.

Concluding result for New Pvt. Banks Group:

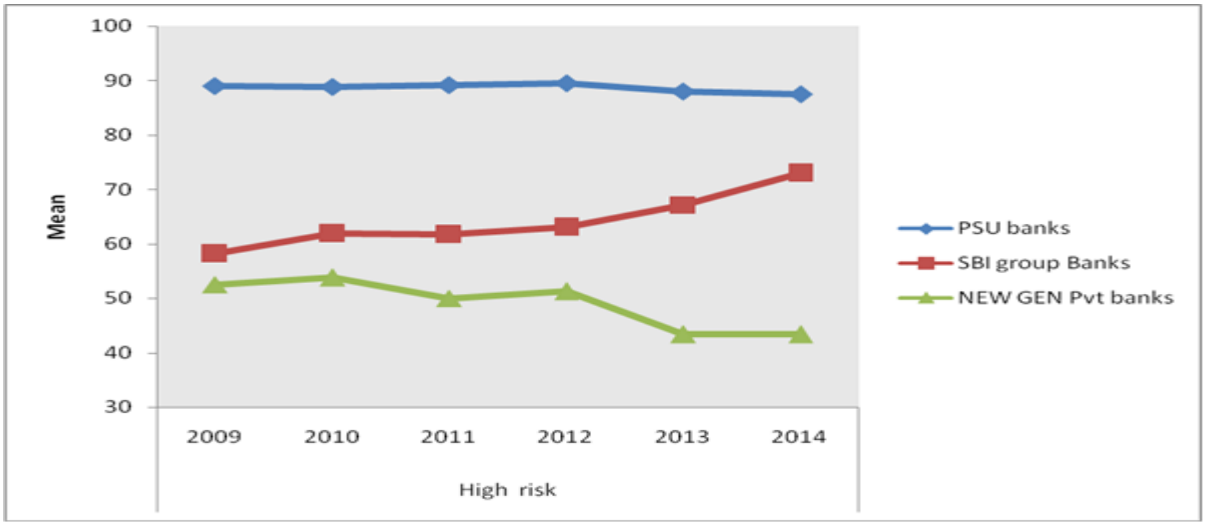
The average % of high-Risk-Assets for the year 2009 was10.001%.In the year 2010 the same rose by 1.191% increase, in the year 2011 by 4.756%, in 2012 by 5.347%, in 2013 by 7.339% and finally in 2014 by 7.54% increase i.e.; steadily consistently increase in % of high risk-Assets.

However, as per Regression analysis done as p = 0.0994<0.05, as such the hypothesis $H_{03}$is 'accepted' and therefore it is concluded that the changes over the years were statistically 'not significant'. Accordingly, the regression model is also statistically ''not significant'' as F=0.087, p=0.994>0.05.

So, it is concluded that for New Pvt. Banks Group, there is 'not 'significant'' difference across the years in mean growth of High-Risk- Assets. This also evident from basic data that instead of decrease the risk Assets, New Pvt. Banks Group have registered an increase in Risky-Assets. Though the difference is statistically found to be not 'significant'.

This difference across the years has been shown by Graph No.:6, below:

Graph 6: Growth of High Risk Assets across the years



4.2.6: (III): Part B:

Comparison of growth % of High Risk Assets across 3 Banking Groups

a. Descriptive Analysis

With the data in Annexure No.: I.5, Mean, Standard Deviation, Minimum, Maximum and Percentiles of the growth % of High Risk assets across the three bank-groups have been tabulated in Table No.: 4.42 as under:

Table No. 4.42: Mean, Standard Deviation, Minima's & Maxima, Percentile of High Risk assets: Comparison across the banks.

Year	Name of the bank	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
							25th	50th (Median)	75th
2009	Other PSBs Group	13	5.46	2.29	2.17	9.63	3.72	4.86	7.44
	State Bank Group	4	5.39	2.17	3.39	8.15	3.53	5.00	7.63
	New Pvt. Bank Group	5	10.00	10.28	1.65	26.93	2.95	4.75	19.68
2010	Other PSBs Group	13	6.49	2.29	2.22	9.70	4.35	7.35	8.09
	State Bank Group	5	5.71	1.47	3.80	7.88	4.57	5.47	6.97
	New Pvt. Bank Group	6	11.19	10.52	1.86	24.73	3.60	5.92	24.59
2011	Other PSBs Group	13	6.34	1.86	3.32	9.58	4.67	6.15	8.02
	State Bank Group	5	10.14	3.36	6.70	14.95	6.98	10.37	13.20
	New Pvt. Bank Group	6	11.87	10.88	3.67	26.66	4.55	5.50	25.47
2012	Other PSBs Group	13	8.37	2.63	4.84	11.69	5.28	9.10	11.07
	State Bank Group	5	10.73	3.16	7.30	14.12	7.47	11.22	13.75
	New Pvt. Bank Group	6	12.45	10.08	4.84	26.10	5.17	6.88	25.07
2013	Other PSBs Group	13	10.20	4.29	4.79	17.80	6.05	11.17	14.02
	State Bank Group	6	12.73	3.61	7.08	16.12	9.01	13.85	15.89
	New Pvt. Bank Group	6	13.39	10.10	5.11	27.80	5.93	8.28	25.44
2014	Other PSBs Group	12	11.81	4.48	6.69	19.92	8.36	10.83	15.80
	State Bank Group	6	12.93	3.63	7.07	16.20	9.41	13.97	16.20
	New Pvt. Bank Group	6	13.09	8.25	5.85	24.43	6.11	9.74	23.03

(Source: Based on Annex. No.: I.5 and statistical analysis output from SPSS)

Now we test whether there is any 'significant' difference in growth % of High-Risk-Assets across the three bank-groups .i.e., to know that if is there any 'significant' change (increase or decrease) in High Risk Assets growth across the three banks-groups. For this purpose ANOVA analysis has been used. If ANOVA is 'significant' then post hoc test (as and when required) may be performed using Bonferroni test.

We set up the Null-Hypothesis as under:

Ho: There is no 'significant' difference between the bank-groups with respect to growth of High Risk Assets

Now ANOVA is performed and results are summarized as under:

Table No. 4.43: ANOVA for High-Risk Assets amongst three Bank-groups

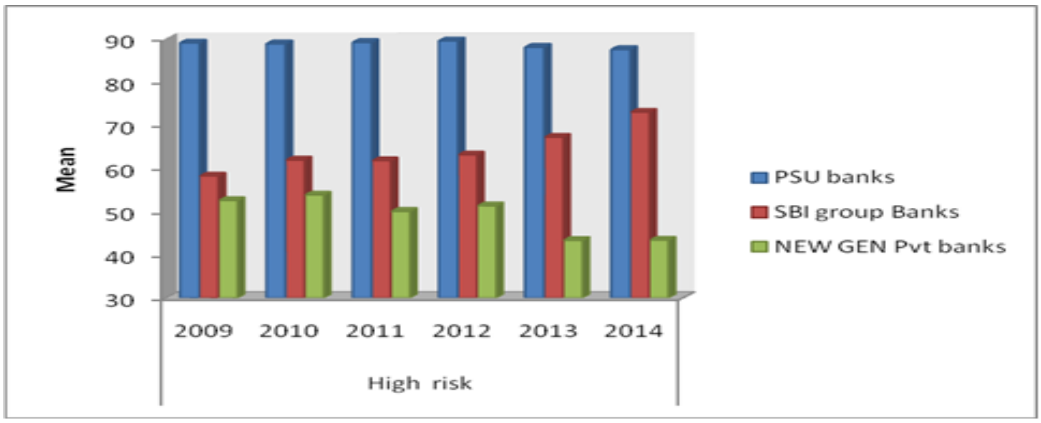
Year	F	P	
2009	1.524	.243	NS
2010	1.865	.180	NS
2011	2.206	.135	NS
2012	1.212	.318	NS
2013	.724	.496	NS
2014	.145	.866	NS

N.B.: NS= Not Significant
(Source: Statistical analysis output from SPSS)

The ANOVA result as above variation across the bank-groups for 'High Risk assets' shows that P>0.05 for the years 2009 to 2014 which means that the 'Null Hypothesis' is 'accepted' and therefore it is concluded that there is statistically 'Not Significant' difference across the bank groups on the mean proportion of High-Risk assets So, it can also be concluded that the difference across the banks is 'not significant'.

The same has been graphically depicted in Bar Chart: 6as under.

Bar Chart 6: Growth of High Risk Assets across the Bank-groups



Chapter Summary

The latest Basel-III Norms were formally published on 16-12-2010 and RBI mandated banks to implement these new Norms from the year 2013-2014.The new Norms seeks to strengthen for the first time the resilience of banks and banking industry as a whole, to withstand the threats of occurrence of financial crisis if any, by strengthening the quantity and quality of capital by building up the capital buffers (CCB and CCCB), emphasizing SRM, liquidity and leverage provisions etc.

The BIS Working Paper No. 443 provides the dynamics of changes brought about by a sample of 94 banks with international presence. Study provided an insight, that global banks made deliberate attempts to strengthen CAR by more of plough back of profit into capital rather than by other possible channels of capital augmentation. Taking clue from the conclusions of the above study, in this chapter we seek to examine the dynamics of changes in India that have evolved since implementation of Basel-II Norms in 2009 till the onset of migration process based on issuance of Basel-III guidelines by RBI to be implemented progressively starting from the financial year 2013-14. We collected the published annual reports of banks and Basel disclosure formats there in. The required data information continuously for the study period was available for the 25 banks. Using these secondary data information, we examined and statistically analyzed, whether the sample banks in India have employed the possible channels of adjustments during the 6 years of study period ending March 2014.Thus, we examined the preparedness of these 25 sample bank's deliberate attempts to migrate to new prudent as well as stringent Norms so as to draw conclusions about the following;

1. Whether sample banks in India have taken deliberate attempts to augment capital by increasing plough-back of profit in to capital;
2. Whether sample banks in India have taken deliberate attempts to augment tier-1 capital (T1) for boosting quality in CAR;
3. Whether sample banks in India have taken deliberate attempts to reduce capital charge for credit risk (CC-Credit) for boosting CAR;
4. Whether sample banks in India have taken deliberate attempts to reduce the assets size to secure better CAR;
5. Whether sample banks in India have taken deliberate attempts to reduce the RWAs to improve CAR; and,
6. Whether sample banks in India have taken deliberate attempts to secure a better CAR by migrating to lower-risk assets' and/or by reducing high-risk assets (to reduce the RWAs and thereby increase the CAR)

It is heartening to note that all the sample banks during the study period (except Canara Bank and Vijaya Bank) have deployed/plough back more than $3/5^{th}$ of annual profit into capital. Similarly, the strategy to augment the proportion of T1 capital into total regulatory capital has also been found to be minimum 55% and above (Except Yes Bank in the year 2013).These trends thus, exhibited by each of the sample banks are consistent with the global pattern as documented in BIS study above and also a proven strategy to boost CAR so as to conform to new Basel Norms.

