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Assessment of Determinants of Interest Rate Spread: An Empirical study on Commercial Banks of Bangladesh

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ABSTRACT: This paper aims at analysing determinants of interest rate spread using panel data of 20 commercial banks for the period of 2009-2018. After reading several articles related to IRS, 7 most significant factors from 3 sectors have been chosen as independent variables. From bank specific variables; Return on Asset, Non-Performing loan and Operating expense to total asset have been taken. GDP and Inflation have been taken from macroeconomic variables. And finally, from banking industry specific factors CRR and SLR have been taken. Among them bank specific factors appeared to be most significant in previous studies. The present study analyses the relationship and of independent variables on dependent variables by different statistical test including fixed effect regression model, random effect regression model, granger causality test and some other relevant tests. Fixed effect regression model was used here to establish relationship between interest rate spread and 7 independent variables. In fixed effect regression model, the study has found 6 variables statistically significant. They are inflation, SLR, CRR, ROA, OC Aseet, and NPL. Among them Inflation, CRR, SLR are negatively correlated with interest rate spread. Bank specific 3 factors have positive correlation with interest rate spread. GDP has been found to be statistically insignificant. In random effect regression model, IRS has been found to be positively correlated with GDP, ROA, NPL, and OC Asset. But Inflation, SLR, CRR has been found to be negatively correlated with IRS. Among the 7 independent variables, 6 has been found to be statistically significant. Hausman test failed to reject null hypothesis in this study and Granger causality test failed reject null hypothesis in case of GDP, Inflation, SLR and CRR.

Keywords: Interest rate spread, Cash reserve requirement, Statutory Liquidity Requirements, Inflation, GDP.

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1. INTRODUCTION

The interest rate spread is considered as one of the most important determinants of the efficiency of the financial system. With the development of the financial sector interest rate spread is expected to be declined over time. Interest rate spread is the difference between interest rate charged to borrower and rate paid to depositors. Like other developing countries, IRS is pretty high in Bangladesh. The higher the interest rate spread, the higher the cost of credit to borrower. High IRS indicates low deposit rate which results in discouraging savings. In a country like Bangladesh, high interest rate spread indicates high cost of credit blocking the availability of funds to potential borrowers' community. On the other hand, depositors will also be discouraged due to low deposit rate.

From the perspective of the banks, IRS indicates the additional rate of return that banks take over their deposit rate to perform intermediation among borrowers and lenders. It is also called the premium of risk that the banks charge for taking risk; it compensates for the loan default. So, it is considered as banks intermediation cost and profitability. Recently IRS has drawn the attention of the policy makers due to its influence on economy. In Bangladesh study concerning interest rate spread is very limited. As the issue has become a concern for different policymakers, Bangladesh bank has taken different measures to reduce interest rate spread, the IRS has shown declining trend in recent years and for 2018 was around 3%.In this paper I have analyzed interest rate spread of commercial banks in Bangladesh by using fixed effect panel regression model to a panel of 20 commercial banks for the period 2009-2018.

1.1 Statement of Problem

Despite the extensive application of expensive economic industry reform programs in developing nations including Bangladesh, the banking sector is still defined by high interest rate spreads in many developing countries. High interest rate spread hampers the development of the economy as the potential borrowers cannot get the facility of taking loan with lower interest rate. On the other hand depositors become demotivated to save money since they don't get expected high return. As the interest rate spread influence the performance of overall economy, it should be kept under control. By determining the factors that influence the interest rate spread, policymakers can take efficient measures to control it. In this study I have tried to find out factors determining the interest rate spread in commercial bank of Bangladesh. So, the problem statement is- "What factors determine the interest rate spread in commercial bank of Bangladesh?"

1.2 Objective of The Study

The main objective of this study is to assess the determinants of Interest Rate Spread in Commercial Banks of Bangladesh.

