IMPACT OF CUSTOMER TRUST, CAPITAL REGULATION AND BANK-SPECIFIC FACTORS ON THE STABILITY OF BANKS IN INDIA

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Abstract:The banking system plays a prominent role in the economic growth of any country. A weak banking systemendangers the long-term growth of an economy andprompts for a financial crisis that further can leadto an economic disaster.The purpose of this research study is to assess the influence of customer trust, capital regulationsand certain bank-specificfactors on the bank stability of public and private banks in India.For the purpose data collected from financial statements of 21 public and 19 private sector banks from RBI Database over a period of thirteen years in the span of 2005-2017. First financial ratios are calculated for all the banks in the specified period, then 3 years rolling mean and standard deviation of ROA is calculated to measure the Bank stability measure Z-Score. Then data truncated to four digits with the use of MS-Excel to bring the uniformity in the size of the ratios. With theuse of 11 years data, tested for stationary and performed all the CLRM assumption tests, themodel is estimated with the use of OLS fixed effect regression model which is suitable for data as per the Hausmanspecification test. The results show that capital regulation, profitability, bank size, and income structure existed significant positive effect on the bank stability measure Z-Score. The customer trust and NNPA have asignificantnegative impact on bank stability. The other independent variables of model namely management quality, liquidity and efficiency are not significant. These findings provide an understanding of the factors that are influencing bank stability and serves as a toolto improve bank stability by focusing on the negatively impacting variables.

Keywords: **Bank stability, Customer trust,Income structure, Liquidity, and profitability.**

I. INTRODUCTION

Banks are very closely connected with everyone's daily lives and all the activities. Banks play an important role in enhancing and promoting economic development and efficiency by routing funds from saving unit to the borrowing units (individuals, firms, and government) of the economy those who are having better investment opportunities and contribute to the economic development of the country. Banks interact among themselves with a global network of banks to deliver financial products and services to their global as well as domestic customers. The country's financial system that effectively supports economic growth and development largely depends upon the reliability and soundness of its banking system. Banking system problems can condense the success of themonetary policy, create large financial costs related to salvagedistressed financial institutions, cause capital losses, and develop economic downturns. Moreover, the recent crises have shown how swiftlyeconomic weaknesses in one country can spill over and infect others. Banking system stability is vital to restricting widespread social and economic impact that maybe arising from malfunctioning of individual banks in theindustry. In India, RBI safeguards stability and properfunctioning of the banking system through its regulations,supervision and regular monitoring of banks. The RBI has aresponsibility to makeappropriate standards of conduct, ensure sound and judiciousbanking practices, and to help to avoid illegal, ignominious or improper practices in the banking industry.

II. STATEMENT OF THE PROBLEM

Demirguc-Kunt and Kane (2002)show that banking system crises are utmostexpensive for emerging economies.India is an emerging economy increasingly showing rapid growth, the role of banks in supporting the continualincreaseof investments is gaining more importance and as such, the stability of the bankingbecame vital. Growing nature of the banks as financial mediators and, the rapid growth of total assetscertainlycausesalterations in the banks' business models and their attitudes towards risks. Mostly, therisk-takingbehaviour may arise from diverse banking business models (rapid loan growth and diversification activities); and a sort of bank-level risks (an extremely high level of credit risk exposure, inefficiency and excess liquidity. For instance, banks are progressively engaged in diversification activities that are different from the traditional deposit-taking and lending functions and participation in unlawful off-balance sheet activities. Whether the effect of this diversification activity is uniform among different sized-banks and across business lines remain unanswered. In the same fashion, existing empirical work does not take into account

the stability and risk takingbehaviour of extremely big banks. It is unfortunate,becauseof the risk-taking behaviour of systemically large banks maybetoo much when regulators are reluctant to take over (Acharya, 2007; Brown and Dinç, 2011).

