

ISSN(E):2522-2260
ISSN(P):2522-2252

Indexing/Abstracting



Published by

Department of Quantitative Methods



University of Management and
Technology, Lahore, Pakistan

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Determinants of Net Interest Margins in Emerging Markets: A Generalized Method of Moments Approach

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Manuscript Information

Submission Date: July 21, 2017

Acceptance Date: February 28, 2019

Citation in APA Style

Khalil, A. & Farooq, U. (2019). Determinants of net interest margins in emerging markets: A generalized method of moments approach, *Journal of Quantitative Methods*, 3(1), 38-55.

This manuscript contains references to 24 other manuscripts.

The online version of this manuscript can be found at
<https://journals.umt.edu.pk/sbe/jqm/volume3issue1.aspx#>

DOI: <https://doi.org/10.29145/2019/jqm/030103>



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Abstract

The study focuses on checking the effect of Leverage Risk, Credit Risk, Implicit Interest Payment, Non-Interest Bearing Reserve and Management Efficiency on Net Interest Margin of the banks of Pakistan, India and Bangladesh. This study applies Generalized Method of Moment GMM and panel regression model to explore the impact of risk factors on net interest margin which banks face in providing immediacy. A descriptive analysis of data was performed to get sample characteristics. A set of 33, 37 and 18 banks from Pakistan India and Bangladesh respectively was selected as sample. The data were collected from annual reports of selected banks. The results show that net interest margin has negative and significant effect on the credit risk. Implicit interest payment has positive and significant impact on net interest margin. Leverage risk has significant and negative effect on the net interest margin. Management efficiency has positive and significant effect on the net interest margin. Non-interest bearing reserve also positively and significantly affects the net interest margin. These results recommend the financing policy that banks should consider specific ratios which may increase the net interest margin and also reduce the credit risk.

Keywords: net interest margin, leverage risk, implicit interest payment, non-interest bearing reserve, management efficiency, credit risk

JEL Codes: G21

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Authors' Acknowledgment: I (Adeela Khalil) hereby declare that the given paper is extracted from my MPhil thesis and/or is an extension of my previous research work.

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1. Introduction

This study is about the association among leverage risk, credit risk, implicit interest payment, management efficiency, non-interest bearing reserves and bank net interest margin. This analysis follows the net interest margin model which was drawn by Ho and Saunders (1981), McShane and Sharp (1985) and Allen (1988). This model shows that determinant of net interest margin affects prices of products of the banks.

Net interest margin (NIM) is the ratio of net interest income to average earning assets and this net interest margin is a main factor in the profitability of bank. The effects of change of interest rate of market and default on net interest margin were not well recorded in literature. Net interest margin defines the volume and mix of liabilities and assets. This study is going to extend the model of Ho and Saunders by including leverage risk, credit risk, implicit interest payment, management efficiency and non-interest bearing reserves (Angbazo, 1997).

Leverage risk explains how much amount a company borrowed to run the complete project. The amount of money that a bank borrows to finance the assets of an organization is known as leverage risk (Angbazo, 1997). Credit risk is defined as the risk which may arise when the debtor is not able to repay a bank loan. It is also called debtor default. Risk of credit may be on credit card, mortgage loan or line of credit (Maudos & De Guevara, 2004).

Implicit interest payment shows the extra amount to the depositor that is collected through services charges remission or any other type of transfer fees. If implicit interest payment increases, then net interest margin also increases so its predicted coefficient sign is positive (Kasman, Tunc, Vardar & Okan, 2010). Non-interest bearing reserves are those reserves that we keep with us or submit them to state bank just for security and we don't receive any interest or we give any loan on it (Angbazo, 1997). A bank is called management efficient if its assets are efficient, give more profit, and liquidate easily (Kasman et al., 2010).

