

Domestic and Foreign Banks' Profitability: Differences and Their Determinants

Muhammad AZAM

Department of Business Administration, Iqra University,
Gulshan Campus, Karachi, Pakistan. Tel: +92-21-34800674
Fax: +92-21-34987806. E-mail: azam.m@iuk.edu.pk

Sana SIDDIQUI

Finance & Planning Division, First Women Bank Ltd. Head Office,
Karachi, Pakistan. E-mail: sana_fwbl@hotmail.com

ABSTRACT: The purpose of this study to analyze and compare the profitability of domestic (Public & Private) and foreign banks operating in the Pakistan Banking market between 2004 and 2010 on quarterly basis. Total 36 Commercial Banks of Pakistani Industry have represented our sample. To control for the effect of bank ownership on performance, we split the sample into three categories: (1) domestic banks with Government Control, (2) domestic banks with Private control, and (3) foreign banks. This study also finds that foreign banks are more profitable than all domestic banks regardless of their ownership structure by applying regression analysis. This may suggest that it is better for a multinational bank to establish a subsidiary/branch rather than acquiring an "existing player" in the host country. We also found that domestic and foreign banks have different profitability determinants, i.e. factors that are important in shaping domestic banks' profitability are not necessary important for the foreign banks and vice versa. Empirical results show that foreign banks are less affected by the macroeconomic factors of the host country than domestic banks and they have a higher profitability margin in Pakistan.

Keywords: Domestic and Foreign Banks; Ownership Structure; Banks' Profitability

JEL Classifications: G2; G3

1. Introduction

Banking is one of the most sensitive businesses all over the world and they are playing very important role in the economy of a country and Pakistan is no exemption. They do influence and facilitate to integrate the economic activities like resources mobilization, poverty elimination, production, and distribution of public finance. Basically Pakistan's Banking Sector consists of Scheduled Commercial Banks which include nationalized, foreign, and private banks, are regulated by the State Bank of Pakistan's Prudential Regulations, whereas the State Bank of Pakistan (SBP) i.e. the Central Bank of the country has been inter alia entrusted with the responsibility for an ongoing effective supervision of the banking sector.

At the end of year 2010 there were 41 scheduled banks, six Development Finance Institutions (DFIs), and two Microfinance Banks (MFBs) operating in Pakistan whose activities are regulated and supervised by State Bank of Pakistan. The commercial banks comprise of 4 nationalized banks, 18 private sector banks, 14 foreign banks, 2 provincial scheduled banks, and 4 specialized banks.

Apparently, the Economy of Pakistan is being financially supported, in addition to the Government support by the Financial Institutions, namely; State Bank of Pakistan (Central Bank), National Bank of Pakistan, Commercial Banks. Here no debt market exists, Banks are the sole providers of funds and their stability is of paramount importance to the financial system. As such, an understanding of determinants of their profitability is essential and crucial to the stability of the economy of Pakistan.

The objective of this study is to examine the performance of foreign banks in Pakistan, what determinants it and how it differs from domestic bank's performance in the same market (Pakistan market). The different structure and characteristics of foreign and domestic banks on one hand, and the different influences of external factors on these banks on the other hand could lead the performance among these two categories. Utilizing banks level data for the period of 2004-2010 on quarterly basis for all Commercial Banks (36) of Pakistan and divided into three categories i.e. Foreign Sector Banks, Private Sector Banks and Public Sector Banks (Private Sector and Public Sector banks will defines the complete sample for Domestic Banks in the market).

The remainder of the paper is organized as follows. A review of the relevant literature regarding the determinants of banking profitability is given in section 2, and section 3 presents the data and methodology to be applied while section 4 contains the empirical results. Lastly, the conclusion will be given in section 5.

2. Literature Review

There is an extensive body of literature that seeks to identify the determinants of bank performance. Hultman and McGee (1989), and Peek et al. (1999) focus on the understanding of foreign bank's performance in a particular country. In contrast, John (2004), and Khalid (2006) report the determinants of growth and bank's profitability.

Dorothea and Oleksandr (2007) find that the banks' profitability is generally associated with foreign presence by analyzing the 160 Ukraine banks during 2003-2005. They found, there is positive relationship between domestic banks' profitability and share of foreign banks assets in Ukraine. After splitting banks by size and profitability level this effect is particularly strong for large, small and most profitable Ukrainian Banks, whereas it is marginally important for the least profitable banks.

Wahid and Rehman (2009) have worked on the efficiency of foreign banks in Pakistan Banking Industry. They conducted a study to explore the myth that foreign controlled banks were supposed to be more profitable and efficient than local controlled ones. Two out of three financial indicators, understudy, pointed out that the overall performance of the foreign commercial banks, operating in Pakistan, and were 24.44% better than the local controlled banks. At the end of year 2007, foreign investors were controlling 58.22% of the outstanding shares in the commercial banks, in Pakistan. Despite the fact that 40% of the foreign controlled commercial banks were running into deficit, the bank and the capital efficiency of the foreign controlled banks running into profit was better than locally controlled commercial banks. They concluded that the bank efficiency of the foreign controlled commercial banks in Pakistan is much better than local controlled commercial banks.

Ali (2005) has studied on domestic banks' and foreign banks' profitability: differences and their determinants in London. He analyzed and compared the profitability of domestic and foreign banks operating in the Lebanese Market between fiscal year 1993 and fiscal year 2003. They found that foreign banks were more profitable than all domestic banks regardless of their ownership structure and although they operate in the same market, but domestic banks' and foreign banks' profitability determinants are different. Finally, they found that foreign banks are less affected by the macroeconomic factors of the host country than domestic banks.

