Determinants of Bank Net Interest Margin: Case of Tunisia

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Abstract

Net interest margin is a significant indicator of the efficiency of the banking financial intermediation. In general, the level of net interest margin is primarily a consequence of result of the level of development and competitiveness of the financial system of country. Therefore, It is important to determine their determinants. In this article, we analyze the determinants of net interest margin of 18 banks in Tunisia between (2000...2013). We found that among the internal factors, size, deposits, TLA, CEA, risk have an significant impact on net interest margin. In external factors, only inflation have a significant impact on net interest margin..

Key Words: Banking, Tunisia, Net Interest Margin, Size, Deposits, Inflation, Risk

JEL classification: G21, G28, G35

Introduction

In general, the level of net interest margin is primarily a consequence of result of the level of development and competitiveness of the financial system of country (Plakalovic and Alihodzic 2015). High net interest margin is often associated with the presence of inefficiencies in the banking system, particularly in developing countries, due to costs incurred as a result of inefficiency which are transferred to bank customers by charging high interest rates (Fry, 1995; Randall, 1998; Barjas et al.1999).

Efficient intermediation costs are indicated by low interest rates and reflect the effectiveness of monetary policy, well maintained financial stability, and competitive banking system. High intermediation costs would reduce the incentive for economic actors (Hadad and et al. 2003). Moreover, interest rate margins is among the most important factors that gauge the efficiency of financial intermediation, and wide interest margin is seen to have negative impact for financial intermediation and financial developments. There are concerns mainly in the developing economies about the structure and the level of interest rates (which remain high) and their implications for the efficiency of the banking sector.

Thus, interest margins are an important policy factor as it show how efficiently bank performance their intermediary roles of collecting savings and allocating loans(Chekol and Mutriol, 2012).

it is important to determine the factors that influence the net interest margin of banks. In this article, we will show the determinants of bank's net interest margin in Tunisia over the period (2000...2013). We used an approach consists of 3 parts including literature review, empirical study and a conclusion.

Literature Review

Net Interest Margin and Bank Size

Bank net interest margins are expected to be higher when the yield curve is steeper for a sustained period because, one assets and liabilities have repriced, a steeper yield curve implies higher rates on assets relative to those on liabilities. In addition, for a given yield curve slope, an increase in both short term and long term interest rates is expected to temporarily reduce net interest income, reflecting the more rapid adjustment of yields on liabilities than yields on assets(BIS Quarterly Review 2002).

In the other hand, Bush, Mummel (2014) assume that expected loss rate of a loan depends on the loan initial maturity and the industry of the borrower. They further assume that the expected loss rates are time – dependent and that a bank uses then prevailing expected loss rates when it sets the rates it charges for newly granted loans. Therefore the contribution to a bank's net interest margin that covers the expected losses in the bank's credit portfolio is a weighted average of past and current expected loss rates for different maturities and industries. Besides and Kalluci (2014) indicated that the higher the level of non performing loans, the higher the credit risk, and consequently the higher will be the interest margins.

The bank will need to cover the losses caused by this kind of loans, by passing on the additional costs to its customers, in the form of higher loan rates or lower deposit rates, or a combination of them. It has been found a positive correlation between interest margins and credit risk (Maudos and Fernandez De Guevara, 2004; Brock and Franken, 2002; Demirguc Kunt and Huizinga, 1998).

Studies performed for some Latin American countries have showed that there is a negative correlation between the 2 variables (Brock and Rajas Suarez, 2000). This fact can be explained by the decrease of loan interest rates or the increase of deposit interest rates. The reduction in loan rates may happen in banks, which despite of the high level of bad loans, put in risk their income cuming the market share increase.

On the other side, the deposit rate increases comes as a reaction toward the increase of the non performing loans at the industry level.