Given their growing role in economic development, and with the growing nature in banking companies of different size, ownership structure, and business mix strategy, it is totally unfortunate that no literature adequately deals with banks' stability and risk takingbehaviour of public and private banks in India. Existing studies as to whether certain operating bank's business models or benefits of anoptimal asset or abusinessmix of banks could be linked to the development of greater risk-taking or improve bank stability, though many in number, but not yet come to a consensus. These studies do not provide a hint on the banks' stability and risk-taking behaviour. Thus, to fill this gap, there is a need to refine the bank stability measures, to ensure that the banking sector more faithfully reflects market perceptions of bank risk exposure. Against this background, studying bank-stability from various aspects is critical. The objective of this research paper is to contribute to the existing banking literature in the course of highlighting the impact of customer trust, regulation, management quality and other bank-specificcharacteristics on stability of commercial banks of one of the fast growing economy and provide answer for the research question, what factor determines the stability of banks in Indian banking system?

III. OBJECTIVES OF THE STUDY

The aim of the paper is to examine the impact of customer trust, capital regulationand the extent to which certain bank-level characteristics determine the stability of commercial banks in India.

3.1 Literature Review

What is bank Stability and how it is measured?

According to RBI"Banking stability is a yardstick to determine whether an economy is sufficiently strong enough to withstand both the internal and external shocks". Banking stability dependsupon the numerous factors of individual banks such as capital, liquidity, profitability, asset quality, business models, return on equity and return on assets. The stability of the banking systemgets affected by conditions in the financial markets and theeconomy as a whole either negatively or positively. Eventually to identify, what extentfinancial stability is safeguarded in the country by its ability to absorb the shocks. Stability of the banking sector may, therefore, be treated as a predecessor of stability of thefinancial system in an economy.

The selection of stability measure isimportant for any researchstudy. The previous studies suggestthe stability measures using either accounting-oriented measures or market-oriented measures. Accordingly, bank stability is measured by three different measures. One the ZScore is a standard measure of stability and distance to default;two the Merton Distance to Default (DD) Modelandthree the Standard Deviation of (ROA) Return On Assets.

In the literature, the ZScore measure extensively used and widely accepted as a stability measure along with a measure oftherisk-takingbehaviour of banks. This model also used in widespread of empirical applications(Sundaram and Yermack, 2007). Furthermore, recent analyses have also confirmed that risk metrics created in the spirit of the Z-Score model are appropriate indicators of bank distress during the recent crisis (Altunbasetal. 2012).Using Zscore (Accounting based measure) as an indicator or measure of bank stability, Cihák and Hesse (2010) conducted a study for a sample of 397 conventional banks and 77 Islamic banks from 19 countries over the period of 12 year between 1993-2004and showed that the small banks (islamic) tend to be financially stronger (i.e., lower in-solvency risk) than small conventional banks. Beck et al. (2012) found no evidence of adifference in the distance to insolvency (i.e., z-score) of Islamic as well as conventional banks using a sample of 422 conventional banks and 88 Islamic banks from 22 countries during the 1995 to 2010 period. However, they showed, that Islamic banks are subject to less cost-effective, but better capitalized and less subject to disintermediation during crises than conventional banks.

Customer trust and bank stability: Trust is a core feature of any banking industry. Without it, commercial banks, as well as central banks, could not be successful in achieving their goals. In terms of the placement of money, bank-customer relations allow two directions. In one direction the bank accepts a deposit from the customer, and in the other, the bank provides a loan to the customer. Both directions rely on trust devotedto the other party, since, in the future, the customer who made the deposit wishes to claimhis or her money with interest. Numerous researchers have analyzed the question of trust in the economic relations between banks and their clients. History tells us that trust is one of the indispensable pillars of a sound and stable banking system. Trust needs the simultaneous existence and fulfilment of several factors and conditions: good performance, good reputation, stability, liquidity, profitability, solid ownership structure,capitalization above the requirement, reliable and continuous operation, provision of quality services, transparent disclosure of information, and adequate visibility in the market. While building up trust takes years and often decades, it can be lost in a matter of day or days. In the banking sector, the loss of trust characteristically leads to certain bankruptcy and the liquidation of the institution.