There is minimal literature available on the emerging economies to check the impact of net interest margin on the emerging markets of banks. This study is going to measure the impact of all the

above-mentioned variables on net interest margin of the banks of emerging markets. This paper would add the additional criteria in Ho and Saunders model by including all the factors of net interest margin. Additionally, this study examines whether the risk effects are heterogeneous across bank size classes or not. Studies on NIM of banks of developing countries are scant. This study can serve as a starting point for further research in the field. It may also be helpful for bank decision makers as they can focus on major banking activities. It could help the management of commercial banks in creating better financial strategies, and they can attain their required planned financial performance.

The study has been divided into four sections. First section consists of introduction, second section narrates the literature review and third section discusses the data and methodology. The final section describes the conclusion and limitations & future directions.

2. Literature Review

Commercial banks of any country play a very important role in economic resource allocation. Banks work by borrowing the funds from different institutions, businesses, and governments and lending them to borrowers. The economy of any country runs with the help of banks of that country. Banks are the safe place to store extra cash. Banks are one of the main key drivers in any economy. For any economy of a country the role of banks is very important either it is domestic or foreign bank (Williams, 2007).

According to Tarus, Chekol and Mutwol (2012), the commercial banks play a very important role in any economy. The banks work in a way that they receive amount from public or from other banks and they use that money for generating more money by giving credit facilities. Similarly, the money that banks generate increases the net interest margin. Lin, Chung, Hsieh and Wu (2012) explain that net interest margin plays a significant role in the banking industry. Net interest margin is the performance of any bank that shows how successful the bank is and how much the bank is generating profit either the return is higher or the debt or liabilities are higher.

Net interest margin is very important element of profitability of banks. The net interest margin shows the volume of liabilities and assets carried by banks. It also explains the cost of intermediation

charged by banks (Angbazo, 1997). Net interest margin is a measure to check the profitability of any bank. Net interest margin is basically interest income that bank generates and the interest amount that is paid to the creditors. If the net interest margin of bank is high the more profit bank would earn and be considered more stable (Ongore & Kusa, 2013).

Table 1: Summary of Relationship with NIM

Sr. No.	Variables	Relationship with NIM	Reference
1	Credit risk	Positive	(Tarus et.al,2012)
2	Management efficiency	Positive	(Garcia et al., 2009)
3	Implicit net interest payment	Positive	(Gounder& Sharma, 2012)
4	Leverage risk	Positive	(Afanasieff& et al. ,2002)
5	Non-Interest Bearing Reserve	Positive	(Tarus et.al,2012)

The table 1 discusses the proposed relationship of net-interest margin with other variables of study. This relationship was suggested by the previous researchers. The model of Ho and Saunders (1981) proposed that bank showed risk-averse behavior in credit market. They just enhanced their services and act as inter-mediator instead of enhancing the loans. They offered the services of accepting the deposits and providing the loans. The summary of literature hypothesized the determinants of net interest margin and their effect on it.

The suggested results by the previous studies look down at the determinants of net interest margin and their nature of relationship. These results can be hypothesized in context of this study.

2.1. Credit Risk and Net Interest Margin

Credit risk is a risk that arises when any borrower fails to pay his debt. It causes an increase in collection cost. This loss could be complete or partial. Credit risk losses take place by a number of ways. When a company is unable to pay its debt or floating charges, the risk of credit takes place. When a customer of a bank or any business does not trade invoices the risk of credit takes place. When any government that issues bonds does not make payments on coupon when due, the risk of credit takes place (Simkovic, 2016).

Brissimis, Delis and Papanikolaou (2008) studied about the relationship between bank performance and the steps that have been taken to improve bank performance (bank efficiency) and net interest margin. The results showed that the impact of credit risk on performance of banks is negative. It also looks that higher liquid assets decrease the productivity of bank and its efficiency.

Lin et al. (2012) explains that according to their observation's management efficiency, IIP payment of implicit interest and risk of credit are the variables that increase the net interest margin while liquidity risk decline leads to slow down the net interest margin. Kasman et al. (2010) explain that credit risk is positively related with bank interest margin. It also shows that bank demands higher rate of interest to overcome unexpected risk of credit. On the other hand, implicit interest payment that is another determinant of net interest margin positively and significantly related with net interest margin. The discussion of literature proposed that

H₁: There is a negative link between credit risk and NIM.