Net interest Margin and Bank Capital

Brock and Rajas Suarez (2000), reported significant and insignificant positive relationship between capital to asset ratio and margin for Latin American economies and attribute this differences to the fictitious capital of banks. Kasman and his colleagues (2010) studied the relationship between net interest margin and capital ratio for the new European member and candidate countries in the pre and post consolidation period. They stated that the economic conditions are important, since results are different for pre and post consolidation periods. Strong capital structure is essential for banks in developing economies, since it provides additional strength to withstand financial crisis and increased safety for depositors during unstable macroeconomic conditions. Furthermore, lower capital ratios imply higher leverage and risk, which therefore lead to greater borrowing cost. Thus, net interest margin should be higher for the better capitalized bank (Staikouras and Wood, 2003). On the other hand, a relatively high capital asset ratio may signify that a bank is operating cautiously and ignoring potentially profitable diversification or other opportunities (Ali et al. 2011).

Besides and Iloska (2014) found a positive relationship between net interest margin and bank capital in Macedonia. High net interest margin indicates high profitability that may increase bank capitalization. This condition is expected to diminish the negative shocks when it happened.

At the end, will bring positive effects in terms of the bank as business unity, where banks must be in optimum position both as a intermediary institution and as a business entity (Sidabalok and Viverita, 2012).

Relationship between Net Interest Margin and Bank Size

Bank size is usually considered an important determinant, but with non consensus on the direction of its influence. Generally, the effect of a growing size has benefits like economies of scale and reduced costs or economies of scope and product diversification, that provides access to markets that small banks cannot entry (Iloska, 2014).

Accordingly, the size –net interest margin relationship is expected to be non linear (Ali et al. 2011). On the other hand, Naceur (2003) says that big banks tend to lower margins as a result of economies of scale. Besides, Ho and Saunders (1981), Maudos and Solos (2009) find a positive relationship because the larger the transaction, the larger the potential loss will be. Funcagova and Poghosyan (2009), Maudos and Fernando De Guevara (2004), Angbazo (1997), among others, report a negative association between bank size and interest margins, pointing to the cost reduction attributed to economies of scale.

Relationship between Net Interest Margin and Other Internal Factors Of Bank

Demicic and Ridzak (2013) indicated that the cost to income ratio is negatively correlated with net interest margin, implying that relatively less efficient banks marked by higher cost to income ratio had higher net interest margin. The ratio of non interest income to gross revenue is significant and negative suggesting that banks with a higher share of non interest income in their gross revenues charged lower margins for loans granted and collected additional revenue through various charges connected to credit activity.

Besides, Martinez and Mody (2004), and Drakos (2003) found that foreign banks realize lower margins than domestic banks in transition countries. The opposite conclusion is reached by Schwaiger and Liebig (2008) on a sample of CEE countries, through Dabla Norris and Floerkemeir (2007) find no effect of foreign ownership on bank interest margin in Armenia.

Bank expenses are also a very important determinant, closely related to the approach of efficient expense management, because they offer a major opportunity to be decreased (in this era of new electronic technology) and hence improve efficiency and performance (Iloska,2014).

The relationship between operations costs and net interest margin is usually negative, as banks that are more productive and efficient aim to minimize their operating costs. On the other hand, if banks are also to transfer part of their operating expenses to their clients, this relationship may become positive (Vong, 2005).

The Relationship between Net Interest Margin and External Factors

Abreu and Mendes (2003), Maria and Agoraki (2010) found a negative relationship between inflation and net interest margin, indicating that bank costs increase more than bank revenue do most probably because of regulatory constraints on adjusting lending rates.

On the other hand, Ben Nassar and al (2014) found the estimated coefficient for market concentration is negative and statistically significant. This is true for all banks and indicates that the market is contestable.

In other words, higher concentration is a consequence of tougher competition among banks (Boone and Weigand, 2000). A possible rationale is that more efficient banks have lower costs, serve the best quality borrowers and garner greater market share, thereby forcing less efficient banks to consolidate and reduce operating costs in order to offer competitive interest margins.

Besides, some studies found that net interest margins tend to increase with bank concentration and market power (Angbazo, 1997; William, 2007; Saunders et Schumacher, 2000; Maudos et Solos; 2009). Demirguc Kunt and others (2004) found that the positive association between concentration and bank margins disappears when institutions quality variables are included.