Knell and Stix (2009) describe the reasons behind the decline in public trust in banks in Australia during the period ofglobalcrisis. With focusing on the determinants that influence the level of public trust in banks. In this case, the authors findthat an extension of deposit insurance cover had a positive effect on trust. In other study conducted by Mosch and Prast (2008) showed an evidence regarding public trust in banks in the Dutch banking and financial sector. According to surveys carried out in the period of four years between 2003 and 2006, and found a significant positive association between confidences in the economy and public trust in the country's banking and financial institutions. Spanish researchers Carbó-Valverde et al. (2013) analyze the extent to which bank customers' perceptions of several bank characteristics and attributes foster trust in banks. They also study the extent to

which a potential loss of trust in banks due to a financial crisis can be offset by improvements in bank customers' perceptions of such attributes.

H_{01}: The Customer trust has a significantimpact on bank stability

3.2 Capital Regulation and Stability

Hendrik Hakenes and Isabel Schnabel (2011) provided evidence that capital regulations imposed by the central banks may weaken the banking system through its influence onindustry competition. Tight and strict capital regulationweakenscompetition for advancesand loans,involving higher interest rates on loans, hence banks take higher risks.

H_{02}: Capital regulation has a significant negative impact on bank stability

3.3 Bank Size and Stability and Risk Taking

Hagendorff et al. (2012) raised two contrasting arguments as to how the relationship between systemic size and risk changes. One view holds that banks take on more risk as they grow in systemic size. This is because the failure of a systemically large bank creates considerable negative externalities often beyond a country's overall financial system and its real economy. Since the outlook of large externalities raises the expectations that a bank will be subject to a bailout (Financial Stability Board, 2010; and BIS, 2011), systemically large banks may increase their implied claim on the financial safety net through higher risk-taking.

According to the study of US banksbyDemsetz and Strahan (1997), it isshown that, though larger banks are well diversified in their activities than the smaller banks, but not able to take this advantage into less total risk. Rather, theyare using diversification to their advantage to conduct operations with lower capital ratios and follows riskier strategies, with abetter focus on theindividual and corporate loans and expose to systematic risk. In contrast to the risk-shifting argument, the opposite view holds that increases in systemic size cause banks to involve in less risk-taking. The social costs of bailing out a systemically large bank can be prohibitive for countries and raise questions over their long-term solvency. This raises doubts over the ability of countries to bail out their systemically largest banks and raises the prospect of creditor losses should a systemically important bank default. In the absence of credible bank bailout guarantees, systemically larger banks may be subject to more rather than less market discipline and may display lower rather than higher risk as a result.

H_{03}: Bank size has a significant impact on bank stability

3.4 Income structure and Stability

Conventional insights in the banking studiesargue that banks should be as diversified as possible. Generally, it is understood that diversification of business and different income sources should minimizethe total risk and improve the stability, as diversification must smooth out operating income if income flows are not perfectly correlated Busch and Kick (2009).

Demirgüc-Kunt and Huizinga (2010), provided evidence that banking institutions become stable if they produce a larger portion of their income from non-interest earning activities. This effect depends upon bank size, however. While smaller banks take the advantageof income diversifying effects of a greater non-interest income, they find the reverse for large banks.

H_{04}: Income structure has a significant positive impact on bank stability

3.5 Bank Liquidity and Stability

"Liquidity is easier to recognize than define" (Crockett 2008). It can be an intangible aspectin its simplestform, however, liquidity isnothing but having access to cash balances when it is required. According to Eminent economist Charles Goodhart "Liquidity and solvency are the heavenly twins of banking, frequently indistinguishable. An illiquid bank can rapidly become insolvent and an insolvent bank illiquid". The literature on the Indian banking sector hasoverly focused on measuring bank performance. These studies do not provide a hint on the banks' stability and risk-taking behaviour. Thus, to fill this gap, there is a need to refine the bank stability measure, to ensure that the banking sector more faithfully reflects market perceptions of bank risk exposure.