Specific objectives are-

- To know which bank specific factors influence the interest rate spread.
- To know the impact of economic and banking industry specific factors on IRS.
- To know the reason of high interest rate spread.
- To know the present condition of interest rate spread on Bangladesh.
- To find out which factors influence IRS most.

2. LITERATURE REVIEW

Different researchers conducted a number of studies to analyse interest rate spread and its determinants. In this part I will discuss about the previous literature on the determinants of interest rate spread of commercial banks in different countries. The most important theoretical model of interest margin determination is Ho and Saunders' (1981) bank dealership model, the size of interest rate spread is analysed on the basis of the impact of deposit and loan markets and hedging behaviour of banks and customers on interest rate spread. In commercial banks depositors come to the banks at regular interval whereas application for loan is made stochastically and banks must honour this demand is they want to maintain a good reputation in the market. This situation makes banks facing an inventory danger.

Banks make compensation by the spread to face this issue. A very few studies can be found in Bangladesh, among them Mujeri and Younus (2009) conducted a study the interest rate spread in the banking sector of Bangladesh using panel data of 48 banks. It covers period from 2004 to 2008. It finds out a significant negative relationship between Non-interest income as a percentage of total asset and interest rate spread. Besides, statutory reserve requirement and NSD certificate interest rates affect interest rate spread. The analysis shows the influence of operating cost and classified loan for banks in terms of bank specific factor. Others macro variable like inflation, GDP, taxes matters. The analysis suggests several systemic actions and measure at the bank level to improve earning and profitability of banks. They suggest that developing alternative risk

assessment mechanism and ensuring better liquidity management can be helpful for interest rate risks. Besides, improving institutional efficiency, strengthening local banks and accessing information can ensure investment friendly environment in the country. Suzuki and Adhikary (2009) made a study on interest rate spread of banks in Bangladesh based on pre-liberalised and liberalised period. They found out interest rate spread being influenced by non-performing loan, inefficiency in managing credit risk, competition among banking sectors. They suggested an efficient monetary and fiscal policy is needed to improve the overall situation. Hossain (2012) analysed interest rate spread in Bangladesh using panel data for 43 banks for the period of 18 years(1990-2008).

The study found out NPL, and some macroeconomic factor has significant influence on interest rate spread. They also incorporate time series data and found out deposit rate is more sensitive to interest rate spread than that of lending rate. A sudden shock in deposit rate can bring about a big change in interest rate spread. Nguen, Islam and Ali (2010) found an asymmetric adjustment of lending and deposit rate with interest rate spread. The deposit rate adjusts faster than the lending rate. The reason for this uneven adjustment was the bank managements over emphasising on personal goal. They suggested a fair competition among banks and proper monitoring by government. Afroze (2013) analysed interest rate spread using time series data from 1974-2011 and found statistically significant correlation between interest rate spread and deposit rate [1].

But the study didn't find any considerable impact of lending rate on interest rate spread as it shown lending rate's impact on interest rate spread is not as fast as deposit rate. In the study, it also incorporated granger causality test and failed to found to indicate any bilateral causal relationship among the variables. Georgievska et al (2011) study on Greece used particular bank and macroeconomic variables in their studies, including bank size, market share, deposit rate, non-performing loan, domestic policy rate and foreign interest rate. The findings show that loan rates are mostly affected by the size of the bank and market share, and to a lower extent by deposit prices and non-performing loans. Moreover, policy factors like the domestic policy rate and the overseas interest rate also seem to be very crucial. In addition, bank size and market share, as well as the difference between national and international prices, are the most significant factors influencing spreads of interest rates, while the impact of other variables is less clear-cut [12]. A study carried out by Folawewo and Tennant (2008) using annual information from thirty-three nations suggests that different industry and macroeconomic policy have a significant impact on interest rate spread. The determinant of IRS included

discount rate, deficits in the public sectors, Inflation, reserve requirement, Government's outsourcing in public sector, level of money supply, economic development and population size in the study.