Beck and Hess (2009) reject the positive association between concentration and bank margins, suggesting that contestability and other non price factors are better measures of bank competition. However, Claessens and Leaven (2004) attribute the absence of links between market structure and bank's spread to the fact that concentration variables are not good proxies, for competition of banking. Besides, Ben Nassar

and al (2014) found that economic growth (the business cycle) has no statistically significant impact on bank interest margins. This finding suggests that banks are not adequately pricing intrinsic risks of project and so are not allocating resources efficiently (Rajan and Zingales, 1998).

On the other hand, an increase in economic growth can be translated to better market conditions, more positive business activities, and improvement in business performance. This would help mitigate the risk that business can not fulfill their financial obligations to banks their creditors (Khan and Tra, 2015).

Thus, risk premium would reduce, and banks would tend to lower their interest margins (Maria and Agoraki, 2010). In contrast, bad economic growth would increase the credit risk banks face from making loans to business, which in turn would increase the risk premium and bank's required interest margins.

Research and Methods

The determinants of bank net interest margin have been the object of several studies (Raharjo and I, 2014; Chekol and Mutwol, 2012; Hamdi and Awedh, 2012; Dimic and Ridzak, 2012; Konar, 2014; Marinkovic and Radovic, 2014). Under this section, we will identify the sample at the beginning, then, we specify the variables and models.

On the other hand, we carry out the necessary econometric tests. Finally, we show the estimation results of the model and their interpretations.

Sample

We used 18 banks (table 1) that belong to professional association of banks in Tunisia over the period of (2000...2013).

Financial data are collected through the website of the professional association of banks in Tunisia over the period (2000...2013).

Macroeconomic data are collected from site of central bank of Tunisia and national statistic institution.

Table 1: Specification of sample

Index of bank	Name of bank
AB	AMEN BANK
ABC	ARAB BANKING CORPORATION
ATB	ARAB TUNISIAN BANKING
Attijari bank	Attijari bank of Tunisa
BH	Bank of Housing
BTE	Tunsia and Emirate Bank of Tunisia
BT	Bank of Tunisia
BIAT	Arab international bank of Tunisia
BNA	National agriculture bank
BTS	Tunisian solidarity bank
BTL	Tuniso lybian bank
CB	CITI BANK
STB	Tunisian banking society
SB	STUSID BANK
TQB	Tuniso quatari bank
UBCI	Banking Union of Trade and industry
UIB	International banking Union
BTK	Tuniso kwaiti banking

Estimation Method

We will utilize panel static because it can control:

- The time and individual variation in the observable behavior or access cross sectional time series aggregated
- The observed or unobserved individual heterogeneity
- The hierarchical structure

Specification of variables

We will estimate the following model :

$$NIM_{i,t} = b_0 + b_1.Risk_{i,t} + b_2.Size_{i,t} + b_3.CAP_{i,t} + b_4.TL_{i,t} + b_5.CE_{i,t} + b_6.CFC_{i,t} + b_7.Tdeposits_{i,t} + b_8.AL_{i,t} + b_9.Foreign_{i,t} + b_{10}.Priv_{i,t} + b_{11}.TPIB_{i,t} + b_{12}.TINF_{i,t} + E_{i,t}$$

NIM = interest receivables – interest incurred / total assets

Interest receivables (by borrowers)

Interest incurred (paid by the bank to the creditors and depositors)

NIM indicates that efficiency of financial intermediation (Hamadi, Awdeh (2012)).

Risk = $\sigma(ROA)/E(ROA)+CAP$

Risk= insolvency risk of bank

$\sigma(ROA)$ = standard deviation of return on assets

$E(ROA)$ = expectation of return on assets

CAP= equity /total assets

Size = size of the bank = natural logarithm of total assets

Size can show the economies of scale. The large banks benefit from economies of scale which reduces the cost of production and information gathering (Boyd and Runkhile, 1993).

Bank size has a positive relationship with the bank revenue to a certain extent, and will have a negative impact if the size of very large banks, because of bureaucratie or other reasons (Raharjo et al, 2014). The size of domestic banks influence negatively net interest margin and significant at 1% level in all presented model.

Large domestic banks have significantly lower interest margins than smaller ones, which suggest that the former pay high interest on deposits and or charge lower interest rates to loans.