2.2. Management Efficiency and Net Interest Margin

Angbazo (1997) and Guru, Staunton and Balashanmugam (2002) explained that why some of the banks in Malaysia were more successful than the other banks. They checked that what were the reasons behind the variation in the profitability of different banks? They studied the determinants of successful commercial banks to improve profitability. After all the analysis, they found that expense management efficiency is one of the most important determinants of bank profitability. In this study, the profit of banks depends upon interest income and interest expense.

Nigerian banks have shown great bank performance from last few decades, so it should be checked that factors which are affecting on profitability of banks. The results showed that size, management efficiency and economic condition contribute toward profitability of banks of Nigeria (Obamuyi, 2013).

Angbazo (1997) and Maudos and De Guevara (2004) explain about the management efficiency. Management efficiency is picking low risk and high return assets (high quality assets and low-cost liabilities). Cost/income ratio is the measure of management efficiency. If this ratio increases, then it indicates deterioration in management

efficiency and hence net interest margin decreases. So, impact of management efficiency is negative with net interest margin. It can be suggested that

H₂: There is a negative link between management efficiency and NIM.

2.3. Implicit Interest Payment and Net Interest Margin

Kasman et al. (2010) explained the implicit interest payment was another determinant of net interest margin which positively and significantly related with net interest margin and because of this reason the bank gives free banking services which in turn lead to higher net interest margin. Implicit interest payment shows the extra amount to the depositors that collected through services charges remission or any other type of transfer fees. If implicit interest payment increases, net interest margin increases so its predicted coefficient sign is positive.

Hawtrey and Liang (2008) explained that implicit interest payment was positively linked to bank interest margin. They worked on the empirical factors of banks' net interest margin by using representative bank approach and they found that implicit interest payment was positively related to bank interest margin. Zhou and Wong (2008) showed that the interest margin of China's commercial banks decline over time and the implicit interest payment affects the interest margin. If we compare china with EU community china is less competitive.

Gounder and Sharma (2012) worked on the factors of bank's net interest margin of Fiji, from the period 2000 to 2010 by following the Ho and Saunders model (1981) which is called dealership model, by using panel data techniques. They found that implicit interest payment positively related with net interest margin. Hence above literature proposed following hypothesis which explains the relation between net interest margin and implicit interest payment.

H₃: There is a positive link between implicit interest payment and NIM.

2.4. Leverage Risk and Net Interest Margin

Leverage is defined as the ratio of total liabilities and net worth of the bank. Leverage is the amount of borrowed money used for investment for any business to generate profit. When a bank has more leverage, it means that the bank has more debt than equity. Too much debt is not good for banks because it can increase the default risk. When the ratio

of leverage increases an increase in solvency risk takes place which is conducive to high net interest margin (Afanasieff, Lhacer and Nakance, 2002).

There are a variety of determinants that impact on bank profitability and change in net interest margin, leverage is one of it. Foreign banks are having more profit margin than domestic banks (Demirguc-Kunt & Huizinga, 1999). By using a sample of 553 banks of 24 countries, Abedifar and Tarazi (2013) found that small Islamic banks that were leveraged have less credit risk than other banks.

Afanasieff, Lhacer and Nakane (2002) found that increase in leverage leads to high interest margin. On the other hand, opportunity cost of leverage increases when NIBR is high. Banks may face two different kinds of problems by making risky loans or by investing in insufficient projects. Optimal level of bank leverage should neither be too high nor too low (Acharya, Mehran & Thakor, 2016). Hence the above literature proposed the following hypothesis which explains the relation between leverage risk and Net Interest Margin.

H₄: There is a negative link between leverage risk and *NIM*.

2.5. Non-Interest Bearing Reserve and Net Interest Margin

Tarus, Chekol and Mutwol (2012) found that higher reserve is positively and significantly related to (NIM) net interest margin. Because when banks have reserves, the management would be able to show a security to its shareholders and investors. If the bank doesn't have reserves, it reflects a negative image because bank could not be able to pay back to the investors and there is a risk of default for banks.