H_{04}: Liquidity has a significant positive impact on bank stability

IV. RESEARCH METHODOLOGY

Quantitative methods approach with survey method is used to achieve the aim of the study. According to Creswell (2009), aquantitative method with survey approach permits the researcher to test the empirical theories bybuilding the cause and effect relation between the variables. The sample of 40 (21 public and 19 private) commercial banks are chosenon the basis of the existence of at least thirteen years in the business (i.e. from 2005 to 2017) and used in the study. Structured document survey is used to collect the necessary data from RBI Database with accessingannual financials ofeach sampled banks for bank-specific factors. First,different financial ratios are calculated and truncated with using MS-Excel. The study uses panel data and the econometric approach with Classical Linear Regression Models (CLRM),before proceeding for regression panel unit root tests are performed to know that variables are stationary or not, as per the test, all the variable are stationary at thelevel, then the study tests all assumptions of CLRM.Thepanel regression analysis model with fixed and random effect estimated, to select the model which model is

applicableto the study, Hausman test performed, based on the test results,panel Ordinary Least Square (OLS) Method with Fixed Effect modelis estimatedto assess the impact of selected independent variablesonbank stability.

The models for this study derived on the basis of prior studies such as Osuji and Odita (2012), and Abor (2005) and this equation is believed to capture the essence of the subject under study. The general model of this study, as found in other empirical literature is represented by;

$Yit = \alpha + \beta Xit + \mu it$

Where:

Y = is the dependent or outcome variable.

α = is the intercept (constant term or variable)

β = is the coefficient of the explanatory or independent variable.

X = is the independent or explanatory variable.

μ = is the error term.

i = is the cross-section dimension or number of firms.

t = is the time series dimension or time periods.

The econometric form of aworking model for the study is specified as

$Z_{i,} = B_1 + B_2*TRUST_{i,} + B_3*CAR_{i,} + B_4SIZE*_{i,t} + B_5*INCSTRUC_{i,t} + B_6*LIQTY_{i,t} + B_7*EFFCY_{i,t} + B_8*PROFY + B_9*MQLTY + B_{10}*NNPA_{i,t} + \mathbf{u}_{i,t}$

Where, u_{it}isdisturbance term, B_1 is an intercept and B_2 to B_{11} are the parameters of explanatory (Independent) variables of dependent variable bank stability ZScore.

V. VARIABLE DESCRIPTION AND MODEL SPECIFICATION

3.1 Dependent Variable Bank Stability (ZScore)

The choice of Stability measures is of particular importance for the empirical analysis. The study employs Bank Stability (ZScore) as dependent variable which measures banks distance to default as given by Boyd and Nicoló (2005). The study calculates the Z-Score as:

$$Z = \frac{\mu ROA + CAR}{\sigma ROA}$$

In the model natural logZ-score is used as a dependentor outcome variable

3.2 Independent Variables

In this paper, the researcher uses nine independent variables such as

*Customer trust**(TRUST):*** In the study annual deposit growth rate used as aproxy for customer trust in banks and it is derived as; = (Present year deposits – previous year deposits) divided with previous year deposits and multiplied with hundred

*Capital Regulation**(CAR):*** Capital AdequacyRatio (CAR) with Tier-I and II capital to total assets used asaproxy for capital regulation and calculated as;

Capital Adequacy Ratio (CAR) = Tier-I &II Capital/ Total assets

*Management Quality **(MQLTY)*:** It is measured byNon-Interest Expenditure to Non-interest expenditure plus net interest income

*Income Structure**(INCSTRU):*** It is the ratio of non-interest income (NII) to total income

*Bank Liquidity**(LIQTY)**:* The overall liquidity of the banks measured with Liquid Assets to Total Assets

*Bank Efficiency **(EFFY)**:* The efficiency of banking operations are measured with Cost to Income ratio

*Bank Profitability**(PROF):***Return on Equity (ROE) is used,asaproxy for profitability and financial performance of the banks

*Bank Size **(SIZE):*** measured as thenatural log of total assets

*Non-Performing Assets **(NNPA):** the ratio of net non-performing assets to net total assets*

VI. DATA ANALYSIS, DISCUSSION AND SUMMARY

6.1 Descriptive Statistics

Table-1 shows that the descriptive statistics for the bank stability measure of the Z score and its components Capitalization (Capital Adequacy Ratio – CAR-Tier I), Profitability (ROA) and Profit Volatility (standard deviation Of ROA).