Similarly, the trends in total capital charge as percentage of regulatory capital, banks belonging to New Pvt. Bank Group have been successful in maintaining relatively lower

percentage of capital charge compare to all other sample banks. Further, the analyzing the proportion of CC-Credit, we find that almost all the sample banks in all the years under study are having lion's share of more than 4/5th of total capital charge. Lastly, it's interesting to observe that most of the sample banks, in 2014 have shown significant decline in the proportion of CC-Credit in comparison with the past years of the study.

These trends exhibited by each of the sample banks are in tune with the general desired road map for migrating to new set of Basel capital adequacy Norms with strong first foot forward, within prescribed timeline.

Analyzing the annual growth rates in assets of the sample banks, we find a decline in 2014 over the base year, for all the 25 sample banks except IOB, Syndicate Bank, Vijaya Bank and SBI. Similarly, annual proportion of RWAs into total assets was found at around 60 percent which denotes a reasonably healthy assets quality with the banks. However, analyzing the annual growth rates in the RWAs we find an erratic trend, across the sample banks indicating a rampant contamination of assets quality during the study period. Analyzing the composition of High risk assets into the total risky assets, the proportion is found in single digit only during the first half of the study period which however is deteriorated and crossed to double digits for many banks cutting across the bank groups during the latter half of the study period. This is indicative of deteriorating of assets quality and contamination in credit portfolio culminating into high NPAs (as reported in the current scenarios).

The evidence presented here, however, suggests that most banks in India have strived hard to boost capital through the accumulation of retained earnings. However, assets impairment and spurt in NPAs for the last two years have somewhat derailed their effort to improve CARs. Further and consequent to NPAs growth in PSBs, their efforts to migrate from high-risk assets' to low or medium risk assets' have also suffered a setback. Study submits that further research is needed to understand the interplay among these different adjustment strategies, and to trace their macroeconomic effects. It will be especially important to look more closely at the relative roles of regulation, macro-economic factors, and disposal of impaired Assets etc.

In the next chapter-5 we examine and evaluate the other options for banks in India to mop-up capital for Basel-III compliance and the challenges associated with the same.

Annexure-I.1 **Page-1/4**

TOTAL PROFIT APPROPRIATION BY SAMPLE BANKS (April 2008- March 2014)

(Amount in Rs. Crores)

Sr. No.	Name of Bank /Group	Total profit for the year (col.4 + col. 6)	Total Profit Distributed As				of Column 6			
			Dividend pay-out		Plough back as Capital					
			Amount	in % (col.4 as % col. 3)	Amount (T1+T2) (Col. 8 + Col. 10)	in % (col.6 as % col. 3)	Amount Ploughed as T1	in % (Col. 8 as % Col.6)	Amount Ploughed as T2	in % (Col. 10 as % Col.6)
1	2	3	4	5	6	7	8	9	10	11
	A) Other PSBs Group									
1	**Bank of Baroda**									
	2009	2227	384	17.2	1843	82.8	757.5	41.1	1085.5	58.9
	2010	3058	640	20.9	2418	79.1	706.1	29.2	1711.9	70.8
	2011	4241	754	17.8	3487	82.2	889.2	25.5	2597.8	74.5
	2012	5007	812	16.2	4195	83.8	1065.5	25.4	3129.5	74.6
	2013	4481	1060	23.7	3421	76.3	916.8	26.8	2504.2	73.2
	2014	4541	1084	23.9	3457	76.1	871.2	25.2	2585.8	74.8
2	**Bank of India**									
	2009	3008	490	16.3	2518	83.7	1145.6	45.5	1372.4	54.5
	2010	1741	428	24.6	1313	75.4	367.6	28.0	945.4	72.0
	2011	2489	443	17.8	2046	82.2	517.6	25.3	1528.4	74.7
	2012	2677	629	23.5	2048	76.5	526.3	25.7	1521.7	74.3
	2013	2750	696	25.3	2054	74.7	513.6	25.0	1540.4	75.0
	2014	2729	374	13.7	2355	86.3	605.3	25.7	1749.7	74.3
3	**Canara Bank**									
	2009	2042	384	18.8	1658	81.2	868.8	52.4	789.2	47.6
	2010	3021	480	15.9	2541	84.1	698.7	27.5	1842.3	72.5
	2011	4026	568	14.1	3458	85.9	916.5	26.5	2541.5	73.5
	2012	3283	568	17.3	2715	82.7	686.9	25.3	2028.1	74.7
	2013	2872	1373	47.8	1499	52.2	398.7	26.6	1100.3	73.4
	2014	2438	592	24.3	1846	75.7	559.2	30.3	1286.8	69.7
4	**Indian Bank**									
	2009	1245	295	23.7	950	76.3	281.2	29.6	668.8	70.4
	2010	1555	374	24.1	1181	75.9	347.2	29.4	833.8	70.6
	2011	1714	362	21.1	1352	78.9	339.4	25.1	1012.6	74.9
	2012	1747	362	20.7	1385	79.3	347.6	25.1	1037.4	74.9
	2013	1609	320	19.9	1289	80.1	364.8	28.3	924.2	71.7
	2014	1190	234	19.7	956	80.3	259.1	27.1	696.9	72.9
5	**Indian Overseas Bank**									
	2009	1326	286	21.6	1040	78.4	787.3	75.7	252.7	24.3
	2010	707	223	31.5	484	68.5	243.9	50.4	240.1	49.6
	2011	1072	360	33.6	712	66.4	215.0	30.2	497.0	69.8
	2012	1050	417	39.7	633	60.3	196.9	31.1	436.1	68.9
	2013	567	215	37.9	352	62.1	121.8	34.6	230.2	65.4
	2014	602	168	27.9	434	72.1	154.9	35.7	279.1	64.3
6	**Punjab National Bank**									
	2009	3091	736	23.8	2355	76.2	798.5	33.9	1556.5	66.1
	2010	3913	810	20.7	3103	79.3	1110.9	35.8	1992.1	64.2
	2011	4433	811	18.3	3622	81.7	916.3	25.3	2705.7	74.7
	2012	4884	869	17.8	4015	82.2	1031.8	25.7	2983.2	74.3
	2013	4748	1116	23.5	3632	76.5	933.5	25.7	2698.5	74.3
	2014	3342	424	12.7	2918	87.3	770.2	26.4	2147.8	73.6
7	**Syndicate Bank**									
	2009	913	184	20.2	729	79.8	212.1	29.1	516.9	70.9
	2010	813	183	22.5	630	77.5	218.0	34.6	412.0	65.4
	2011	1048	246	23.5	802	76.5	200.5	25.0	601.5	75.0
	2012	1313	267	20.3	1046	79.7	263.7	25.2	782.3	74.8
	2013	2004	473	23.6	1531	76.4	384.3	25.1	1146.7	74.9
	2014	1711	399	23.3	1312	76.7	330.7	25.2	981.3	74.8

TOTAL PROFIT APPROPRIATION BY SAMPLE BANKS (April 2008- March 2014)

(Amount in Rs. Crores)

Sr. No.	Name of Bank /Group	Total profit for the year (col.4 + col. 6)	Total Profit Distributed As				of Column 6			
			Dividend pay-out		Plough back as Capital					
			Amount	in % (col.4 as % col. 3)	Amount (T1+T2) (Col. 8 + Col. 10)	in % (col.6 as % col. 3)	Amount Ploughed as T1	in % (Col. 8 as % Col.6)	Amount Ploughed as T2	in % (Col. 10 as % Col.6)
1	2	3	4	5	6	7	8	9	10	11
	A) Other PSBs Group									
8	**Union Bank of India**									
	2009	1727	295	17.1	1432	82.9	610.0	42.6	822.0	57.4
	2010	2075	326	15.7	1749	84.3	610.5	34.9	1138.5	65.1
	2011	2082	487	23.4	1595	76.6	524.7	32.9	1070.3	67.1
	2012	1787	524	29.3	1263	70.7	406.8	32.2	856.2	67.8
	2013	2159	570	26.4	1589	73.6	518.0	32.6	1071.0	67.4
	2014	1696	309	18.2	1387	81.8	430.0	31.0	957.0	69.0
9	**Andhra Bank**									
	2009	653	255	39.1	398	60.9	211.7	53.2	186.3	46.8
	2010	1046	283	27.1	763	72.9	293.6	38.5	469.4	61.5
	2011	1267	359	28.3	908	71.7	296.0	32.6	612.0	67.4
	2012	1345	358	26.6	987	73.4	107.6	10.9	879.4	89.1
	2013	1289	327	25.4	962	74.6	248.2	25.8	713.8	74.2
	2014	435	76	17.5	359	82.5	57.1	15.9	301.9	84.1
10	**Corporation Bank**									
	2009	893	212	23.7	681	76.3	460.4	67.6	220.6	32.4
	2010	1170	277	23.7	893	76.3	434.7	48.7	458.3	51.3
	2011	1420	344	24.2	1076	75.8	291.6	27.1	784.4	72.9
	2012	1518	335	22.1	1183	77.9	339.4	28.7	843.6	71.3
	2013	1443	364	25.2	1079	74.8	278.4	25.8	800.6	74.2
	2014	568	135	23.8	433	76.2	128.1	29.6	304.9	70.4
11	**Oriental Bank of Commerce**									
	2009	890	214	24.0	676	76.0	432.0	63.9	244.0	36.1
	2010	1135	267	23.5	868	76.5	349.8	40.3	518.2	59.7
	2011	1502	351	23.4	1151	76.6	288.9	25.1	862.1	74.9
	2012	1141	268	23.5	873	76.5	224.4	25.7	648.6	74.3
	2013	1328	315	23.7	1013	76.3	262.4	25.9	750.6	74.1
	2014	1139	267	23.4	872	76.6	218.0	25.0	654.0	75.0
12	**VIJAYA Bank**									
	2009	262	51	19.5	211	80.5	169.9	80.5	41.1	19.5
	2010	507	164	32.3	343	67.7	215.4	62.8	127.6	37.2
	2011	524	232	44.3	292	55.7	111.8	38.3	180.2	61.7
	2012	581	277	47.7	304	52.3	120.1	39.5	183.9	60.5
	2013	586	264	45.1	322	54.9	127.2	39.5	194.8	60.5
	2014	416	166	39.9	250	60.1	150.3	60.1	99.7	39.9
13	**IDBI Bank Limited**									
	2009	858	207	24.1	651	75.9	290.3	44.6	360.7	55.4
	2010	1031	233	22.6	798	77.4	527.5	66.1	270.5	33.9
	2011	1650	399	24.2	1251	75.8	416.6	33.3	834.4	66.7
	2012	2031	449	22.1	1582	77.9	545.0	34.5	1037.0	65.5
	2013	1882	538	28.6	1344	71.4	637.1	47.4	706.9	52.6
	2014	1121	188	16.8	933	83.2	428.1	45.9	504.9	54.1