Bektas (2014) findings showed that higher reserves were positively and significantly linked to NIM net interest margin because non-interest bearing reserves secure the market position of a bank in a country. Afanasieff, Lhacer and Nakane (2002) found that the positive impact of Non-interest bearing reserve, one purpose is that the opportunity cost of non-interest bearing reserve increases when non-interest bearing reserve is high. Banks assume vital part in current economies by exchanging reserves from loan specialists to borrowers. Indeed, even in economies with very much created and working money related markets, the busy intervention part of banks is fundamental. Hence the above literature proposes the following hypothesis which

explains the relation between non-interest bearing reserve and net interest margin.

H_5 : There is a positive relationship between non-interest bearing reserve and *NIM*.

3. Data Analysis and Methodology

The following section presents the data collection sources. It explains research methodology that is used to conduct the study. Data have been collected from annual reports of Pakistan, India and Bangladesh. Banks were selected through non-probability sampling technique because it is less expensive and more convenient to collect. Data have been collected from the year 2005 to 2015.

Table 2: Sample Classification

Countries	No. of Banks	Percentage
Pakistan	33	37%
India	37	42.5%
Bangladesh	18	20.68%
Total	87	100

3.1. Variables of the Study and Measurement

3.1.1. Dependent Variable

Net Interest Margin was taken as dependent variable. The difference between interest income generated by the banks and the amount of interest paid to the lenders is referred as net interest margin. Net interest margin is also referred as the percentage of profit that a bank earns from loans or from other assets minus the interest paid divided by the average of assets. Net interest margin has been calculated by the proxy that has been taken from the paper of Kasman et al. (2010).

3.1.2. Independent Variables

The bank specific independent variables are credit risk, leverage, non-interest bearing reserve, implicit interest payment and management efficiency.

Leverage (LEV) is the proxy for solvency risk and it positively linked to net interest margin of bank while tier 1 capital is the most perfect measure of a bank capital and to measure the financial health of a bank. The proxy of leverage risk has been taken from the paper of Angbazo (1997).

Credit risk is the potential that a borrower bank fails to fulfill its agreed responsibilities and terms. In simple, the risk of lender is that when they lose cash flows, principle and interest and it then increases collection cost. This loss could be complete or partial. Higher level of risk of credit leads to higher cost of borrowing. The proxy of credit risk has been taken from the paper of Maudos and Guevara (2004). Credit risk positively and significantly linked to bank net interest margin (Bektas, 2014).

Implicit interest payment shows the extra amount to the depositors that is collected through services charges remission or any other type of transfer fees. In simple words, if a person borrows one thousand rupees and agrees to make ten payments of 100 on the debt then the loan agreement has an implicit interest rate of 20%. Implicit interest payment is the one that is not explicit. If implicit interest payment increases then net interest margin also increases, so its predicted coefficient sign is positive. This proxy of implicit interest payment has been taken from the paper of Kasman et al. (2010).

The central bank has authority to vary or fix the minimum cash reserves that a bank must hold against their liabilities. In most of the countries the requirement of reserve against deposit is provided to include certain assets in addition to cash. Those reserves that a bank keeps or submits to state bank just for a security and don't receive any interest on it are called non-interest bearing reserves. The proxy of NIBR has been taken from the paper of Angbazo (1997). Non-interest bearing reserve has positive effect on net interest margin.

Management efficiency is one of the most important factors in national and international banks because good or bad management affects the activities of bank. A bank is called management efficient if its assets are efficient and give more profit and liquidate easily. The management efficiency has positive effect on net interest margin; it shows that when management efficiency increases, revenues increase as a result net interest margin of bank will also increase. The proxy of default risk has been taken from the paper of Kasman et al. (2010).

3.2. Econometric Methodology

The model that is applied with in this research is Generalized Method of Moments which abbreviated as GMM. Panel data have been used to test the relationship between the variables.