Among these variables government crowding out in banking sectors, public sector's deficit inflation, money supply level, discount rate, population size and economic development have significant influence on interest rate spread [11]. Few other researchers like Asmare (2014), Akinlo and Owoyemi (2012), Barquero Romero and RodrÃguez (2015), Churchill (2014), MÃ¤nnasoo, (2013), Neal et al (2012), Peshav (2015) and Rebei (2014) have also conducted research on the same issue but considering different periods and on different countries such as Ghana, Kenya, Nigeria, Ethiopia, Estonia, Bulgaria and Solomon Island has also shown that this macro, micro and sectors specific factors have significant impact in determination of IRS.

3. OVERVIEW OF BANKING SECTOR AND INTEREST RATE SPREAD IN BANGLADESH

In order to ensure sustainable high growth rate of economy it's important to keep the flow of saving into the productive sector of economy. It basically depends on the development of appropriate financial institutions which are capable of generating sufficient investment resources. A skilled financial institution has two major roles to play in this context. First, transferring capital from savers to borrowers, and second, giving loanable fund to effective and profitable investment project.

3.1. Current Banking Condition of Bangladesh

The economic system in Bangladesh is dominated by banks where the banking industry accounts for approximately 96% of the economic sector's total assets. There are currently 59 schedule banks with six state-owned commercial banks (SCBs), three specialized banks (SBs), 41 personal commercial banks (PCBs), and nine overseas commercial banks (FCBs) working in the nation [5]. After independence, the financial sector of Bangladesh was considered as cheap sources of credit for export processing and import substitution. Controlling interest rate and other sectors were not given enough importance. That's why the development in this sector was not up to the expected level. Nowadays this sector is considered as one of the most influencing sectors of the economy [6].

A brief overview of banking structure of Bangladesh.

Table 1: Overview of Banking sector of Bangladesh.

	2016						2017					
Bank type	Number of Bank	Number of Branches	Total Asset	Share in Industry Asset	Deposits	Share in Deposits	Number of Bank	Number of Branche	Total Asset	Share in Industry Asset	Deposits	Share in Deposits
SCBS	6	3710	3209.5	27.6	2535.4	28.38	6	3721	3379	25.88	2700.6	27.35
DFIS	2	1407	299.5	2.6	249.4	2.79	2	1407	317.6	2.43	273.3	2.77
PCBS	40	4467	7560	65	5788	64.79	40	4758	8758.3	67.07	6508.2	65.91
FCBS	9	70	557	4.8	361.1	4.04	9	69	603.9	4.62	392.8	3.98
TOTAL	57	9654	11626.6	100	8933.9	100	57	9955	13059.3	100	9874.9	100

Source: Bangladesh Bank's website.

Interest Rate Spread

The lending and borrowing rate have be declared to be 9% and 6% respectively. So, the interest rate should be around 3%. But according to latest statistics, the actual situation is different. Only state-owned commercial bank happens to follow the rule in spite of their having high operating cost, High NPL ratio. On the other hand, commercial and foreign banks don't follow the rules of minimising spread to 3%. As of last few months of 2018, the weighted average IRS stood 4.27% for all banks in Bangladesh. An overall situation of interest rate spread of different banks in Bangladesh are given in table2 in below [9].

Table 2: Interest Rate Spread in Bangladesh (2018).

Banks/Group	**Lending Rate**	**Deposit Rate**	**Interest Rate Spread**
All banks	9.63	5.36	4.27
State Owned Commercial Banks (SCBs)	7.06	4.37	2.69
Specialized Banks (SBs)	8.91	5.67	3.24
Private Commercial Banks (PCBs)	10.31	5.95	4.36
Foreign Banks (FBs)	9.11	2.26	6.85

Source: Bangladesh Bank's website.

3.2. Interest Rate Spread Trend

Interest rate spread is keeping under the control of Bangladesh bank for recent years. Though private commercial and foreign bank doesn't follow the rules properly, overall interest rate of spread has decreased and following a declining trend from 2015.