Therefore, it seems that larger domestic banks rely less on interest income then their small counterparties, since they have the capability to provide more fee based services and products. Besides, large banks may offer high rates to deposits to benefits from cross-selling and economies of scale (Hamdi and Awedh, 2012).

CAP= equity / total assets

Capital adequacy is a common proxy for bank's credit worthiness (Kasman et al (2009)), as capital adequacy rules aims at preventing banks from accepting too much risk and ensuring banking sector stability (Clayes and Vander Vannet; 2008). On the other hand, it might also be expected that less capitalized banks are inclined to accept more risk seeking for higher returns, what might result with moral hazard behavior.

Strong capital structure is essential for banks in developing economies, since it provides additional strength to withstand financial crises and increased safety for depositors during unstable macroeconomic conditions (Iloska, 2013).

Furthermore, lower capital ratios imply higher leverage and risk, with therefore lead to greater borrowing costs. Thus, NIM should be higher for the better capitalized banks (Staikouras and Wood, 2003).

TLA = Total credits / Total assets

CEA=Operating expenses / Total assets

Theory indicates that variation in operating expenses is reflected in variation in bank interest margin, as banks pass on their operating costs to the depositors and lenders. Several studies show that there is a positive relationship between operating expenses and net interest margin of commercial banks (Claessens et al. 2001; Abreu and Mendes, 2003; Carbo and Rodriguez, 2007; Maria and Agoraki, 2010).

This is because banks bearing high average operating expenses may resort to charge higher margins to offset higher operating costs (Maudos and Fernandez De Guevara, 2004; Martinez and Peria et Mody, 2004). On the other hand, higher operational efficiency may induce banks to pass the lower costs on their customers in the form of lower loan rates and or higher deposit rates, thereby lowering interest margins (Clayes and Vander Vannet, 2007).

CFC= financial expenses / total credits

Tdeposit = total deposit / total assets

Foreign = 1 if more of 50% of bank capital is owned by foreign investors, 0 otherwise

Priv = 1 if more of 50 of bank capital is owned by private national investors, 0 otherwise

TPIB = rate of growth economic

Increased economic activity can heighten demand for loans leading to higher lending rates. On the other hand, increased economic activity can make projects more profitable, reduce defaults, and increase deposits, all of which reduce the spread (Were and Wambur, 2014).

TINF= rate of inflation

Research have paid little attention on the impact of inflation on net interest margin (Rasiah, 2010). This notwithstanding, theory predicts a relationship between inflation and bank interest rate margin. For example, Perry (1992) argues that the effect of inflation on bank interest depend on whether inflation is anticipated or unanticipated.

If inflation is anticipated, then the banks adjust interest rate accordingly, thereby increasing the interest rate margin.

On the other hand, if inflation is not anticipated, then banks may be slow in adjusting their interest rates and so may affect the interest margin negatively because of increased costs occasion by inflation. Demirguc Kunt and Huizinga (1999) found a positive relationship between inflation and net interest margin in a study of 80 developed and developing countries.

However, Abreu and Mendes (2003) found negative relationship between inflation and net interest margin on a cross country of Portugal, Spain, France, Germany. Maria and Agoraki, 2010 found a negative relationship between inflation and net interest margin on Southeast European countries.

$E_{i,t}$ =Disturbance term

$b_0, b_1, b_2, b_3, b_4, b_5, b_6, b_7, b_8, b_9, b_{10}, b_{11}, b_{12}, b_{13}$: Coefficients estimated

Analysis of Descriptive Statistics

Table 2: Statistic descriptive

Variables	Observations	Mean	Standard deviation	Minimum	Maximum
Risk	252	0.00185	0.059	0.00056	0.0095
NIM	252	0.0284219	0.063	0	0.2193
Size	252	13.85563	1.312	10.19	15.98
CAP	252	0.1812312	0.188	0.0013	0.97
TLA	252	0.6970536	0.198	0.057	0.95
CEA	252	0.0279692	0.029	0.0023	0.42
CFC	252	0.0337711	0.030	0.0017	0.3532
Tdeposit	252	0.63594	0.273	0.0066	0.956
ALA	252	0.043	0.051	0.00396	0.44
TPIB	252	0.037	0.067	-1.08	0.0611
TINF	252	0.043	0.011	0.03	0.065
Foreign	252	0.5	0.500	0	1
Priv	252	0.777	0.41	0	1

252=14*18=total number of observations

14= number of years (2000....2013)

18= Number of banks

NIM (mean (0.0284)). The interest margin represent 2.84% on average of total assets.