TOTAL PROFIT APPROPRIATION BY SAMPLE BANKS (April 2008- March 2014)

(Amount in Rs. Crores)

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			Dividend pay-out		Plough back as Capital					
			Amount	in % (col.4 as % col. 3)	Amount (T1+T2) (Col. 8 + Col. 10)	in % (col.6 as % col. 3)	Amount Ploughed as T1	in % (Col. 8 as % Col.6)	Amount Ploughed as T2	in % (Col. 10 as % Col.6)
1	2	3	4	5	6	7	8	9	10	11
	B) State Bank Group									
14	**State Bank of India**									
	2009	9121	2,690	29.5	6431	70.5	4315.2	67.1	2115.8	32.9
	2010	9166	2,135	23.3	7031	76.7	4985.0	70.9	2046.0	29.1
	2011	8264	2,661	32.2	5603	67.8	1854.6	33.1	3748.4	66.9
	2012	11707	3,219	27.5	8488	72.5	2554.9	30.1	5933.1	69.9
	2013	14104	3,215	22.8	10889	77.2	3430.0	31.5	7459.0	68.5
	2014	10891	2,505	23.0	8386	77.0	2742.2	32.7	5643.8	67.3
15	**State Bank of Bikaner & Jaipur**									
	2009	404	71	17.6	333	82.4	102.9	30.9	230.1	69.1
	2010	455	84	18.5	371	81.5	121.3	32.7	249.7	67.3
	2011	550	117	21.3	433	78.7	135.5	31.3	297.5	68.7
	2012	652	118	18.1	534	81.9	166.1	31.1	367.9	68.9
	2013	730	131	17.9	599	82.1	195.3	32.6	403.7	67.4
	2014	731	117	16.0	614	84.0	196.5	32.0	417.5	68.0
16	**State Bank of Hyderabad**									
	2009	616	97	15.7	519	84.3	204.0	39.3	315.0	60.7
	2010	822	116	14.1	706	85.9	242.2	34.3	463.8	65.7
	2011	1166	115	9.9	1051	90.1	326.9	31.1	724.1	68.9
	2012	1298	116	8.9	1182	91.1	359.5	30.4	822.5	69.6
	2013	1250	116	9.3	1134	90.7	357.2	31.5	776.8	68.5
	2014	1019	82	8.0	937	92.0	303.7	32.4	633.3	67.6
17	**State Bank of Mysore**									
	2009	337	38	11.3	299	88.7	80.1	26.8	218.9	73.2
	2010	446	53	11.9	393	88.1	106.9	27.2	286.1	72.8
	2011	501	59	11.8	442	88.2	121.1	27.4	320.9	72.6
	2012	369	56	15.2	313	84.8	77.9	24.9	235.1	75.1
	2013	416	62	14.9	354	85.1	138.8	39.2	215.2	60.8
	2014	274	16	5.8	258	94.2	77.1	29.9	180.9	70.1
18	**State Bank of Patiala**									
	2009	531	106	20.0	425	80.0	NA	NA	NA	NA
	2010	551	106	19.2	445	80.8	114.8	25.8	330.2	74.2
	2011	653	109	16.7	544	83.3	139.8	25.7	404.2	74.3
	2012	796	106	13.3	690	86.7	172.5	25.0	517.5	75.0
	2013	667	178	26.7	489	73.3	126.2	25.8	362.8	74.2
	2014	448	104	23.2	344	76.8	110.4	32.1	233.6	67.9
19	**State Bank of Travancore**									
	2009	609	76	12.5	533	87.5	166.8	31.3	366.2	68.7
	2010	685	94	13.7	591	86.3	160.8	27.2	430.2	72.8
	2011	728	105	14.4	623	85.6	157.6	25.3	465.4	74.7
	2012	511	104	20.4	407	79.6	104.2	25.6	302.8	74.4
	2013	615	116	18.9	499	81.1	136.7	27.4	362.3	72.6
	2014	304	15	4.9	289	95.1	79.8	27.6	209.2	72.4

TOTAL PROFIT APPROPRIATION BY SAMPLE BANKS (April 2008- March 2014)

(Amount in Rs. Crores)

Sr. No.	Name of Bank /Group	Total profit for the year (col.4 + col. 6)	Total Profit Distributed As				of Column 6			
			Dividend pay-out		Plough back as Capital					
			Amount	in % (col.4 as % col. 3)	Amount (T1+T2) (Col. 8 + Col. 10)	in % (col.6 as % col. 3)	Amount Ploughed as T1	in % (Col. 8 as % Col.6)	Amount Ploughed as T2	in % (Col. 10 as % Col.6)
1	2	3	4	5	6	7	8	9	10	11
	C) New Pvt. Banks Group									
20	**Axis Bank Limited**									
	2009	1815	420	23.1	1395	76.9	1071.4	76.8	323.6	17.8
	2010	2515	568	22.6	1947	77.4	1495.3	76.8	451.7	18.0
	2011	3388	670	19.8	2718	80.2	1921.6	70.7	796.4	23.5
	2012	4242	770	18.2	3472	81.8	2836.6	81.7	635.4	15.0
	2013	5179	987	19.1	4192	80.9	3345.2	79.8	846.8	16.4
	2014	6217	1101	17.7	5116	82.3	4169.5	81.5	946.5	15.2
21	**HDFC Bank Limited**									
	2009	2245	498	22.2	1747	77.8	1194.9	68.4	552.1	31.6
	2010	2949	641	21.7	2308	78.3	1574.1	68.2	733.9	31.8
	2011	3926	893	22.7	3033	77.3	2026.0	66.8	1007.0	33.2
	2012	5167	1174	22.7	3993	77.3	2719.2	68.1	1273.8	31.9
	2013	6726	1536	22.8	5190	77.2	3472.1	66.9	1717.9	33.1
	2014	8478	1922	22.7	6556	77.3	4405.6	67.2	2150.4	32.8
22	**ICICI Bank Limited**									
	2009	3758	1445	38.5	2313	61.5	1260.6	54.5	1052.4	45.5
	2010	4025	1502	37.3	2523	62.7	1319.5	52.3	1203.5	47.7
	2011	5151	1817	35.3	3334	64.7	1817.0	54.5	1517.0	45.5
	2012	6465	2122	32.8	4343	67.2	2479.9	57.1	1863.1	42.9
	2013	8325	2597	31.2	5728	68.8	3413.9	59.6	2314.1	40.4
	2014	9810	2833	28.9	6977	71.1	4228.1	60.6	2748.9	39.4
23	**Indusind Bank Limited**									
	2009	148	53	35.8	95	64.2	60.3	63.5	34.7	36.5
	2010	350	86	24.6	264	75.4	198.3	75.1	65.7	24.9
	2011	577	108	18.7	484	83.9	391.6	80.9	92.4	19.1
	2012	803	119	14.8	700	87.2	596.4	85.2	103.6	14.8
	2013	1061	183	17.2	904	85.2	746.7	82.6	157.3	17.4
	2014	1408	215	15.3	1224	86.9	1036.7	84.7	187.3	15.3
24	**Kotak Mahindra Bank Limited**									
	2009	276	28	10.1	248	89.9	173.6	70.0	74.4	30.0
	2010	561	28	5.0	533	95.0	439.7	82.5	93.3	17.5
	2011	818	41	5.0	777	95.0	572.6	73.7	204.4	26.3
	2012	1085	52	4.8	1033	95.2	893.5	86.5	139.5	13.5
	2013	1361	60	4.4	1301	95.6	1139.7	87.6	161.3	12.4
	2014	1502	71	4.7	1431	95.3	1299.3	90.8	131.7	9.2
25	**Yes Bank Limited**									
	2009	304	67	22.0	237	78.0	183.9	77.6	53.1	22.4
	2010	478	60	12.6	418	87.4	364.3	87.2	53.7	12.8
	2011	727	88	12.1	639	87.9	549.6	86.0	89.4	14.0
	2012	977	163	16.7	814	83.3	676.3	83.1	137.7	16.9
	2013	1301	251	19.3	1050	80.7	838.9	79.9	211.1	20.1
	2014	1617	340	21.0	1277	79.0	1009.2	79.0	267.8	21.0

Source: Annual Reports and Basel Disclosure Formatsof each Sample Banks

Annexure: I.2 **1/4**

REGULATORY CAPITAL CONSOLIDATION BY SAMPLE BANKS (April 2008-March 2014)

(Amount in Rs. Crores)