3.2.1 Generalized Method of Moments

Generalized method of moments (GMM) used in econometric and statistics to estimate statistical models and parameters. Generalized method of moments is applied in context of semi parametric model. In semi parametric model, parameter of interest is finite. Whereas it may be possible that the full shape of distribution function of data may be not known due to this maximum likelihood estimation is not applicable. The linear regression model can explain as follows,

$$Y_{it} = \beta_0 + \sum_{j=1}^n \beta_j X_{jit} + \varepsilon_{it} \quad (1)$$

Multiple Linear Regression model can be expressed as

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \varepsilon_{it} \quad (2)$$

Equation for dynamic GMM is as follows

$$Y_{it} = \beta_0 + \beta_1 Y_{it-1} + \sum_{j=1}^n \beta_j X_{jit} + \varepsilon_{it} \quad (3)$$

where

Y_{it} = dependent variable

Y_{it-1} = lag of dependent variable

X_{jit} = vector of independent variable

ε = error term

β_0 = intercept

3.2.2. Model Specification

Panel regression model is used to explore the effect of risk factors (credit risk, implicit interest payment, leverage risk, management efficiency and non-interest bearing reserves) on net interest margin. In this case the model of net interest margin can be written as follows

$$NIM_{it} = \beta_0 + \beta_1 NIM_{it-1} + \beta_2 CR_{it} + \beta_3 IIP_{it} + \beta_4 LEV_{it} + \beta_5 MGT_{it} + \beta_6 NIBR_{it} + \varepsilon_{it} \quad (4)$$

where

NIM= net interest margin

CR= credit risk

IIP= implicit interest payment

LEV= leverage

MGT= management efficiency

NIBR= net-interest bearing reserve

3.3. Empirical Results and Discussion

In this section of empirical results and discussion, the implementation of Generalized Method of Moment (GMM) is generated which provides the relationship of dependent variable that is net interest margin (NIM) with credit risk (CR), implicit interest payment(IIP), leverage risk(LEV), management efficiency (MGT) and non-interest bearing reserves(NIBR). The independent variables that have been discussed in literature review are default risk (DR), liquidity risk (LR), leverage risk(LEV), implicit interest payment (IIP), size (SIZ), non-interest bearing reserve (NIBR), management efficiency (MGT), and credit risk (CR) but in methodology and results only leverage risk (LEV), implicit interest payment (IIP), non-interest bearing reserve (NIBR), management efficiency (MGT) and credit risk (CR) are reported because only the result of these variables are significant while the other variables are insignificant so these variables not reported.

3.3.1. Descriptive Stats

The descriptive stats present the statistical outcomes in the form of mean and standard deviation.

Table 3: Descriptive Statistics

	Mean	Maximum	Minimum	Range	Std. Dev.
NIM	3.35	17.99	-0.84	17.15	2.37
CR	0.86	0.98	0.03	0.95	0.15
IIP	0.01	0.25	-0.23	0.02	0.03
LEV	8.20	54.54	0.00	54.54	8.04
MGT	0.26	2.03	0.00	2.03	0.20
NIBR	0.10	0.58	-0.03	0.55	0.10

Table 3 shows the descriptive statistics for all variables of this study for the period of 2005 to 2015. The descriptive stats summarize the responses of firms which were included in analysis. It explains the general trend of change in the form of mean and standard deviation etc. The mean value suggests the average responses of firms in determining the dependent variable while the standard deviation is the indication of dispersion of results from mean value. The maximum and minimum

values narrate the span of change i.e. upper and lower limit. The net interest margin has a mean of 3.35 having the maximum and minimum value of 17.99 and -0.84 and the range of 17.15 while the standard deviation is 2.37. The mean of credit risk is 0.86, minimum level of credit risk is 0.03 and maximum level is 0.98 and the range is 0.95 while the standard deviation is 0.15. The mean of implicit interest payment is 0.01 and maximum value is 0.25, minimum value is -0.23 while the range and standard deviation is 0.02 and 0.03. Leverage risk has a mean of 8.20 having a range of 54.54 and a standard deviation of 8.04 while the maximum and minimum value is 54.54 and 8.04 respectively. Management efficiency has a mean of 0.26 and range of 2.03 and 0.20. The minimum value is 0.26 and maximum value of management efficiency is 2.03. Non-interest bearing reserves have a mean of 0.10. The minimum and maximum value is -0.03 and 0.58 respectively. The standard deviation of non-interest bearing reserve is 0.10.