The standard deviation is low. However, Size (average = 13.85). Most banks have a small and medium size. There is no large variation in size between banks.

CAP (average = 0.1812). The stockholders equity represents on average 18.12% of total assets. But there is a large variation in CAP between banks (standard deviation = 18.83%).

Moreover, TLA (average = 0.6970). The total credits represent on average 69.70% of total assets. This shows the importance of financial intermediation of banks but there is a great deviation between banks in TLA (standard deviation = 19.86%).

On the other hand, CEA (average = 0.0279). Operating expenses represent on average 2.79% of total assets.

Thus, there is a good efficiency for banks. There is a slight variation of CEA between banks.

Besides, CFC (average = 0.033). Financial expenses represent on average 3.33% of total credits. So there is an effective management of financial expenses in banks. There is a small variation between banks in CFC.

Also, Tdeposit (average = 0.6354). The deposit represent 63.54% on average of total assets.

This shows a great ability to attract deposits, deposits are important in the banking system.

Moreover, TPIB (average = 3.76%). The rate of economic growth represent on average 3.76% in period of study (2000....2013). There is a negative growth economic in 2011 and 2012 because the negative consequences of revolution in economic.

On the other hand, Foreign (average = 0.5). Foreign ownership represent 50% of total ownership.

In the last, Priv (average = 41.65%).41.65% of ownership is national private.

Econometric test

Test of multi-colinearity

Table3 : Multi-Colinearity between Variables

	Risk	NIM	Size	CAP	TLA	CEA
Risk	1.000					
NIM	0.0458	1.000				
SIZE	0.026	0.0369	1.000			
CAP	0.0081	0.1555	-0.4679	1.000		
TLA	0.051	0.1288	0.2678	-0.0508	1.000	
CEA	-0.0147	-0.0098	0.0588	-0.0142	-0.041	1.000
CFC	0.013	0.0293	-0.0067	-0.0856	-0.2019	0.1623
Tdeposit	0.019	-0.0830	0.4731	-0.6106	-0.0890	0.1490
ALA	-0.018	0.0348	-0.1202	0.0862	-0.1213	-0.0612
TPIB	0.036	0.1091	-0.1102	0.1052	-0.1755	0.0350
TINF	0.0412	-0.1339	0.2998	-0.26	0.3097	-0.1206
Foreign	-0.0129	-0.0855	-0.6609	0.3425	-0.2518	0.0290
Priv	-0.059	-0.0141	0.35	0.1356	-0.1979	0.1124

Table 4 : Suite of Multi-Colinearity Between Variables

	CFC	Tdeposit	ALA	TPIB	TINF	Foreign	Priv
CFC	1.000						
Tdeposit	0.2313	1.0000					
ALA	-0.0341	-0.2390	1.000				
TPIB	0.0746	-0.0898	0.0446	1.000			
TINF	-0.099	0.2182	-0.2132	-0.4533	1.000		
fOREIGN	0.1207	-0.1170	0.064	0.001	-0.003	1.000	
pRIV	0.1292	0.2153	-0.415	0.0003	-0.0002	0.5362	1.000

All coefficients of Variables are inferior to 70%, there is no problem of multi-colinearity.

Test of VIF

Multicollinearity refers to a situation in which 2 or more explanatory variables in a multiple regression model are highly linearly related. We have perfect multicollinearity if for example as in the equation above, the correlation between 2 independent variables is equal to 1 or -1.

Table 5: Test of VIF

	VIF
Size	3.23
Tdeposit	2.63
Foreign	2.53
CAP	2.24
Priv	1.87
Tinf	1.64
Risk	1.58
TPIB	1.31
CFC	1.13
ALA	1.12
CEA	1.10
NIM	1.08

Variance inflation factor (VIF) quantifies how much the variance is inflated.

$$VIF = 1/(1-R^2_K)$$

R^2_K is the R^2 value obtained by regressing the K^{th} predictor on the remaining predictors.