Table-1 Descriptive statistics of ZScore and its components

Values	ZSCORE	ROA_TR	SDEV_ROA	CAR_T1
Mean	128.6144	0.842295	0.236953	10.45050
Median	64.01105	0.890000	0.162050	9.285000
Maximum	2917.928	2.020000	2.081800	55.93000
Minimum	3.304800	-2.040000	0.005700	4.880000
Std. Dev.	241.7251	0.686322	0.246648	4.441783
Observations	440	440	440	440

Table-1 shows that thelarge and outsized variation exists in bank stability measure across theIndian commercial banks. When the Zscore measure is averaged across the time; and it generates a cross-sectional series whose correlation with Zscore is about 128.6144 and a median of 64.01105 It indicates that a wider range exists among banks, it also shows that theexistence of both banks that either close to insolvency (Z score value close to 0), as well as banks with higher value in their stabilities (very large Zscore value). The mean Z score is 128.6144, with a minimum of 3.3048 and a maximum of 2917.928. This means profitability has to fall by 128.6144 standard deviations in the average bank to wipe out equity while it needs to fall by only 3.3048 standard deviations in the riskiest bank. The changes in the average profitability (ROA) over the period is quite lowering with aminimum of -2.04% and a maximum of 2.02%, with an average value of 0.014% whilst the Profit Volatility (SDROA) varies with amoderate dispersion of 0.005 to 2.0818 and a mean value of 0.2369. Capitalization (CAR-Tier-I) varies between 4.88% and 55.93%, with an average value of 10.45%, which is more than the minimum requirement of 8% determined by thecentral bank and the international standard for capital adequacy (Bank for International Settlements, 2010).

Table-2 Correlation matrix of all variables

	LOGZSCORE_T	TRUST_DGROWTH	T1_T2_CAR	MNGQLTY	INCOME_STRUCTURE	LIQDT_LA2TA	EFFICIENCY	PROF_ROE	SIZE_LOGTA	NNPA
LOGZSCORE_T	1.0000									
TRUST_DGROWTH	0.1518	1.0000								
T1_T2_CAR	0.2369	0.1524	1.0000							
MNGQLTY	-0.3067	0.0404	-0.1401	1.0000						
INCOME_STRUCTURE	0.1105	0.2056	0.0961	0.2904	1.0000					
LIQDT_LA2TA	-0.0332	0.0993	0.2892	-0.0919	-0.1348	1.0000				
EFFICIENCY	-0.2301	0.0027	0.2072	0.5447	0.3232	0.1128	1.0000			
PROF_ROE	0.5714	0.3686	0.1616	-0.4391	0.0775	0.0639	-0.3036	1.0000		
SIZE_LOGTA	0.0111	-0.1935	-0.2621	-0.1840	0.2143	-0.4529	-0.2461	-0.0445	1.0000	
NNPA	-0.4745	-0.4273	-0.2686	0.1829	0.0091	-0.1382	0.1382	-0.7527	0.3065	1.0000

Table-2 indicates that the correlation matrix of all the study variables. Since all studyvariables have correlation values less than 0.8, including all variables simultaneously may not cause a serious multicollinearityproblem. There are no severely correlated variables in the correlation matrix, the researcher believes that it would be unnecessary to work out further multicollinearity tests of variance inflation factor so that the study just reports the cross-correlation matrix among the main interest of independent variable in the model.

6.2 Results of Panel Data Regression Analysis (Fixed Effect) Model or LSDV Model

In this study as presented in research methodology part, first unit root test for all the variable are performed and found all the variables are stationary at level and diagnostic tests were carried out to confirm that the data satisfy the basic assumption of theCLRM.

Selection of estimation model between random effectmodel and fixed effect modelperformed Hausman specification test. This test helps to identify the efficient estimation technique for given data.
Null Hypothesis H_0: Random Effect estimation model is appropriate and
Alternative HypothesisH_1 : Fixed Effectestimation model is appropriate

Table-3 Hausman Test

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	17.832623	9	0.0372

Table-3 shows the results of Hausman specification and indicates that probability value is 0.0372 which is lesserthan 0.05, hence we cannot accept the null hypothesis. The test result suggeststhat thefixed effectmodel is suitable.