Interest rate spread trend

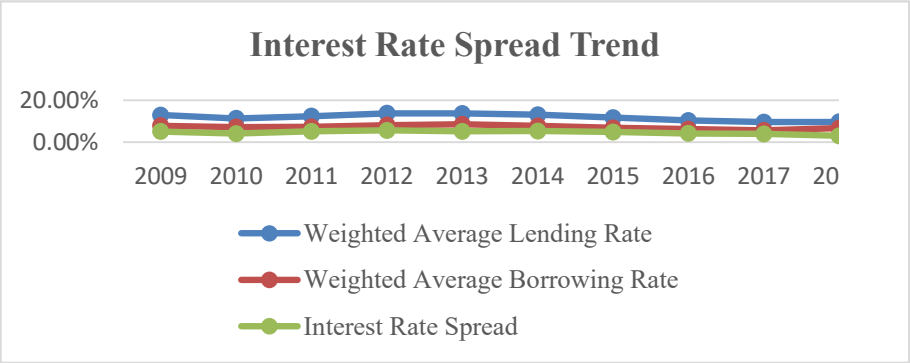

Figure 1: Trends of lending, borrowing and interest rate spread.

Interest rate spread was above 4% from 2009-2017. After Bangladesh Bank take initiative to control the interest rate spread, it is now under 3%. Though most of the private bank don't maintain it. However, state owned commercial banks are keeping their spread below 3%.

4. DATA AND METHODOLOGY

4.1. Model specification and variables

The paper includes exploratory analysis and regression analysis. Exploratory analysis basically focuses on showing trend and comparative analysis of interest rate spread and other variables. Regression analysis shows the determinant of interest rate spread by using panel data estimation methodology using data for the period of 2009-2018. The reason for choosing panel data estimation is it gives much more clarity than time series model and cross section data model.

The empirical model is specifying as follows;

IRS= f (BSV, BIV, RMV, u)

Here IRS is the interest rate spread computed as the difference between

lending rate and deposit rate. It is the dependent variable which is determined by f (BSV, BIV, RMV, u) and some other variables. In this I have just consider 7 factors as the determinants of interest rate spread.BSV is the vector of bank specific variable. On the other hand, BIV is the bank industry variable and RMV is the macroeconomic variable. I have taken three bank specific variable. They are return on asset, operating expense and Non-performing loan. All of them are expected to have a significant impact on interest rate spread and have a positive relationship with IRS. In industry specific factor I have taken cash reserve ratio and statutory reserve ratio. Both of them influenced bank's decision of lending and borrowing. Increasing CRR and SLR results in decreasing amount of deposit so banks normally want to increase the lending rate to keep their spread same as before. So, they are expected to have a positive correlation with interest rate spread.

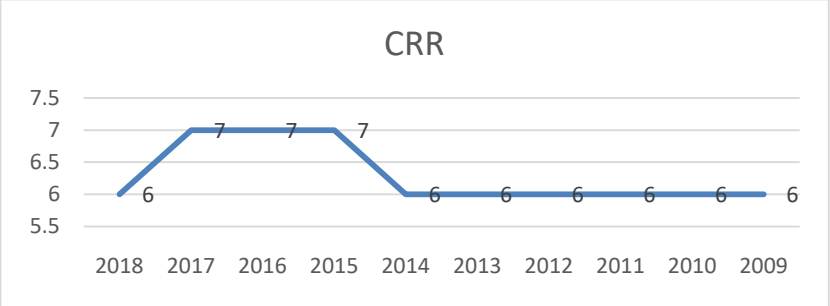

Figure 2: Trends of CRR.