Sr. No.	Name of Bank/ Group	Total Regulatory Capital	of which			
			Tier 1 Capital	in % (Col. 4 as of Col.3)	Tier 2 Capital	in % (Col. 6 as of Col.3)
1	2	3	4	5	6	7
	A) Other PSBs Group					
1	**Bank of Baroda**					
	2009	18313	11070	60.4	7243	39.6
	2010	22417	14357	64.0	8060	36.0
	2011	29692	21405	72.1	8287	27.9
	2012	37228	27498	73.9	9730	26.1
	2013	38910	30862	79.3	8048	20.7
	2014	44293	33468	75.6	10825	24.4
2	**Bank of India**					
	2009	18211	12466	68.5	5745	31.5
	2010	21169	13951	65.9	7218	34.1
	2011	25207	17340	68.8	7867	31.2
	2012	28508	20592	72.2	7916	27.8
	2013	31390	23474	74.8	7916	25.2
	2014	33707	24402	72.4	9305	27.6
3	**Canara Bank**					
	2009	17646	10023	56.8	7623	43.2
	2010	20232	12870	63.6	7362	36.4
	2011	27095	19139	70.6	7956	29.4
	2012	29007	21829	75.3	7178	24.7
	2013	30164	23776	78.8	6388	21.2
	2014	33194	23990	72.3	9204	27.7
4	**Indian Bank**					
	2009	6899	5865	85.0	1034	15.0
	2010	7994	7002	87.6	992	12.4
	2011	10233	8372	81.8	1861	18.2
	2012	11649	9687	83.2	1962	16.8
	2013	13050	10894	83.5	2156	16.5
	2014	14053	11411	81.2	2642	18.8
5	**Indian Overseas Bank**					
	2009	10380	6197	59.7	4183	40.3
	2010	11721	6875	58.7	4846	41.3
	2011	15256	8556	56.1	6700	43.9
	2012	17603	11042	62.7	6561	37.3
	2013	18367	12089	65.8	6278	34.2
	2014	19988	13853	69.3	6135	30.7
6	**Punjab National Bank**					
	2009	21570	13800	64.0	7770	36.0
	2010	26764	17227	64.4	9537	35.6
	2011	30888	20979	67.9	9909	32.1
	2012	36851	27087	73.5	9764	26.5
	2013	41267	31664	76.7	9603	23.3
	2014	46960	36125	76.9	10835	23.1
7	**Syndicate Bank**					
	2009	8328	5175	62.1	3153	37.9
	2010	9218	5978	64.9	3240	35.1
	2011	10387	7412	71.4	2975	28.6
	2012	11975	8750	73.1	3225	26.9
	2013	14103	10040	71.2	4063	28.8
	2014	14575	11085	76.1	3490	23.9

Annexure: I.2 **2/4**

REGULATORY CAPITAL CONSOLIDATION BY SAMPLE BANKS (April 2008-March 2014)

(Amount in Rs. Crores)

Sr. No.	Name of Bank/ Group	Total Regulatory Capital	of which			
			Tier 1 Capital	in % (Col. 4 as of Col.3)	Tier 2 Capital	in % (Col. 6 as of Col.3)
1	2	3	4	5	6	7
	A) Other PSBs Group					
8	**Union Bank of India**					
	2009	12639	7794	61.7	4845	38.3
	2010	15334	9697	63.2	5637	36.8
	2011	18146	12178	67.1	5968	32.9
	2012	19929	14077	70.6	5852	29.4
	2013	18353	16785	91.5	1568	8.5
	2014	25018	17538	70.1	7480	29.9
9	**Andhra Bank**					
	2009	6616	4186	63.3	2430	36.7
	2010	7530	4421	58.7	3109	41.3
	2011	9861	6636	67.3	3225	32.7
	2012	11157	7639	68.5	3518	31.5
	2013	11899	8625	72.5	3274	27.5
	2014	11735.0	8814	75.1	2921	24.9
10	**Corporation Bank**					
	2009	7776	5083	65.4	2693	34.6
	2010	10737	6461	60.2	4276	39.8
	2011	12706	7824	61.6	4882	38.4
	2012	13767	8820	64.1	4947	35.9
	2013	15166	10249	67.6	4917	32.4
	2014	15191	10628	70.0	4563	30.0
11	**Oriental Bank of Commerce**					
	2009	9436	6616	70.1	2820	29.9
	2010	10598	7847	74.0	2751	26.0
	2011	13992	11020	78.8	2972	21.2
	2012	14918	11901	79.8	3017	20.2
	2013	16541	12613	76.3	3928	23.7
	2014	16280	13103	80.5	3177	19.5
12	**VIJAYA Bank**					
	2009	4628	2726	58.9	1902	41.1
	2010	4842	2978	61.5	1864	38.5
	2011	6263	4458	71.2	1805	28.8
	2012	6708	4975	74.2	1733	25.8
	2013	6797	5127	75.4	1670	24.6
	2014	7171	5518	76.9	1653	23.1
13	**IDBI Bank**					
	2009	16534	9756	59.0	6778	41.0
	2010	20890	11546	55.3	9344	44.7
	2011	26938	15897	59.0	11041	41.0
	2012	31590	18207	57.6	13383	42.4
	2013	34426	20166	58.6	14260	41.4
	2014	31792	21223	66.8	10569	33.2

Annexure: I.2 **3/4**

REGULATORY CAPITAL CONSOLIDATION BY SAMPLE BANKS (April 2008-March 2014)

(Amount in Rs. Crores)

Sr. No.	Name of Bank/ Group	Total Regulatory Capital	of which			
			Tier 1 Capital	in % (Col. 4 as of Col.3)	Tier 2 Capital	in % (Col. 6 as of Col.3)
1	2	3	4	5	6	7
	B) State Bank Group					
14	**State Bank of India**					
	2009	114114	72406	63.5	41708	36.5
	2010	119466	81261	68.0	38205	32.0
	2011	129801	84939	65.4	44862	34.6
	2012	152256	107411	70.5	44845	29.5
	2013	170036	125468	73.8	44568	26.2
	2014	182561	141767	77.7	40794	22.3
15	**State Bank of Bikaner & Jaipur**					
	2009	3772	2197	58.2	1575	41.8
	2010	4048	2543	62.8	1505	37.2
	2011	4454	3022	67.8	1432	32.2
	2012	6541	4355	66.6	2186	33.4
	2013	6582	4933	74.9	1649	25.1
	2014	6951	5439	78.2	1512	21.8
16	**State Bank of Hyderabad**					
	2009	616	NA	NA	NA	NA
	2010	822	NA	NA	NA	Na
	2011	8920	5708	64.0	3212	36.0
	2012	9920	7179	72.4	2741	27.6
	2013	10879	8138	74.8	2741	25.2
	2014	11238	8725	77.6	2513	22.4
17	**State Bank of Mysore**					
	2009	8116	5991	73.8	2125	26.2
	2010	10018	7410	74.0	2608	26.0
	2011	4679	3325	71.1	1354	28.9
	2012	4837	3525	72.9	1312	27.1
	2013	5169	3886	75.2	1283	24.8
	2014	4907	3544	72.2	1363	27.8
18	**State Bank of Patiala**					
	2009	5287	2913	55.1	2374	44.9
	2010	6186	3805	61.5	2381	38.5
	2011	6801	4390	64.5	2411	35.5
	2012	7271	5081	69.9	2190	30.1
	2013	7793	5622	72.1	2171	27.9
	2014	8212	6235	75.9	1977	24.1
19	**State Bank of Travancore**					
	2009	3843	2354	61.3	1489	38.7
	2010	4397	2958	67.3	1439	32.7
	2011	4882	3504	71.8	1378	28.2
	2012	5867	4049	69.0	1818	31.0
	2013	4365	4315	98.9	50	1.1
	2014	4959	4525	91.2	434	8.8

Annexure: I.2 **4/4**

REGULATORY CAPITAL CONSOLIDATION BY SAMPLE BANKS (April 2008-March 2014)

(Amount in Rs. Crores)

Sr. No.	Name of Bank/ Group	Total Regulatory Capital	of which			
			Tier 1 Capital	in % (Col. 4 as of Col.3)	Tier 2 Capital	in % (Col. 6 as of Col.3)
1	2	3	4	5	6	7
	C) New Pvt. Banks Group					
20	**Axis Bank Limited**					
	2009	15028	10163	67.6	4865	32.4
	2010	22308	15790	70.8	6518	29.2
	2011	24870	18503	74.4	6367	25.6
	2012	31645	21886	69.2	9759	30.8
	2013	43931	31597	71.9	12334	28.1
	2014	46904	36700	78.2	10204	21.8
21	**HDFC Bank Limited**					
	2009	26359	19806	75.1	6553	24.9
	2010	19609	12943	66.0	6666	34.0
	2011	27238	20684	75.9	6554	24.1
	2012	32359	24255	75.0	8104	25.0
	2013	53175	34632	65.1	18543	34.9
	2014	55509	40654	73.2	14855	26.8
22	**ICICI Bank Limited**					
	2009	55356	42197	76.2	13159	23.8
	2010	57102	41061	71.9	16041	28.1
	2011	78963	50425	63.9	28538	36.1
	2012	86519	56498	65.3	30021	34.7
	2013	95651	62699	65.5	32952	34.5
	2014	100015	71470	71.5	28545	28.5
23	**Indusind Bank Limited**					
	2009	2340	1426	60.9	914	39.1
	2010	3399	2140	63.0	1259	37.0
	2011	4882	3774	77.3	1108	22.7
	2012	5427	4457	82.1	970	17.9
	2013	8185	7344	89.7	841	10.3
	2014	9305	8555	91.9	750	8.1
24	**Kotak Mahindra Bank Limited**					
	2009	4225	3406	80.6	819	19.4
	2010	4808	4040	84.0	768	16.0
	2011	11317	10498	92.8	819	7.2
	2012	13309	12282	92.3	1027	7.7
	2013	15487	14438	93.2	1049	6.8
	2014	18917	18053	95.4	864	4.6
25	**Yes Bank Limited**					
	2009	3067	1753	57.2	1314	42.8
	2010	5257	3278	62.4	1979	37.6
	2011	7119	4165	58.5	2954	41.5
	2012	9326	5151	55.2	4175	44.8
	2013	12295	6376	51.9	5919	48.1
	2014	10999	7503	68.2	3496	31.8