3.3.2. Correlation Matrix

Table 4 below shows a correlation matrix of dependent and independent variables used in this study. The correlation values estimate the strength of association among the variables. The table 4 quantify this strength and exemplifies the inter association of variables i.e. dependent and independent variables. The association between credit risk (CR) and net interest margin is negative. The relationship between implicit interest payment (IIP) and net interest margin is positive but insignificant. The association between leverage risk (LEV) and net interest margin is negative and insignificant. Management efficiency (MGT) shows a positive and insignificant relationship with net interest margin. Non-interest bearing reserves (NIBR) show negative and insignificant relationship with net interest margin. The relationship between credit risk (CR) and net interest margin (NIM) is negative and insignificant while the relationship of credit risk (CR) and leverage risk (LR) is positive and insignificant. The relationship of credit risk (CR) and management efficiency (MGT) is negative and insignificant.

On the other hand, the relationship of credit risk (CR) with non-interest bearing reserve (NIBR) is positive and insignificant. The relationship between implicit interest payment (IIP) and leverage risk (LEV) is negative and insignificant while the relationship between

implicit interest payment (IIP) and management efficiency (MGT) is positive and insignificant. The relationship between implicit interest payment and (IIP) non-interest bearing reserve (NIBR) is negative and insignificant. Leverage risk (LEV) and management efficiency (MGT) are showing negative and insignificant relationship with each other. While the leverage risk (LEV) and non-interest bearing reserve (NIBR) are showing positive and insignificant relationship with each other. Management efficiency (MGT) and non-interest bearing reserve (NIBR) have negative and insignificant relationship with each other.

Table 4: Correlation Matrix

	NIM	CR	IIP	LEV	MGT	NIBR
NIM	1					
CR	-0.380	1				
IIP	0.594	-0.279	1			
LEV	-0.218	0.436	-0.234	1		
MGT	0.408	-0.482	0.770	-0.359	1	
NIBR	-0.143	0.266	-0.157	0.636	-0.170	1

3.3.3. Regression Results

Below table 5 shows the results for net interest margin that is dependent variable and bank specific determinants by using the multivariate regression analysis. Generalized method of moments GMM has been used to estimate the results. The coefficient value of credit risk is -2.956 and t- statistic value is -6.750 while the P-value is 0.000. Credit risk (CR) is negatively and significantly impact on net interest margin. According to Tarus, Chekol and Mutwol (2012), if the credit risk will be higher, the higher will be the net interest margin, hence the effect of credit risk is positive on net interest margin. Anbar and Alper (2011) said that banks could enhance their ratio of profit by decreasing the ratio of credit because ratio of credit and size of loans have a negative impact on the profitability of bank. Kasman et al. (2010) explain that bank interest margin is positively related with credit risk. It also shows that bank demand higher rate of interest to overcome unexpected risk of credit. Fungáčová and Poghosyan (2011) studied the determinants of net interest margin of Russia and conclude that credit risk is showing negative relation with net interest margin. According to the previous literature the impact of credit risk could be positive or negative on net interest margin but the result of this study shows that credit risk (CR) is

negatively impacting on net interest margin. The results are supporting hypothesis and previous literature.

Implicit interest payment (IIP) positively and significantly affects the net interest margin. It means if the implicit interest payment increases in cross countries then the net interest margin also increases. Kasman et al. (2010) explained that implicit interest payment is another determinant of net interest margin which significantly and positively related with net interest margin and because of this reason bank gave free banking services which in turn lead to higher net interest margin. Implicit interest payment showed the extra amount to the depositors that collected through services charges remission or any other type of transfer fees. If implicit interest payment increases, the net interest margin increases so its predicted coefficient sign is positive. Hawtrey and Liang (2008) explained that implicit interest payments are positively related to bank interest margin. The results are supporting the hypothesis and previous literature.