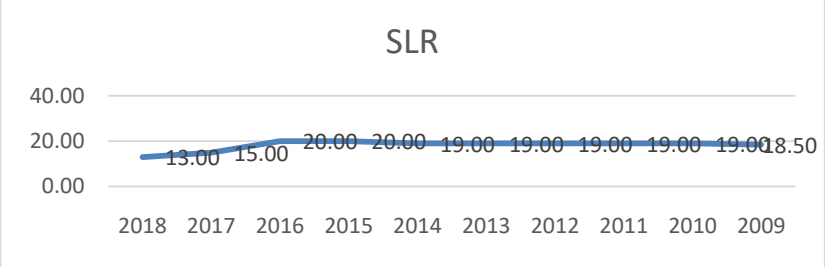

Figure 3: Trends of SLR.

The macroeconomic variables are GDP and inflation. These two factors influence almost all the sector of an economy. Bank is not an exceptional case for this. Banks's spread is influenced by the change of this factor. The impact may not be as significant as the bank specific factors. But it cannot be ignored in this study. They are incorporated in the study with

the expectation to have a positive impact on interest rate spread.

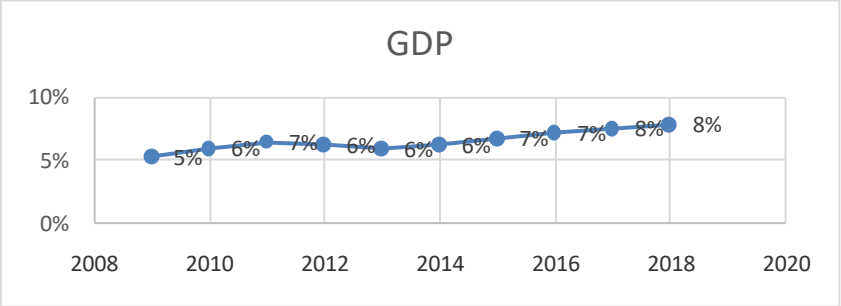

Figure 4: Trends of GDP.

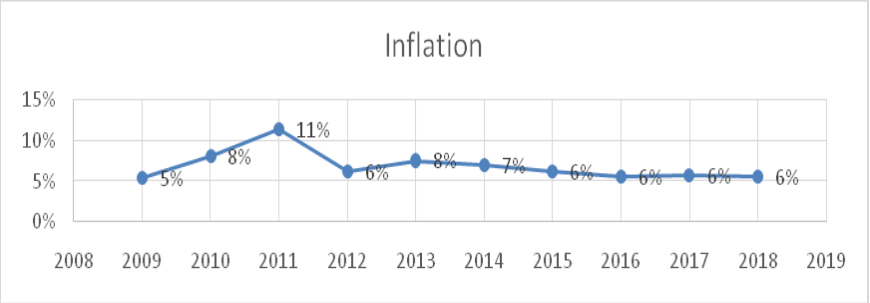

Figure 5: Trends of Inflation.

A brief overview of variables is given below

IRSjt = α0 + α1 GDPjt + α2 INFjt + α3 SLRjt + α4 CRRjt + α5 OCjt + α6 NPLt + α7 ROAt+ εt

Dependent variable	**Description**
Interest Rate Spread	Difference between WALR and WADR

Independent variables	**Description**	**Hypothesised relationship**
NPL	Non-performing loan to total loan	+
ROA	Return on asset	+
OC_Asset	Operating cost to total asset	+
SLR	Statutory Liquidity Requirements	+/-
CRR	Cash reserve requirement	+/-
Inflation	Annual CPI inflation Rate	+/-
GDP	Annual GDP rate	+/-

5. EMPIRICAL RESULTS

5.1. Descriptive Statistics

Table 03 represents the descriptive statistics for the variables. This includes the mean values of the variables, minimum and maximum values, variance and normal values of deviation, skewedness and kurtosis.

Table 03: Descriptive Statistics.