Source: Annual Reports and Basel Disclosure Formats.of each Sample Banks

COMPOSITION OF CAPITAL CHARGE FOR VARIOUS RISKS (April 2008- March 2014)

(Amount in Rs. Crore)

Sr. No.	Name of Bank /Group	Total Regulatory capital	of which (Col.3)		of which for (Col.4)					
			Total Capital Charge	In % (Col.4 as % Col.3)	Credit Risk	In % (Col.6 as % Col.4)	Market Risk	In % (Col.8 as % Col.4)	Operational Risk	In % (Col.10 as % Col.4)
1	2	3	4	5	6	7	8	9	10	11
	A) Other PSBs Group									
1	**Bank of Baroda**									
	2009	18313	11729	64.0	10214	87.1	806	6.9	709	6.0
	2010	22417	14048	62.7	12340	87.8	859	6.1	849	6.0
	2011	29692	18890	63.6	16897	89.4	973	5.2	1020	5.4
	2012	37228	22836	61.3	20442	89.5	1098	4.8	1296	5.7
	2013	38910	27428	70.5	24008	87.5	1782	6.5	1638	6.0
	2014	44293	32450	73.3	28740	88.6	1762	5.4	1948	6.0
2	**Bank of India**									
	2009	18211	12656	69.5	10928	86.3	844	6.7	884	7.0
	2010	21169	17057	80.6	14653	85.9	1325	7.8	1079	6.3
	2011	25207	21422	85.0	18532	86.5	1572	7.3	1318	6.2
	2012	28508	24059	84.4	21326	88.6	1237	5.1	1496	6.2
	2013	31390	25721	81.9	22774	88.5	963	3.7	1984	7.7
	2014	33707	33180	98.4	28038	84.5	3237	9.8	1905	5.7
3	**Canara Bank**									
	2009	17646	11260	63.8	10009	88.9	491	4.4	760	6.7
	2010	20232	13555	67.0	12197	90.0	522	3.9	836	6.2
	2011	27095	15612	57.6	13976	89.5	664	4.3	972	6.2
	2012	29007	18978	65.4	16623	87.6	1154	6.1	1201	6.3
	2013	30164	21899	72.6	18557	84.7	1936	8.8	1406	6.4
	2014	33194	28026	84.4	24603	87.8	1884	6.7	1539	5.5
4	**Indian Bank**									
	2009	6899	4442	64.4	3807	85.7	293	6.6	342	7.7
	2010	7994	5661	70.8	4830	85.3	425	7.5	406	7.2
	2011	10233	6728	65.7	5886	87.5	344	5.1	498	7.4
	2012	11649	7725	66.3	6843	88.6	266	3.4	616	8.0
	2013	13050	8808	67.5	7558	85.8	526	6.0	724	8.2
	2014	14053	9893	70.4	8509	86.0	589	6.0	795	8.0
5	**Indian Overseas Bank**									
	2009	10380	7075	68.2	6177	87.3	451	6.4	447	6.3
	2010	11721	7137	60.9	6232	87.3	394	5.5	511	7.2
	2011	15256	9438	61.9	8202	86.9	663	7.0	573	6.1
	2012	17603	11897	67.6	10589	89.0	637	5.4	671	5.6
	2013	18367	13952	76.0	12412	89.0	729	5.2	811	5.8
	2014	19988	18353	91.8	16609	90.5	786	4.3	958	5.2
6	**Punjab National Bank**									
	2009	21570	13833	64.1	12025	86.9	642	4.6	1166	8.4
	2010	26764	17012	63.6	15180	89.2	666	3.9	1166	6.9
	2011	30888	22388	72.5	19747	88.2	942	4.2	1699	7.6
	2012	36851	26269	71.3	22805	86.8	1400	5.3	2064	7.9
	2013	41267	29284	71.0	25102	85.7	1760	6.0	2422	8.3
	2014	46960	39148	83.4	32839	83.9	2439	6.2	3870	9.9
7	**Syndicate Bank**									
	2009	8328	5909	71.0	5193	87.9	356	6.0	360	6.1
	2010	9218	6530	70.8	5800	88.8	347	5.3	383	5.9
	2011	10387	7401	71.3	6504	87.9	474	6.4	423	5.7
	2012	11975	8823	73.7	7964	90.3	317	3.6	542	6.1
	2013	14103	10085	71.5	9058	89.8	365	3.6	662	6.6
	2014	14575	11497	78.9	9895	86.1	865	7.5	737	6.4

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COMPOSITION OF CAPITAL CHARGE FOR VARIOUS RISKS (April 2008- March 2014)

(Amount in Rs. Crore)

Sr. No.	Name of Bank /Group	Total Regulatory capital	of which (Col.3)		of which for (Col.4)					
			Total Capital Charge	In % (Col.4 as % Col.3)	Credit Risk	In % (Col.6 as % Col.4)	Market Risk	In % (Col.8 as % Col.4)	Operational Risk	In % (Col.10 as % Col.4)
1	2	3	4	5	6	7	8	9	10	11
	A) Other PSBs Group									
8	**Union Bank of India**									
	2009	12639	12639	100.0	12639	100.0		0.0		0.0
	2010	15334	16563	108.0	15334	92.6	601	3.6	628	3.8
	2011	18146	19398	106.9	18146	93.5	502	2.6	750	3.9
	2012	19929	21559	108.2	19929	92.4	676	3.1	954	4.4
	2013	18353	20503	111.7	18353	89.5	992	4.8	1158	5.6
	2014	25018	28790	115.1	25018	86.9	2416	8.4	1356	4.7
9	**Andhra Bank**									
	2009	6616	3469	52.4	3305	95.3	151	4.4	13	0.4
	2010	7530	4865	64.6	4424	90.9	136	2.8	305	6.3
	2011	9861	6170	62.6	5650	91.6	158	2.6	362	5.9
	2012	11157	7616	68.3	7032	92.3	117	1.5	467	6.1
	2013	11899	9176	77.1	8188	89.2	403	4.4	585	6.4
	2014	11735.0	9751	83.1	8650	88.7	427	4.4	674	6.9
10	**Corporation Bank**									
	2009	7776	5143	66.1	4305	83.7	566	11.0	272	5.3
	2010	10737	6285	58.5	5549	88.3	431	6.9	305	4.9
	2011	12706	8103	63.8	7401	91.3	333	4.1	369	4.6
	2012	13767	9535	69.3	8701	91.3	361	3.8	473	5.0
	2013	15166	11068	73.0	9884	89.3	602	5.4	582	5.3
	2014	15191	11707	77.1	10298	88.0	736	6.3	673	5.7
11	**Oriental Bank of Commerce**									
	2009	9436	6544	69.4	5813	88.8	369	5.6	362	5.5
	2010	10598	7608	71.8	6814	89.6	354	4.7	440	5.8
	2011	13992	8848	63.2	7777	87.9	487	5.5	584	6.6
	2012	14918	10577	70.9	9263	87.6	596	5.6	718	6.8
	2013	16541	12371	74.8	10944	88.5	582	4.7	845	6.8
	2014	16280	13314	81.8	11826	88.8	549	4.1	939	7.1
12	**VIJAYA Bank**									
	2009	4628	3168	68.5	2723	86.0	250	7.9	195	6.2
	2010	4842	3487	72.0	3083	88.4	194	5.6	210	6.0
	2011	6263	4060	64.8	3555	87.6	258	6.4	247	6.1
	2012	6708	4624	68.9	4098	88.6	223	4.8	303	6.6
	2013	6797	5404	79.5	4739	87.7	319	5.9	346	6.4
	2014	7171	6116	85.3	5432	88.8	319	5.2	365.0	6.0
13	**IDBI Bank Limited**									
	2009	16534	12959	78.4	11727	90.5	898	6.9	334	2.6
	2010	20890	16376	78.4	14867	90.8	1175	7.2	334	2.0
	2011	26938	17594	65.3	15917	90.5	1198	6.8	479	2.7
	2012	31590	19345	61.2	17415	90.0	1244	6.4	686	3.5
	2013	34426	23310	67.7	20774	89.1	1765	7.6	771	3.3
	2014	31792	24292	76.4	21485	88.4	1725	7.1	1082	4.5

COMPOSITION OF CAPITAL CHARGE FOR VARIOUS RISKS (April 2008- March 2014)

(Amount in Rs. Crore)