VII. REGRESSION ANALYSIS (FIXED EFFECT) MODEL OR LSDV MODEL

Table-4 Regression analysis
Dependent Variable: LOGZSCORE_T
Method: Panel Least Squares
Sample: 2007 2017
Time Periods included: 11
Cross-sections included: 40
Total (balanced) panel observations: 440

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.320831	0.673948	0.476048	0.6343
TRUST_DGROWTH	-0.002652	0.001295	-2.048461	0.0412
T1_T2_CAR	0.025261	0.007256	3.481216	0.0006
MNGQLTY	0.001707	0.004885	0.349379	0.7270
INCOME_STRUCTURE	0.013308	0.007576	1.756505	0.0798
LIQDT_LA2TA	-0.013480	0.008219	-1.640009	0.1018
EFFICIENCY	-0.009594	0.006081	-1.577754	0.1154
PROF_ROE	0.017342	0.003512	4.937979	0.0000
SIZE_LOGTA	0.197201	0.095971	2.054791	0.0406
NNPA	-0.036514	0.015655	-2.332382	0.0202
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.495486	Mean dependent var		1.839972
Adjusted R-squared	0.433551	S.D. dependent var		0.450899
S.E. of regression	0.339359	Akaike info criterion		0.781144
Sum squared resid	45.02936	Schwarz criterion		1.236262
Log-likelihood	-122.8518	Hannan-Quinn criteria.		0.960689
F-statistic	8.000073	Durbin-Watson stat		1.266773
Prob(F-statistic)	0.000000			

Table-4 shows that the results of the panel data regression (fixed effect model) estimation, and it indicates that the R^2 statistics and adjusted R^2 statistics value 0.4336 means 43.36% and 0.4955, which means 49.55% respectively. The results indicate that the changes in the independent variable explain 49.55% of the change in the dependent variable bank Z-score. The selectedvariables are the good explanatory variables of stability of banks in India. The F-Statistics probability P-value 0.0000 indicates strong statistical significance and enhances thevalidity of the selected estimation model.

Based the results presented in the Table 4, five independent variables namely customer trustmeasured as annual deposit growth rate,CARmeasured as Tier-I &II capital to total assets, bank size (BSIZE) measured with natural log value of total assets, return on equity (ROE), and net non-performing assets (NNPA) measured as net non-performing assets to net assets had statistically significant of impact on bank stability at 5% level of significance with P-values of o.0412, 0.0006, 0.0000, 0.0406, and 0.0202 respectively. On the other hand variable income structured (INCSTR) measured with non-interest income to total income has astatistically significant impact at 10% significance levelwith a p-value of 0.0798.

Table 4 also shows that the coefficient of variables CAR, ROE, SIZE and INCSTR has asignificant and positive impact on the bank stability, this indicates that there is a direct relationship between stated independent variables and bank stability measure Z-Score. Thus the increase in these variables leads to a better stability. On the other side variable like Customer Trust (Deposit Growth Rate) and NNPA has asignificant and negative impact on bank stability, andexhibits that there exist aninverseor opposite

relationship between the aforementioned independent and bank stability measure. In the present study, nine independent variableswere used, out of which, six variables are significant. The Working model with Substituted Coefficientsis :

LOGZSCORE = 0.32083 - 0.00265*TRUST_DGROWTH + 0.025260*T1_T2_CAR + 0.0017068*MNGQLTY + 0.0133075*INCOME_STRUCTURE - 0.013479*LIQDT_LA2TA - 0.00959*EFFICIENCY + 0.017342*PROF_ROE + 0.197201*SIZE_LOGTA - 0.036514*NNPA + [CX=F]

Based on the literature it is hypothesized, that customer trust measured by annual deposit growth rate has a significant and direct or positiveimpact on bankstability (Zscore). In reality, the regression coefficient of the variable -0.002652 and P value 0.0412 indicates that there is a negative and significant impact on bank stability. It means when bank mobilizes more and more deposits, it has to find the ways to convert them into advances and investments, hence bank take additional risks that lead to lesser stability in banks. Thus the hypothesis that state there exists a significant and positive effect of customer trust on bank stability may be rejected or the data used in the analysis did not support the hypothesis.