Table 5: Determinants of Net Interest Margin

Variable	Coefficient	Std. Error	t-Statistic	p-value
C	5.070	0.520	9.744	0.000
NIM(-1)	0.364	0.053	6.772	0.000
CR	-2.956	0.437	-6.750	0.000
IIP	36.197	3.260	11.101	0.000
LEV	-0.018	0.007	-2.335	0.010
MGT	-2.897	0.369	-7.843	0.000
NIBR	1.060	0.556	1.904	0.050
R-squared	0.649	J-statistic	51.080	
Adjusted R-squared	0.646	Prob(J-statistic)	0.2941	

Leverage risk (LEV) is negatively -0.018 and significantly 0.010 impacting on the net interest margin. Afanasieff, Lhacer and Nakane (2002) found that increase in leverage leads to high interest margin. When the ratio of leverage increases an increase in solvency risk take place which is conducive to high net interest margin (Afanasieff, Lhacer & Nakane, 2002). The results are supporting the hypothesis and previous literature. Management efficiency (MGT) negatively and significantly impacting on the net interest margin. The coefficient value of

management efficiency is -2.897 while the P-value is 0.000 t-statistics value is -7.843. Here the impact of management efficiency is negative on net interest margin. The results are supporting hypothesis and previous literature.

Non-interest bearing reserve (NIBR) positively and significantly impacts on net interest margin. The coefficient value of non-interest bearing reserve is 1.060 while the P-value is 0.050. The higher reserve is positively and significantly related to (NIM) net interest margin. Because when bank have reserves, the management would be able to show a security to its shareholders and investors. If the bank doesn't have reserves, it reflects a negative image because it could not be able to pay back to the investors and there is a risk of default for banks (Tarus, Chekol & Mutwol, 2012). R-squared value shows that how much independent variables explain the dependent variables. The value of R-square is 64% and it shows that independent variables are 64% explaining the net interest margin. The results are supporting the hypothesis and previous literature. The results of study confirmed that all the alternate hypotheses were accepted and null rejected.

4. Conclusions

This study investigates about the financial sector of Pakistan, Bangladesh & India to find out the factors of bank's that affect the net interest margin in these countries. Financial sector provides financial services to commercial and retail customers. Financial sector includes insurance companies, banks, real estate and investment funds. Banking sector is one of major financial sector in the world. It is necessary to study the banking sector of developing countries.

There are numerous purposes behind this study as policymakers think about banks' interest margin since they demonstrate the expense of financial buries involvement. Net interest margin is most important component for the profitability of banks. Net interest margin is basically the interest income that bank generates. If the net interest margin of bank is high, it would earn more profit and would be considered more stable. This study endeavors to explore the determinants of bank's net interest margins; credit risk (CR), leverage risk (LEV), implicit interest payment (IIP), non-interest bearing reserves (NIBR) and management efficiency (MGT) in Pakistan, India and Bangladesh. The purpose of choosing these three countries is that minimum work has been done on these countries. This work would be

helpful for managers and policy makers in future. The results show that credit risk has a negative and significant impact on net interest margin. When the credit risk increases then the earnings of banks i.e. net interest margin decreases due to high cost of risk. Implicit interest payment has a positive and significant impact on net interest margin which strengthen the concept that IIP has vital role in determining the net interest margin. The management efficiency has a negative and significant impact on net interest margin. Non-interest bearing reserve has a positive and insignificant impact on net interest margin while leverage risk has a negative and significant impact on net interest margin. The findings of study enhance the conceptual understanding of researchers that these variables have vital role and managers should do focus on these variables to earn the more profitability in the form of net interest margin.

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Citation: Khalil, A. & Farooq, U. (2019). Determinants of net interest margins in emerging markets: A generalized method of moments approach, *Journal of Quantitative Methods*, 3(1), 38-55.



Submission Date: July 21, 2017
Last Revised: February 26, 2019
Acceptance Date: February 27, 2019