Sr. No.	Name of Bank /Group	Total Regulatory capital	of which (Col.3)		of which for (Col.4)					
			Total Capital Charge	In % (Col.4 as % Col.3)	Credit Risk	In % (Col.6 as % Col.4)	Market Risk	In % (Col.8 as % Col.4)	Operational Risk	In % (Col.10 as % Col.4)
1	2	3	4	5	6	7	8	9	10	11
	B) State Bank Group									
14	**State Bank of India**									
	2009	114114	72762	63.8	64,023	88.0	3,767	5.2	4,972	6.8
	2010	119466	82148	68.8	71539	87.1	5068	6.2	5541	6.7
	2011	129801	95515	73.6	83,878	87.8	5,185	5.4	6,452	6.8
	2012	152256	100369	65.9	88,074	87.8	4,377	4.4	7,918	7.9
	2013	170036	119579	70.3	103,608	86.6	6,390	5.3	9,581	8.0
	2014	182561	134329	73.6	116,270	86.6	7,182	5.3	10,877	8.1
15	**State Bank of Bikaner & Jaipur**									
	2009	3772	2338	62.0	2,073	88.7	63	2.7	202	8.6
	2010	4048	2740	67.7	2,446	89.3	67	2.4	227	8.3
	2011	4454	2740	61.5	2,446	89.3	67	2.4	227	8.3
	2012	6541	4014	61.4	3,673	91.5	46	1.1	295	7.3
	2013	6582	4867	73.9	4,418	90.8	96	2.0	353	7.3
	2014	6951	5417	77.9	4,908	90.6	85	1.6	424	7.8
16	**State Bank of Hyderabad**									
	2009	616	NA	NA	NA	NA	NA	NA	NA	NA
	2010	822	4773	580.7	4,263	89.3	187	3.9	323	6.8
	2011	8920	5635	63.2	5,070	90.0	141	2.5	424	7.5
	2012	9920	NA	NA	NA	NA	NA	NA	NA	NA
	2013	10879	7921	72.8	6,983	88.2	291	3.7	647	8.2
	2014	11238	8426	75.0	7,507	89.1	217	2.6	702	8.3
17	**State Bank of Mysore**									
	2009	8116	NA	NA	NA	NA	NA	NA	NA	NA
	2010	10018	NA	NA	NA	NA	NA	NA	NA	NA
	2011	4679	2823	60.3	2,563	90.8	60	2.1	200	7.1
	2012	4837	3468	71.7	3,175	91.6	46	1.3	247	7.1
	2013	5169	3945	76.3	3,588	91.0	68	1.7	289	7.3
	2014	4907	4303	87.7	3,684	85.6	292	6.8	327	7.6
18	**State Bank of Patiala**									
	2009	5287	3778	71.5	3,428	90.7	136	3.6	214	5.7
	2010	6186	4197	67.8	3,813	90.9	150	3.6	234	5.6
	2011	6801	4567	67.2	4,172	91.4	122	2.7	273	6.0
	2012	7271	5023	69.1	4,798	95.5	192	3.8	33	0.7
	2013	7793	6306	80.9	5,676	90.0	239	3.8	391	6.2
	2014	8212	8426	102.6	7,507	89.1	217	2.6	702	8.3
19	**State Bank of Travancore**									
	2009	3843	2465	64.1	2,186	88.7	78	3.2	201	8.2
	2010	4397	2880	65.5	2,579	89.5	74	2.6	227	7.9
	2011	4882	3504	71.8	3,170	90.5	80	2.3	254	7.2
	2012	5867	3897	66.4	3,492	89.6	107	2.7	298	7.6
	2013	4365	4690	107.4	4,117	87.8	241	5.1	332	7.1
	2014	4959	5303	106.9	4720	89.0	208	3.9	375	7.1

COMPOSITION OF CAPITAL CHARGE FOR VARIOUS RISKS (April 2008- March 2014)

(Amount in Rs. Crore)

Sr. No.	Name of Bank /Group	Total Regulatory capital	of which (Col.3)		of which for (Col.4)					
			Total Capital Charge	In % (Col.4 as % Col.3)	Credit Risk	In % (Col.6 as % Col.4)	Market Risk	In % (Col.8 as % Col.4)	Operational Risk	In % (Col.10 as % Col.4)
1	2	3	4	5	6	7	8	9	10	11
	C) New Pvt. Banks Group									
20	**Axis Bank Limited**									
	2009	15028	9510	63.3	8399	88.3	1051	11.1	60	0.6
	2010	22308	12707	57.0	11040	86.9	1008	7.9	659	5.2
	2011	24870	17690	71.1	15350	86.8	1378	7.8	962	5.4
	2012	31645	20854	65.9	17815	85.4	1749	8.4	1290	6.2
	2013	43931	23251	52.9	19785	85.1	1841	7.9	1625	7.0
	2014	46904	25904	55.2	22076	85.2	1828	7.1	2000	7.7
21	**HDFC Bank Limited**									
	2009	26359	12109	45.9	10740	88.7	563	4.6	806	6.7
	2010	19609	14044	71.6	12280	87.4	589	4.2	1175	8.4
	2011	27238	17704	65.0	15262	86.2	928	5.2	1514	8.6
	2012	32359	22113	68.3	19760	89.4	460	2.1	1893	8.6
	2013	53175	28311	53.2	24682	87.2	1373	4.8	2256	8.0
	2014	55509	32384	58.3	28534	88.1	1040	3.2	2810	8.7
22	**ICICI Bank Limited**									
	2009	55356	39541	71.4	32814	83.0	4613	11.7	2114	5.3
	2010	57102	32010	56.1	26281	82.1	3270	10.2	2459	7.7
	2011	78963	35683	45.2	29656	83.1	3402	9.5	2625	7.4
	2012	86519	39734	45.9	33919	85.4	3196	8.0	2619	6.6
	2013	95651	43713	45.7	37718	86.3	3246	7.4	2749	6.3
	2014	100015	49069	49.1	42969	87.6	2976	6.1	3124	6.4
23	**Indusind Bank Limited**									
	2009	2340	1678	71.7	1548	92.3	31	1.8	99	5.9
	2010	3399	1996	58.7	1819	91.1	35	1.8	142	7.1
	2011	4882	2765	56.6	2476	89.5	72	2.6	217	7.8
	2012	5427	3528	65.0	3146	89.2	72	2.0	310	8.8
	2013	8185	4795	58.6	4164	86.8	211	4.4	420	8.8
	2014	9305	6054	65.1	5275	87.1	227	3.7	552	9.1
24	**Kotak Mahindra Bank Limited**									
	2009	4225	NA	NA	NA	NA	NA	NA	NA	NA
	2010	4808	4325	90.0	3413	78.9	333	7.7	579	13.4
	2011	11317	5186	45.8	4607	88.8	225	4.3	354	6.8
	2012	13309	6699	50.3	6100	91.1	257	3.8	342	5.1
	2013	15487	8276	53.4	7328	88.5	644	7.8	304	3.7
	2014	18917	8078	42.7	7322	90.6	562	7.0	194	2.4
25	**Yes Bank Limited**									
	2009	3067	3018	98.4	1510	50.0	900	29.8	608	20.1
	2010	5257	2296	43.7	2114	92.1	90	3.9	92	4.0
	2011	7119	7527	105.7	3802	50.5	3571	47.4	154	2.0
	2012	9326	5253	56.3	4470	85.1	562	10.7	221	4.2
	2013	12295	4990	40.6	3802	76.2	878	17.6	310	6.2
	2014	10999	7660	69.6	6433	84.0	800	10.4	427.0	5.6

Source: Annual Reports and Basel Disclosure Formatsof each Sample Banks

GROWTH IN ASSETS AND RWAs (April 2008- March 2014)

(Amount in Rs. Crores)

Sr. No.	Name of Bank /Group	Assets	Annual Growth Rate	RWAs	Annual Growth Rate
1	2	3	4	5	6
	A) Other PSBs Group				
1	**Bank of Baroda**				
	2009	196,431	-	130,342	-
	2010	236,217	20.3	156,107	19.8
	2011	300352	27.2	216191	38.5
	2012	370586	23.4	253770	17.4
	2013	449578	21.3	304850	20.1
	2014	539493	20.0	360692	18.3
2	**Bank of India**				
	2009	195516	-	139228	-
	2010	235570	20.5	162838	17.0
	2011	298958	26.9	205940	26.5
	2012	335586	12.3	236974	15.1
	2013	383980	14.4	282538	19.2
	2014	402730	4.9	350,686	24.1
3	**Canara Bank**				
	2009	195996	-	125,135	-
	2010	239011	21.9	150648	20.4
	2011	296166	23.9	176,170	16.9
	2012	318189	7.4	210,807	19.7
	2013	325876	2.4	239207	13.5
	2014	391050	20.0	294,533	23.1
4	**Indian Bank**				
	2009	74196	-	49349	-
	2010	90414	21.9	62895	27.4
	2011	110035	21.7	76195	21.1
	2012	128300	16.6	86481	13.5
	2013	147447	14.9	99771	15.4
	2014	169118	14.7	110109	10.4
5	**Indian Overseas Bank**				
	2009	106100	-	78636	-
	2010	116653	9.9	79303	0.8
	2011	160483	37.6	113596	43.2
	2012	196290	22.3	132155	16.3
	2013	221781	13.0	154996	17.3
	2014	246125	11.0	185476	19.7
6	**Punjab National Bank**				
	2009	218087	-	153742	-
	2010	264325	21.2	189004	22.9
	2011	337268	27.6	219064	15.9
	2012	416477	23.5	280884	28.2
	2013	438621	5.3	324473	15.5
	2014	526345	20.0	387787	19.5
7	**Syndicate Bank**				
	2009	112069	-	65686	-
	2010	123416	10.1	72583	10.5
	2011	136872	10.9	77342	6.6
	2012	165428	20.9	91833	18.7
	2013	193037	16.7	117427	27.9
	2014	229451	18.9	133804	13.9

GROWTH IN ASSETS AND RWAs (April 2008- March 2014)

(Amount in Rs. Crores)

Sr. No.	Name of Bank /Group	Assets	Annual Growth Rate	RWAs	Annual Growth Rate
1	2	3	4	5	6
	A) Other PSBs Group				
8	**Union Bank of India**				
	2009	139531	-	92245	
	2010	173718	24.5	122590	32.9
	2011	209385	20.5	140124	14.3
	2012	240245	14.7	168152	20.0
	2013	288932	20.3	203852	21.2
	2014	322827	11.7	210421	3.2
9	**Andhra Bank**				
	2009	61050	-	47,407	-
	2010	76993	26.1	54056	14.0
	2011	95639	24.2	74,818	38.4
	2012	113271	18.4	94872	26.8
	2013	136005	20.1	101182	6.7
	2014	153000	12.5	108057	6.8
10	**Corpopration Bank**				
	2009	73499	-	57,134	-
	2010	97724	33.0	69,857	22.3
	2011	130412	33.4	90,113	29.0
	2012	148268	13.7	105,900	17.5
	2013	176880	19.3	123,001	16.1
	2014	203277	14.9	123,705	0.6
11	**Oriental Bank of Commerce**				
	2009	96988	-	72696	-
	2010	119274	23.0	75156	3.4
	2011	145453	21.9	104185	38.6
	2012	164083	12.8	117557	12.8
	2013	187509	14.3	139586	18.7
	2014	200551	7.0	147935	6.0
12	**VIJAYA Bank**				
	2009	52855	-	32823	-
	2010	62628	18.5	38736	18.0
	2011	73854	17.9	45122	16.5
	2012	86546	17.2	51363	13.8
	2013	101050	16.8	60044	16.9
	2014	124089	22.8	67907	13.1
13	**IDBI Bank Limited**				
	2009	153491	-	117,262	-
	2010	211547	37.8	155539	32.6
	2011	225367	6.5	197,493	27.0
	2012	264333	17.3	216,667	9.7
	2013	295105	11.6	262193	21.0
	2014	301459	2.2	270,093	3.0