The ratio of Tier I &II capital to total assets indicate the capital regulation and shows that the capital adequacy of the banks. The coefficient of this variable is 0.0006 and p-value 0.02526 indicates that there exist a significant and positive impactof CAR on bank stabilityat 5% significance level. It is in contraryto the past studies and prior expectation and indicates that the existence of direct or universe relationship between CAR and Bank stability. This exhibits that an increase in Tier I and Tier II capital certainly leads to an increase in bank stability.Hence the H_{02} hypothesis that says capital regulation has a significant and negative impact on bank stability is rejected.

The income structure of the banks measure with non-interest income to total income has a positive coefficient 0.0017 and p-value of 0.0798 which is significant at 10% significance level and exhibits that a positive impact on bank stability. This is particularly supported by the theory and previous studies (Demirgüc-Kunt and Huizinga, 2010; Busch and Kick, 2009). Thus the hypothesis income structure has a significant and positive effect on bank stability is accepted.The profitability measure with ROE is the indicator of the performance of the banks. The prior studies show that ROE has a significant and direct impact on bank stability, implies that the banks with greater ROE are better and stable. The study results show that the coefficient for ROE is 0.0173 with a p-value of 0.0000 which is significant at 1% significance leveland exhibits that the positive or direct impact of ROE on thestability of the banks. Thus the hypothesis of profitability measured with ROE has apositive and statistically significant impact on bank stability is accepted.

The size of the banks measured by thenatural log of total assets has an impact on the bank stability. In literature there are two different views, as per the “too big to fail” argument, big banks would get benefit from an implicit assurance, and cut their cost of funding and invest inhigh-risk assets (Iannotta et al. 2007). Hence, the banks identified with “too big to fail” status could take extreme risk. However, the small banks have asmall amount of liquidity (Berger and Bouwman 2009) and take thelesser risk. Hence, there exists a negative relationship betweenbank size and bank risk exposure. The results of model estimation show that the coefficient of the Bank size ration 0.1972 with a p-value of 0.0406 is significant and indicates that there exist a significant and positiveimpact of size on stability. Hence the hypothesis that states bank size has asignificant impact on stability is accepted. The literature shows that the ratio of anet non-performing asset to net assets has a significant negativeimpact on the stability of banks. The estimation result indicates that it is true with a coefficient of -0.0365 with a p-value of 0.0202 and significant at 5% level of significance. Hence the hypothesis of NNPA has a significant andnegative impact on the bank stability.Other variable included in the model namely, management quality has positive but not significant impact on the stability on the other hand variables like efficiency measured by thecost to income ration and liquidity measured by liquid assets to total assets has anegative but not significant effect on the bank stability.

VIII. CONCLUSION

The purpose of this paper is to assess the impact of customer trust, capital regulation, and certain bank-specificfactors on the stability of public and private commercial banks in India. For the purpose required data gathered from annual financial statements of 21 public and 19 private sector banks from RBI Database of banking time series over a period of 13 years (2005-2017). First different financial ratios are calculated for all the banks for all the years in the specified period, then 3 years rolling mean and standard deviation of ROA is calculated to measure the Bank stability measure Z-Score with the use measure suggested by (Boyd and Nicolo, 2005). After that, the data truncated to four digits with the use of MS-Excel to bring the uniformity in the size of the ratios. With use of 11 years (excluding 2005 and 2006) data, data tested for stationary and performed all the CLRM assumption tests; model is estimated with the use of OLS fixed effect regression model which is suitable for data as per the Hausman test. The results of the model show that capital regulation, profitability, bank size, and income structure has apositive and significant impact on the bank stability. The customer trust and NNPA has a significant and negative impact on bank stability. Other variable used in the model management quality, liquidity and efficiency are not significant tothe stability of banks. To conclude that mostly the results are in line with the previous studies. The findings of thisresearch work provide an understanding of the factors that are influencing on bank stability and serves as a tool to improve bank stability by focusing on the negatively impacting variables.

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