	IRS	GDP	OC_ ASSET	INFLATION	SLR	CRR	NPL	ROA
Mean	0.029643	0.065900	0.023487	0.068639	18.15000	6.300000	0.044385	0.012583
Median	0.027722	0.064000	0.021733	0.062060	19.00000	6.000000	0.043900	0.011564
Maximum	0.089095	0.079000	0.046408	0.113950	20.00000	7.000000	0.082000	0.034892
Minimum	0.002573	0.053000	0.010291	0.054230	13.00000	6.000000	0.007000	0.001130
Std. Dev.	0.014995	0.007561	0.007840	0.017492	2.173967	0.459408	0.017381	0.006026
Skewness	0.838371	0.211533	1.021260	1.608742	-1.49125	0.872872	0.150331	1.221737
Kurtosis	4.223314	2.209750	3.572137	4.716626	3.744097	1.761905	2.198201	4.973908
Jarque-Bera	35.89966	6.695673	37.49358	110.8251	78.74151	38.17082	6.110667	82.22394
Probability	0.000000	0.035160	0.000000	0.000000	0.000000	0.000000	0.047107	0.000000
Sum	5.928682	13.18000	4.697354	13.72780	3630.000	1260.000	8.877000	2.516611
Sum Sq. Dev.	0.044743	0.011378	0.012231	0.060886	940.5000	42.00000	0.060117	0.007225
Observations	200	200	200	200	200	200	200	200

Source: Own computation based on analysed data

The table shows the statistical analysis of dependent and independent variables related to the determinant of interest rate spread in commercial banking sector over the period 2009-2018. Interest rate spread was 2.96% on average for 20 banks over the period of 10 years. For GDP and inflation was 6.59% and 6.86% respectively. The mean value of GDP doesn't deviate much from its minimum and maximum value whereas inflation has a big deviation from its maximum value of around 3% because in 2011 the rate of inflation was nearly 12%. In case of SLR and CRR. The average value of them is 18.50% and 6.3% respectively over the last 10 year. Their mean value doesn't deviate much from the maximum and minimum range. For operating cost to asset ratio, the mean value is 2.34% which indicates a big deviation from the minimum value of

.10%. Finally, about bank specific factors NPL and ROA, as per the average value over the last 10 years, both of them significantly deviated from their minimum value. In case of NPL the minimum value is .7% but the average mean value is 4.43%. On the other hand, return on asset's mean value over the last 10 years period was 1.25% which much higher than its minimum value .11%

5.2. Unit Root Test

In this section, the research paper is going to provide the test result of the unit root testingare tests for stationarity that the statistical properties oftime seriesdo not change over time. A stationary process has the property that the mean, variance and autocorrelation structure do not change over time. In table 04, I have presented the results of Unit root testing. The EViews files are attached in the appendix section. So, I have performed unit root test of the four variables. The hypotheses are:

H0: there is unit root (non-stationary)

H1: there is no unit root (stationary)

Table 04: Unit root and stationarity test.

IRS	level data, intercept	-2.88896	0.0019	Stationary at level data
INFLATION	level data, intercept	-3.49169	0.0002	Stationary at level data
SLR	level data, intercept	9.31287	0.9967	Non-stationary
	1st diff, intercept	-11.2902	0.0000	Stationary at 1st diff
ROA	level data, intercept	-5.7439	0.0000	Stationary at level data
NPL	level data, intercept	-3.59779	0.0002	Stationary at level data
GDP	level data, intercept	3.73656	0.9999	Non-stationary
	1st diff, intercept	-12.767	0.0000	Stationary at 1st diff
CRR	level data, intercept	-11.5937	0.0501	Stationary at level data
OPERATING _EXPENSE	level data, intercept	-2.25533	0.0121	Stationary at level data

Source: Own computation based on analysed data

5.3. Granger Causality test

Granger causality test is done to understand the long-term relationship among different variables. Causality test indicates the influence of past

value of one variable to the current value of another variable. Here I have run Granger Causality test to identify the relationship of interest rate spread and others independent variables. The result of granger causality test is given below.

Table 05: Granger Causality test.