GROWTH IN ASSETS AND RWAs (April 2008- March 2014)

(Amount in Rs. Crores)

Sr. No.	Name of Bank /Group	Assets	Annual Growth Rate	RWAs	Annual Growth Rate
1	2	3	4	5	6
	B) State Bank Group				
14	**State Bank of India**				
	2009	818456	-	800800	-
	2010	917704	12.1	892203	11.4
	2011	1052319	14.7	1083481	21.4
	2012	1179775	12.1	1098528	1.4
	2013	1396503	18.4	1390318	26.6
	2014	1608136	15.2	1492731	7.4
15	**State Bank of Bikaner & Jaipur**				
	2009	40848	-	25978	-
	2010	48822	19.5	30436	17.2
	2011	54728	12.1	38134	25.3
	2012	65913	20.4	52037	36.5
	2013	77480	17.5	52363	0.6
	2014	81922	5.7	60182	14.9
16	**State Bank of Hyderabad**				
	2009	64660	-	NA	-
	2010	77048	19.2	53020	-
	2011	93166	20.9	65782	24.1
	2012	106293	14.1	80259	22.0
	2013	123824	16.5	88018	9.7
	2014	126729	2.3	93658	6.4
17	**State Bank of Mysore**				
	2009	46048	-	36313	-
	2010	52236	13.4	44662	23.0
	2011	46957	-10.1	34012	-23.8
	2012	54567	16.2	38534	13.3
	2013	61706	13.1	43842	13.8
	2014	68672	11.3	46264	5.5
18	**State Bank of Patiala**				
	2009	54437	-	41960	-
	2010	64512	18.5	46552	10.9
	2011	68717	6.5	50716	8.9
	2012	84976	23.7	59106	16.5
	2013	97756	15.0	70090	18.6
	2014	100517	2.8	67932	-3.1
19	**State Bank of Travancore**				
	2009	45833	-	27391	-
	2010	54485	18.9	32001	16.8
	2011	63980	17.4	38931	21.7
	2012	77882	21.7	46786	20.2
	2013	96945	24.5	49250	5.3
	2014	100744	3.9	58916	19.6

GROWTH IN ASSETS AND RWAs (April 2008- March 2014)

(Amount in Rs. Crores)

Sr. No.	Name of Bank /Group	Assets	Annual Growth Rate	RWAs	Annual Growth Rate
1	2	3	4	5	6
	C) New Pvt. Banks Group				
20	**Axis Bank Limited**				
	2009	82629	-	90530	-
	2010	105565	27.8	146957	62.3
	2011	214398	103.1	196601	33.8
	2012	267241	24.6	231662	17.8
	2013	310514	16.2	258418	11.5
	2014	343804	10.7	287825	11.4
21	**HDFC Bank Limited**				
	2009	157700	-	167359	
	2010	184438	17.0	112437	-32.8
	2011	230911	25.2	199501	77.4
	2012	292902	26.8	197306	-1.1
	2013	361113	23.3	229714	16.4
	2014	423952	17.4	359829	56.6
22	**ICICI Bank Limited**				
	2009	321368	-	356446	-
	2010	302097	-6.0	294194	-17.5
	2011	351055	16.2	404110	37.4
	2012	413287	17.7	441488	9.2
	2013	461643	11.7	485698	10.0
	2014	515725	11.7	545215	12.3
23	**Indusind Bank Limited**				
	2009	16393	-	47755	-
	2010	21196	29.3	22172	-53.6
	2011	39515	86.4	30724	38.6
	2012	49636	25.6	39191	27.6
	2013	63975	28.9	53314	36.0
	2014	76665	19.8	67260	26.2
24	**Kotak Mahindra Bank Limited**				
	2009	25735	-	21114	-
	2010	33287	29.3	26201	24.1
	2011	46450	39.5	56585	116.0
	2012	60645	30.6	72332	27.8
	2013	107164	76.7	77824	7.6
	2014	110483	3.1	100249	28.8
25	**Yes Bank Limited**				
	2009	32403	-	18476	-
	2010	53191	64.2	25507	38.1
	2011	65754	23.6	73772	189.2
	2012	65754	0.0	51984	-29.5
	2013	89975	36.8	67186	29.2
	2014	96564	7.3	76603	14.0

Source: Annual Reports and Basel Disclosure Formatsof each Sample Banks

CREDIT RISK EXPOSURES OF SAMPLE BANKS IN TERMS OF RISKINESS (April 2008- March 2014)

(Amount in Rs. Crores)

Sr. No.	Name of Bank / Group	Total Risk Assets	of which							
			Low Risk (<100%)	In % (Col.4 as % Col. 3)	Normal Risk (=100%)	In % (Col.6 as % Col. 3)	High Risk (>100%)	In % (Col.8 as % Col. 3)	No Risk (with 100% Collaterals)	In % (Col.10 as % Col. 3)
1	2	3	4	5	6	7	8	9	10	11
	A) Other PSBs Group									
1	**Bank of Baroda**									
	2009	167200	96265	57.6	45737	27.4	16103	9.6	9095	5.4
	2010	206254	112466	54.5	75957	36.8	4588	2.2	13243	6.4
	2011	273391	151083	55.3	92095	33.7	12892	4.7	17321	6.3
	2012	342035	189251	55.3	110400	32.3	18367	5.4	24017	7.0
	2013	393413	213763	54.3	116769	29.7	33003	8.4	29878	7.6
	2014	467461	246064	52.6	140921	30.1	37899	8.1	42577	9.1
2	**Bank of India**									
	2009	176433	99261	56.3	69352	39.3	7820	4.4	0	0.0
	2010	321373	209859	65.3	97538	30.4	13976	4.3	0	0.0
	2011	393339	259868	66.1	115254	29.3	18217	4.6	0	0.0
	2012	460068	299058	65.0	137156	29.8	23854	5.2	0	0.0
	2013	496396	307003	61.8	164332	33.1	25061	5.0	0	0.0
	2014	641399	410140	63.9	1868349	29.4	42910	6.7	0	0.0
3	**Canara Bank**									
	2009	220670	124418	56.4	65236	29.6	9696	4.4	21320	9.7
	2010	346512	191191	55.2	82764	23.9	33597	9.7	38960	11.2
	2011	378209	241168	63.8	77353	20.5	21771	5.8	37917	10.0
	2012	409556	203730	49.7	121812	29.7	37279	9.1	46735	11.4
	2013	1191648	179055	15.0	892605	74.9	57055	4.8	62933	5.3
	2014	272160	145002	53.3	81352	29.9	45806	16.8	0	0.0
4	**Indian Bank**									
	2009	110020	67701	61.5	36975	33.6	5344	4.9	0	0.0
	2010	128821	79005	61.3	39630	30.8	10186	7.9	0	0.0
	2011	162909	103107	63.3	44197	27.1	15605	9.6	0	0.0
	2012	198330	129985	65.5	48149	24.3	20196	10.2	0	0.0
	2013	206233	126799	61.5	52773	25.6	26661	12.9	0	0.0
	2014	240134	158939	66.2	55500	23.1	25695	10.7	0	0.0
5	**Indian Overseas Bank**									
	2009	206924	100578	48.6	90639	43.8	15707	7.6	0	0.0
	2010	212077	108818	51.3	83642	39.4	19617	9.2	0	0.0
	2011	283582	145766	51.4	128392	45.3	9424	3.3	0	0.0
	2012	354245	178198	50.3	148678	42.0	27369	7.7	0	0.0
	2013	424263	211822	49.9	181076	42.7	31365	7.4	0	0.0
	2014	456697	200636	43.9	214349	46.9	41712	9.1	0	0.0
6	**Punjab National Bank**									
	2009	202337	103758	51.3	86034	42.5	12545	6.2	0	0.0
	2010	238592	109934	46.1	116113	48.7	12545	5.3	0	0.0
	2011	343328	148165	43.2	171380	49.9	23783	6.9	0	0.0
	2012	346732	171138	49.4	136737	39.4	38857	11.2	0	0.0
	2013	374656	178340	47.6	129644	34.6	66672	17.8	0	0.0
	2014	455285	189579	41.6	180293	39.6	85413	18.8	0	0.0
7	**Syndicate Bank**									
	2009	167636	109234	65.2	44646	26.6	13756	8.2	0	0.0
	2010	193475	132212	68.3	45250	23.4	16013	8.3	0	0.0
	2011	201929	141696	70.2	44464	22.0	15769	7.8	0	0.0
	2012	264111	181199	68.6	58656	22.2	24256	9.2	0	0.0
	2013	271788	178372	65.6	62432	23.0	30984	11.4	0	0.0
	2014	304789	205488	67.4	65922	21.6	33379	11.0	0	0.0

CREDIT RISK EXPOSURES OF SAMPLE BANKS IN TERMS OF RISKINESS (April 2008- March 2014)

(Amount in Rs. Crores)