VIF inferior to 5, there is no problem of multi-collinearity (Gujarati (2005)).

Hausman test

It determines if the individual effects are fixed or random. It determines if the coefficient (beta) and 2 fixed or random estimates are not statistically different. Under the null hypothesis of independent between errors and explanatory variables, both estimators are unbiased, so the estimated coefficients becomes somewhat different.

The fixed effect model assumes that the influence of explanatory variables on the dependent variable is the same for the all individuals, and that whatever the period (Sevestre, 2001).

The random effect model assumes that the relationship between the dependent variable and the explanatory variable is not fixed but random, the individual effect is not fixed parameter but a random variable (Bourbonnais, 2009).

The null hypothesis of the test is following : H_0 : The presence of random effect

The hausman test blends in $P_v = \chi^2$

If $5\% < P_v$, we accepted H_0 (presence of random effect), if not we accept H_1 (presence of fixed effect)

In our model $P_v = 0.42$, superior to 5%, we accept random effect.

Heteroscedasticity test

We used the Breush-Pagan test developed in 1979 b Trevor Breush and Adrian Pagan. The Breush Pagan tests for conditional heteroskedasticity. It is a chi squared test. The test statistic is $n \times X^2$ with k degrees of freedom.

It tests the null hypothesis of homoskedasticity. If the chi squared value is significant with p value below an appropriate threshold ($p < 0.05$) then the null hypothesis of homoskedasticity is rejected and heteroskedasticity assumed.

In our case, $p = 0.38$ superior to 0.05, there isn't a problem of heteroskedasticity.

Results of Estimations and Interpretations

There is a positive relationship between NIM and Risk (if Risk increases by 1%, NIM will increase by 0.00156%). The increase of risk has a positive effect on net interest margin. This relationship is statistically significant at 5%. Besides, there is a positive relationship between NIM and Size (if Size increases by 1%, NIM will increase by 0.024%). The increase of size has a positive effect on net interest margin. This relationship has statistically significant at 5%. This result is similar to result found by (Raharjo and al. 2014; Demirguc Kunt et Huizinga, 2000; Ugur and Erkens, 2010) but contrary to result found by (Tin and et al. 201; Hamdi and Awedh, 2012).

In general, the case of the bank's asset growth due to the an increase in the amount of bank loans. If the loan expansion is not managed well, then bank will potentially suffer a loss due to a rising non performing loans.

To anticipate potential losses from non performing loans, the bank will increase the amount of loan loss reserves and finally it encourages banks to raise interest rate spread.

Table 6: Results of estimations

NIM	Coefficient	Standard error	Z	Z<P
Risk	0.00156	0.004516	2.05	0.814
Size	0.024035	0.0031184	2.09*	0.926
TLA	0.0180351	0.010827	2.77***	0.077
CAP	0.0148985	0.0136909	1.09	0.277
CEA	-0.01513	0.055	-2.27**	0.785
CFC	0.0744	0.056	1.38	0.167
Tdeposit	-0.004887	0.0118028	-2.41	0.679
TPIB	0.112566	0.12083	0.92	0.357
TINF	-0.23	0.1940	-3.20***	0.230
Foreign	-0.0076	0.0082	-0.92	0.356
Priv	0.0049	0.0086	0.57	0.569
ALA	0.0007046	0.034	0.02	0.984
Cons	0.016	0.041	0.39	0.698

(*)significant at 10%, (**)significant at 5%, (***)significant at 1%, Z= t of student

Theories emphasize economy of scale in intermediation costs, but theory contradicts the supposition that large banks in a small country may impose their market power by raising spreads (Hovarth (2009)).The negative result is in line with Hovarth (2009) for Czech banks, Gelos (2006) for latin American banks, Maudos and Fernandez De Guevara (2004) for European banks, Funcagova and Poghosyan (2011) for Russian banks.

On the other hand, there is a positive relationship between TLA and NIM (if TLA increases by 1%, NIM will increase by 0.018%). The increase of (Total credits / total assets) has a positive effect on net interest margin.

This relationship is statistically significant at 1%.