Null Hypothesis:	F-Statistic	Prob.	Decision
GDP does not Granger Cause IRS	10.6202	5.00E-05	Null hypothesis is rejected
IRS does not Granger Cause GDP	0.19917	0.8196	Null hypothesis accepted
OC_ASSET does not Granger Cause IRS	1.07871	0.3426	Null hypothesis is accepted
IRS does not Granger Cause OC_ASSET	2.50968	0.0846	Null hypothesis is accepted
INFLATION does not Granger Cause IRS	3.09183	0.0482	Null hypothesis is rejected
IRS does not Granger Cause INFLATION	0.40427	0.6682	Null hypothesis is accepted
SLR does not Granger Cause IRS	11.8414	2.00E-05	Null hypothesis is rejected
IRS does not Granger Cause SLR	0.80969	0.4469	Null hypothesis is accepted
CRR does not Granger Cause IRS	10.9818	3.00E-05	Null hypothesis is rejected
IRS does not Granger Cause CRR	0.89309	0.4115	Null hypothesis is accepted
NPL does not Granger Cause IRS	0.24116	0.786	Null hypothesis is accepted
IRS does not Granger Cause NPL	1.28472	0.2797	Null hypothesis is accepted
ROA does not Granger Cause IRS	1.33200	0.267	Null hypothesis is accepted
IRS does not Granger Cause ROA	2.09357	0.1267	Null hypothesis is accepted

Source: Own computer base analysis.

From the chart we can see GDP, inflation, SLR, and CRR granger cause interest rate spread as the P value of F-statistics is higher than 5%. On the other hand, operating cost to asset ratio, NPL and ROA do not granger cause interest rate spread because their long-term relationship may vary from bank to bank.

5.4. Regression Analysis (Fixed Effect Model)

In panel data fixed effect model is more appropriate than simple OLS regression model. Fixed effect model is a statistical model which indicate that the model factors are fixed not random. The variables of fixed effect model are constant across individuals. This paper I have determined the regression in fixed effect model.
The results are-

Table 06: Fixed Effect Model Regression.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.047672	0.013861	3.439346	0.0008
D(GDP)	0.384546	-0.237984	1.615847	0.1082
INFLATION	-0.09904	0.046753	-2.1183	0.0358
D(SLR)	-0.001701	0.000376	-4.522401	0
CRR	-0.00524	0.001708	-3.06992	0.0025
NPL	0.094671	0.052309	1.809855	0.0723
OC_ASSET	0.522961	0.211461	2.473087	0.0145
ROA	0.265888	0.143119	1.857805	0.0651

Cross-section fixed (dummy variables)			
R-squared	0.766718	Mean dependent var	0.029489
Adjusted R-squared	0.727076	S.D. dependent var	0.015328

Source: Own computation based on analysed data

Overall R-squared of this model is 76.67% that means fixed effect model can explain the dependent variable by 76.6%. The regression result shows bank specific factor operating expense, non-performing loan, return on asset are positively highly significant. Industry specific variable SLR is found to be insignificant here. On the other hand, among macroeconomic variables GDP and inflation, both of them found to be insignificant.

5.5. Regression Analysis (Random Effect Model)

Random effect model's parameters are random variables. The model is run assuming that there no fixed effect of the variables rather it allows random effect. This portion I have analysed the regression in random effect model. The results are given below-

Table 07: Result of Random Effect Model.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.041577	0.013653	3.045231	0.0027
D(GDP)	0.360644	0.237505	1.518466	0.1307
INFLATION	-0.09798	0.046665	-2.09959	0.0372
D(SLR)	-0.001736	0.000376	-4.623211	0
CRR	-0.00515	0.001707	-3.02034	0.0029
ROA	0.282181	0.140797	2.004169	0.0466
NPL	0.099577	0.050696	1.964211	0.0511
OC_ASSET	0.739146	0.171936	4.298973	0

R-squared	0.257400
Adjusted R-squared	0.227178
F-statistic	8.516943
Prob (F-statistic)	0