Sr. No.	Name of Bank / Group	Total Risk Assets	of which							
			Low Risk (<100%)	In % (Col.4 as % Col. 3)	Normal Risk (=100%)	In % (Col.6 as % Col. 3)	High Risk (>100%)	In % (Col.8 as % Col. 3)	No Risk (with 100% Collaterals)	In % (Col.10 as % Col. 3)
1	2	3	4	5	6	7	8	9	10	11
	A) Other PSBs Group									
8	**Union Bank of India**									
	2009	176433	99261	56.3	69352	39.3	7820	4.4	0	0.0
	2010	321373	209859	65.3	97538	30.4	13976	4.3	0	0.0
	2011	393339	259868	66.1	115254	29.3	18217	4.6	0	0.0
	2012	459048	299058	65.1	137156	29.9	22834	5.0	0	0.0
	2013	496396	307003	61.8	164332	33.1	25061	5.0	0	0.0
	2014	641399	410140	63.9	188349	29.4	42910	6.7	0	0.0
9	**Andhra Bank**									
	2009	50815	23620	46.5	23368	46.0	1105	2.2	2722	5.4
	2010	68486	27127	39.6	31250	45.6	5126	7.5	4983	7.3
	2011	89579	32233	36.0	44567	49.8	7374	8.2	5405	6.0
	2012	104113	37952	36.5	47138	45.3	12173	11.7	6850	6.6
	2013	118391	43610	36.8	46856	39.6	17903	15.1	10022	8.5
	2014	128267	48360	37.7	42123	32.8	25549	19.9	12235	9.5
10	**Corporation Bank**									
	2009	126019	78657	62.4	44180	35.1	3182	2.5	0	0.0
	2010	118321	70234	59.4	39391	33.3	8696	7.3	0	0.0
	2011	173595	109239	62.9	51567	29.7	12789	7.4	0	0.0
	2012	199238	129682	65.1	47737	24.0	21819	11.0	0	0.0
	2013	217750	126245	58.0	58575	26.9	32930	15.1	0	0.0
	2014	253905	166395	65.5	45044	17.7	42466	16.7	0	0.0
11	**Oriental Bank of Commerce**									
	2009	132347	75044	56.7	49027	37.0	8276	6.3	0	0.0
	2010	195940	120646	61.6	61485	31.4	13809	7.0	0	0.0
	2011	215952	129074	59.8	68902	31.9	17976	8.3	0	0.0
	2012	228238	135751	59.5	66949	29.3	25538	11.2	0	0.0
	2013	272168	173023	63.6	68735	25.3	30410	11.2	0	0.0
	2014	275260	162223	58.9	62634	22.8	32230	11.7	18173	6.6
12	**VIJAYA Bank**									
	2009	40187	19212	47.8	16400	40.8	1225	3.0	3350	8.3
	2010	62191	39674	63.8	17190	27.6	2304	3.7	3023	4.9
	2011	72343	45377	62.7	19918	27.5	3600	5.0	3448	4.8
	2012	105493	70841	67.2	25068	23.8	5102	4.8	4482	4.2
	2013	117856	74682	63.4	27025	22.9	8310	7.1	7839	6.7
	2014	143862	89968	62.5	31672	22.0	13717.0	9.5	8505.0	5.9
13	**IDBI Bank Limited**									
	2009	202136	118709	58.7	68685	34.0	14742	7.3	0	0.0
	2010	273499	165732	60.6	87220	31.9	20547	7.5	0	0.0
	2011	300150	170903	56.9	110746	36.9	18458	6.1	43	0.0
	2012	319746	184766	57.8	111924	35.0	23020	7.2	36	0.0
	2013	357954	191793	53.6	125643	35.1	40469	11.3	49	0.0
	2014	374448	210365	56.2	116417	31.1	47625	12.7	41	0.0

CREDIT RISK EXPOSURES OF SAMPLE BANKS IN TERMS OF RISKINESS (April 2008- March 2014)

(Amount in Rs. Crores)

Sr. No.	Name of Bank / Group	Total Risk Assets	of which							
			Low Risk (<100%)	In % (Col.4 as % Col. 3)	Normal Risk (=100%)	In % (Col.6 as % Col. 3)	High Risk (>100%)	In % (Col.8 as % Col. 3)	No Risk (with 100% Collaterals)	In % (Col.10 as % Col. 3)
1	2	3	4	5	6	7	8	9	10	11
	A) State Bank Group									
14	**State Bank of India**									
	2009	992671	621,591	62.6	304,530	30.7	60,168	6.1	6,382	0.6
	2010	1241518	752,166	60.6	378,594	30.5	104,876	8.4	5,882	0.5
	2011	1477745	871,284	59.0	434,616	29.4	153,236	10.4	18,609	1.3
	2012	1598173	994,936	62.3	376,535	23.6	225,590	14.1	1,112	0.1
	2013	1890131	1,173,319	62.1	458,737	24.3	255,721	13.5	2,354	0.1
	2014	2083823	1,304,830	62.6	491,604	23.6	283,230	13.6	4,159	0.2
15	**State Bank of Bikaner & Jaipur**									
	2009	58052	41,950	72.3	12,889	22.2	1,967	3.4	1,246	2.1
	2010	64849	46,845	72.2	13,108	20.2	3,467	5.3	1,429	2.2
	2011	76877	49,033	63.8	20,879	27.2	5,152	6.7	1,813	2.4
	2012	92040	57,785	62.8	25,496	27.7	6,721	7.3	2,038	2.2
	2013	112325	67,235	59.9	31,212	27.8	10,840	9.7	3,038	2.7
	2014	106041	60,655	57.2	30,533	28.8	10,800	10.2	4,053	3.8
16	**State Bank of Hyderabad**									
	2009	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2010	118812	78460	66.0	30,845	26.0	4,996	4.2	4,511	3.8
	2011	140661	8920	6.3	86,475	61.5	35,942	25.6	9,324	6.6
	2012	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2013	123537	63,817	51.7	42,214	34.2	17,506	14.2	0	0.0
	2014	129853	69,750	53.7	39,066	30.1	21,037	16.2	0	0.0
17	**State Bank of Mysore**									
	2009	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2010	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2011	39875	23,410	58.7	10,505	26.3	5,960	14.9	0	0.0
	2012	47105	28,818	61.2	11,985	25.4	6,302	13.4	0	0.0
	2013	52435	28,063	53.5	16,083	30.7	8,289	15.8	0	0.0
	2014	57699	34,407	59.6	15,010	26.0	8,282	14.4	0	0.0
18	**State Bank of Patiala**									
	2009	85759	60,024	70.0	22,353	26.1	3,382	3.9	0	0.0
	2010	108845	78,902	72.5	23,986	22.0	5,957	5.5	0	0.0
	2011	64794	37,803	58.3	19,575	30.2	7,416	11.4	0	0.0
	2012	77276	44,533	57.6	24,070	31.1	8,673	11.2	0	0.0
	2013	93518	49,832	53.3	28,612	30.6	15,074	16.1	0	0.0
	2014	129852	69,750	53.7	39,065	30.1	21,037	16.2	0	0.0
19	**State Bank of Travancore**									
	2009	2465	2186	88.7	78	3.2	201	8.2	0	0.0
	2010	2880	2579	89.5	74	2.6	227	7.9	0	0.0
	2011	3504	3170	90.5	80	2.3	254	7.2	0	0.0
	2012	3897	3492	89.6	107	2.7	298	7.6	0	0.0
	2013	4690	4117	87.8	241	5.1	332	7.1	0	0.0
	2014	5303	4720	89.0	208	3.9	375	7.1	0	0.0

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1	2	3	4	5	6	7	8	9	10	11
	C) New Pvt. Banks Group									
20	**Axis Bank Limited**									
	2009	164020	96604	58.9	60399	36.8	6958	4.2	59	0.0
	2010	210315	123391	58.7	74495	35.4	12314	5.9	115	0.1
	2011	295819	171861	58.1	106798	36.1	16940	5.7	220	0.1
	2012	332144	178311	53.7	131286	39.5	22237	6.7	310	0.1
	2013	373623	207631	55.6	130204	34.8	35406	9.5	382	0.1
	2014	442392	277988	62.8	120936	27.3	43468	9.8	0	0.0
21	**HDFC Bank Limited**									
	2009	122552	45470	37.1	44083	36.0	32999	26.9	0	0.0
	2010	160654	64069	39.9	56858	35.4	39727	24.7	0	0.0
	2011	201499	83038	41.2	67929	33.7	50532	25.1	0	0.0
	2012	249867	104731	41.9	79933	32.0	65203	26.1	0	0.0
	2013	311200	126214	40.6	98478	31.6	86508	27.8	0	0.0
	2014	386418	154974	40.1	137046	35.5	94398	24.4	0	0.0
22	**ICICI Bank Limited**									
	2009	568230	175884	31.0	318922	56.1	70673	12.4	2751	0.5
	2010	540242	191058	35.4	312095	57.8	32320	6.0	4769	0.9
	2011	620975	208930	33.6	375644	60.5	32695	5.3	3706	0.6
	2012	718890	234417	32.6	431272	60.0	50766	7.1	2435	0.3
	2013	852968	306538	35.9	483848	56.7	60450	7.1	2132	0.2
	2014	893903	370156	41.4	437509	48.9	86238	9.6	0	0.0
23	**Indusind Bank Limited**									
	2009	31921	17218	53.9	13186	41.3	1516	4.7	1	0.0
	2010	42326	27386	64.7	13170	31.1	1769	4.2	1	0.0
	2011	58237	36840	63.3	19261	33.1	2136	3.7	0	0.0
	2012	71764	51881	72.3	16412	22.9	3471	4.8	0	0.0
	2013	97040	66152	68.2	25880	26.7	4958	5.1	50	0.1
	2014	111601	74253	66.5	30823	27.6	6525	5.8	0	0.0
24	**Kotak Mahindra Bank Limited**									
	2009	NA	NA	NA	NA	NA	NA	NA	NA	NA
	2010	34515	14002	40.6	12041	34.9	8472	24.5	0	0.0
	2011	47568	19095	40.1	15790	33.2	12683	26.7	0	0.0
	2012	62572	24737	39.5	22362	35.7	15473	24.7	0	0.0
	2013	76038	27757	36.5	29536	38.8	18745	24.7	0	0.0
	2014	81241	33100	40.7	29811	36.7	18330	22.6	0	0.0
25	**Yes Bank Limited**									
	2009	21216	6742	31.8	14124	66.6	350	1.6	0	0.0
	2010	31234	11738	37.6	18434	59.0	582	1.9	480	1.5
	2011	65841	33722	51.2	28662	43.5	3185	4.8	272	0.4
	2012	112729	66642	59.1	39859	35.4	5947	5.3	281	0.2
	2013	120624	74442	61.7	38635	32.0	7477	6.2	70	0.1
	2014	120554	74442	61.7	38635	32.0	7477.0	6.2	0.0	0.0

Source: Annual Reports and Basel Disclosure Formatsof each Sample Banks