Besides, there is a positive relationship between CAP and NIM (if CAP increases by 1%, NIM will increase by 0.01489%). The increase of capital has a positive effect on net interest margin.This relationship is not statistically significant. This result is similar to result found by (Raharjo and et al. 2014; Konar, 2014; Gustavo and Garcia, 2010) but contrary to result found by (Hamdi and Awedh, 2012).

Well capitalized banks are considered less risky and better able to raise uninsured funds in order to compensate the drop in deposits (Van Den Hewel, 2002).

Capital adequacy is a common proxy for banks creditworthiness (Kasman et al. 2009) as capital adequacy rules aims at preventing banks from accepting too much risk and ensuring banking sector stability (Clayes and Vander Vannet, 2008).

More risk averse banks (with a high capital adequacy ratio) desire higher margins for each unit of risk they take (Konar, 2014).

Moreover, there is a negative relationship between CEA and NIM (if CEA increase by 1%, NIM decreases by 0.015%). This relationship is statistically significant at 5%.The increase of expenses has a negative effect on NIM.

This result is consistent with result found by but contrary to result found by (Tarus and et al. 2012; Gustavo and Garcia, 2010; Almazroei and Ben Naceur, 2015).

The banks with high operating costs will pass them on to consumers in the form of wide margins, especially is the banking environment is not competitive.

There is a positive relationship between CFC and NIM (if CFC increases by 1%, NIM will increase by 0.0744%). The increase of CFC has a positive effect on NIM. This relationship is not statistically significant.

There is a negative relationship between T deposit and NIM (if CFC increases by 1%, Tdeposit will decrease by 0.0048%). The increase of deposits has a negative effect on net interest margin. This relationship is statistically significant at 1%. This result is contrary to result found by (Hamdi and Awedh, 2012).

Besides, there is a positive relationship between TPIB and NIM (if TPIB increases by 1%, NIM will increase by 0.1112%). The increase of growth economic has a positive effect on net interest margin. This result is similar to result found by (Gelos, 2009; Bernanke and Gerther, 1990; Tarus and et al. 2012) but contrary to result found by (Nassar, Martinez and Pineda, 2014).

However, there is a negative relationship between TINF and NIM (if TINF increases by 1%, NIM will decrease by 0.23%). The increase of inflation has a negative effect on net interest margin. This result is similar a result found by (Almazreoi and Ben Naceur, 2015). But contrary to result found (Rahrajo et al. 2014; Hamdi and Awedh, 2012; Konar, 2014, Tarus et al. 2012. On the other hand, There is a positive relationship between NIM and ALA (if ALA increases by 1%, NIM will increase by 0.0007046). The increase of liquidity has a positive effect on net interest margin. This result is similar to result found by Iloska (2013) but contrary to result found by (Hamadi and Awedh, 2012; Konar, 2014).

There is a negative relationship between foreign ownership and NIM (if foreign ownership increases by 1%, NIM will decrease by 0.0076%). The increase of foreign ownership has a negative effect on net interest margin.

This result is not statistically significant. This result is contrary to result found by Gustavo and Garcia (2010), Umraugh (2015), Demirguc Kunt and Huizinga (1999), but similar a result found by Martinez and Peria (2004), Dabla Norris Florkmein (2007)). Poghosyan (2010) found that foreign bank participation had no relevant influence on NIM in central and Eastern European countries.

Moreover, there is a positive relationship between Priv and NIM (if priv increases by 1%, NIM will increase by 0.0049%). This relationship is not statistically significant. The increase of private ownership has a positive effect on net interest margin.

Conclusion

As financial intermediaries, banks play a crucial role in economy, therefore a sound and well functioning system is essential in providing for sustained growth and development (Iloska, 2014).

It is notable that bankers have incentives to increase NIM in pursuit of their own profits, while the government assuming a benevolent one which always prioritizes the best for its citizens, would prefer a low average NIM in the banking sector (Khanh and Tru, 2015).

Therefore, the net interest margin has several specific and external determinants. In the context of this article, we studied a sample of 18 banks in the period of (2000...2013).

We found that only risk, size, deposits, operating costs have a significant impact on the net interest margin (NIM), whereas inflation has a negative impact on NIM.

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