Source: Own computation based on analysed data

In random effect model we can see Inflation's effect is negative meaning that when inflation increases interest rate spread decreases. The P value of t-statistic for GDP is 13.07% meaning that GDP is statistically insignificant in this study. The effect of GDP is positive. The expected relationship between them is negative which is similar to our result. Here the P value of SLR is 0% meaning that it is statistically significant here. The relationship between CRR and interest rate spread is negative. The P value of CRR is .29% which is less than 5% meaning that CRR is statistically significant here. Bank specific factor NPL proved to be significant here along with a positive effect on interest rate spread. A positive effect is expected here. The coefficient of ROA is positive which matches our expectation. It is also proved to be statistically significant as the P value is 4.66%. Operating cost to total asset ratio has highest coefficient along with the P value of 0%. It meets all our hypothesised expectation and proved to be statistically significant. For R square the value is 25% meaning that the model shows only 25% random effect of IRS and others 75% is not included here.

5.6. Hausman Test for Fixed & Random Effect Model

In panel data estimation both fixed and random effect model can be applied. In his study I have shown the result of fixed and random effect model. Now by Hausman test done to select between fixed and random effect model. There are two hypotheses in this test.

Null Hypothesis: Random Effect is appropriate.
Alternative Hypothesis: Fixed Effect model is appropriate.

If null hypothesis is accepted, I will choose random effect model and if null hypothesis is rejected then I will select random effect model. To select or reject null hypothesis I will consider P value.

Table 08: Hausman Test.

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	3.015423	7	0.8273

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.047672	0.013861	3.439346	0.0008
D(GDP)	0.384546	0.237984	1.615847	0.1082
INFLATION	-0.09904	0.046753	-2.1183	0.0358
D(SLR)	0.0017	0.000376	4.5224	0
CRR	-0.00524	0.001708	-3.06992	0.0025
ROA	0.265888	0.143119	1.857805	0.0651
NPL	0.094671	0.052309	1.809855	0.0723
OC_ASSET	0.522961	0.211461	2.473087	0.0145

Source: Own computation based on analysed data.

The test shows the P value is .8273 which is greater than .1 meaning we cannot reject the null hypothesis. So here null hypothesis is accepted that the study of random effect is appropriate. In this study we can see Inflation, SLR, CRR, OC_asset, NPL and ROA are significant in this test whereas GDP has found too insignificant.

6. FINDINGS AND CONCLUSION

The study showed different variable that have significant influence on interest rate spread. The study is done based on the data of 20 banks for the

last 10 years. There are many relevant factors that can influence interest rate spread. This study took 7 important variables from bank specific factor, industry specific factors and macro economy specific factors. In the fixed effect regression model GDP and Inflation is taken as a macroeconomic factor. GDP was found to be insignificant and positively related with interest rate spread. On the other hand, Inflation has negative influence on interest rate spread. Though many the study found inflation negatively correlated with interest rate spread but many others also find in Positive. Among industry specific variable both SLR and CRR are statistically significant here and hold a negative relationship with interest rate spread. Bank specific factors return on asset, non-performing loan and operating cost as a percentage of total asset influence interest rate spread positively related and statistically significant. The R-square was 76.76% meaning that independent variables can influence interest rate spread by 76% and other 24% influence come from others variables that are not included here. Random effect model has found Inflation, SLR, CRR, NPL, ROA and OC_Asset statistically significant and GDP statistically insignificant. Inflation, SLR, and CRR has negative correlation with interest rate spread and rest of the variables have positive correlation. Hausman test failed to reject the null hypothesis and Granger causality test failed to reject null hypothesis in case of GDP, Inflation, CRR and SLR. From this study it can be concluded that the influence of bank specific factor and industry specific factor is higher than that of macroeconomic factors. In such situations, strengthening local banks with appropriate risk management policy for non-performing loans by increasing internal control and absence of political influence can overcome the challenges of IRS.

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