Janek (2004) has analyzed the short term effects of Foreign Banks entry on bank performance in the Central & Eastern European (CEE) countries. He found that foreign banks entry affects negatively domestic banks' revenues from interest-earning assets, non-interest income, and profitability. Foreign banks entry can also raise the overhead costs of the local banks in short term. He has observed that foreign banks entry is likely to increase competition in the host country and foreign banks entry is associated with lower before tax profits, non-interest income, average loan interest rate and loan loss provisions. He also found, limited evidence that foreign entry increases a bank's overhead costs in the short run.

Grosse and Goldberg (1991) have examined determinants of foreign bank entry in the United States. They claimed that foreign investment in the United States, foreign trade with the United States, and the size of the banking sector in the foreign country are positively correlated with the country's bank presence in the United States. They also found that the greater the country risk of the source country, the more foreign banking appears to be allocated to the (relatively low-risk) U.S. market.

Fisher and Molyneux (1996) have worked on the determinants of foreign bank entry and activity in London. Firstly, they have found that banks' market size is one of the most significant factors of the

origin country, suggesting that countries with large banking markets have the largest banking presence in London, United Kingdom. Secondly, they observed that a more stable country environment appears to attract foreign banks, implying that banks whose home countries are more risky than the UK will have more tendency to conduct business through London. Finally they found that there is a strong relationship between the level of trade and foreign bank presence in London.

3. Data and Methodology

The bank-specific variables being examined in this study are derived from both the income statements and the balance sheets of commercial banks analyzed and published in the website¹. The data set covers a 06-year period on quarterly basis from 2004 to 2010, with a sample of 36 commercial banks which account for about 75% of the total asset and the same percentage of loans in the banking sector as at the end of 2010. All the accounting information is consolidated on 31 December of each year.

With regard to the macroeconomic variables, the data of GDP growth and inflation rate are obtained from the Federal Bureau Statistics², Pakistan. In this study, the performance of banks is measured by its return on assets (ROA) and return on equity (ROE). The ROA, defined as net income divided by total assets, reflects how well a bank's management is in using the bank's real investment resources to generate profits and the ROE is defined as net income divided by total equity of banks, explained that how efficiently banks invest and land their financial resources in the same market to generate the profit.

Multiple regression technique has been applied to analyze the internal determinants as well as the external determinants. This technique helps to identify a common group of characteristics and allows us to find the impact of macroeconomic developments on profitability after controlling for bank-specific characteristics. Since our study focuses on the differences in profitability between domestic and foreign banks, we split the sample into three sub-samples according to their ownership namely; Foreign, Public and Private sector. The regression models of the study are as follows:

Model - ROE

$$ROE = \alpha + \beta_1 CAR + \beta_2 LOAN + \beta_3 NIM + \beta_4 CIR + \beta_5 LIQ + \beta_6 ADV + \beta_7 INF + \beta_8 GDP + \varepsilon$$

Model - ROA

$$ROA = \alpha + \beta_1 CAR + \beta_2 LOAN + \beta_3 NIM + \beta_4 CIR + \beta_5 LIQ + \beta_6 ADV + \beta_7 INF + \beta_8 GDP + \varepsilon$$

Where:

ROA is Return on Assets and ROE is Return on Equity as dependent variables define bank's specific characteristics. And the Independent variables are:

CAR	=	Capital Adequacy Ratio
LOAN	=	Credit Risk
NIM	=	Net Interest Margin
CIR	=	Cost Income Ratio
LIQ	=	Liquidity Ratio
ADV	=	Advances and Deposit Growth
INF	=	Inflation Growth
GDP	=	Gross Domestic Product Growth
ε	=	Random Disturbance (Error)

In above models α is intercept and β is regression coefficient and ε is the error term. The hypothesis of this study is:

H_1 : The profitability determinants of foreign banks are different from domestic banks.

For determining factors of bank performance, we divided our estimated variables into internal and external, and the description of them is provided in the following section.

¹ www.sbp.org.com

² www.statpak.gov.pk

3.1 Internal Determinants

Capital Adequacy Ratio (CAR): (CAR) is employed to detect the effect of capital requirements on banks' profitability. It is calculated by the total Capital of sector's banks / Total Assets of sector's banks, reveals capital adequacy and should capture the general average safety and soundness of the financial institution.

Credit Risk (LOAN): It will control for the effect of Credit Risk on bank's profitability and reduced the bad debts loans amount by provisioning of bad debts. It is computed by provision to total loans. It defines the effect of asset quality on profitability is defined as loan-loss provisions over total loans. It is a measure of capital risk, as well as credit risk.

Net Interest Margin (NIM): It is the proportion of net interest income and gross income of sector's banks. The net interest margin (NII) will control for the market power of banks.

Cost to Income Ratio (CIR): CIR is calculated by Cost of sector's bank divided by net income of banks. Cost-to-income ratio (CI) control for the efficiency of bank management and defines that what strategy or opportunity should be taken by bank.

Liquidity Ratio (LIQ): The liquidity ratio is computed by Liquid Assets of sector's banks / total assets of sector's banks. It also controls for the effect of reserve requirements on banks' profitability.

The Deposit Growth Ratio (ADV): (ADV) measures as Total Advances / Total Deposits of Sector. This proportion is proxy for banks investment opportunities / decisions provides a measure of income source.

3.2 External Determinants

Following the description of the External Determinants, we are going to have a discussion about the macroeconomic factors used in the present study. The macroeconomic factors include economic growth and inflation. Firstly, economic growth (GDP), which is measured by the GDP growth rate, is hypothesized to affect banking profitability positively. This is because the default risk is lower in upturns than in downturns. Besides, higher economic growth may lead to a greater demand for both interest and non-interest activities, thereby improving the profitability of banks. Secondly, high inflation (INF) is associated with higher costs as well as higher income. If a bank's income rises more rapidly than its costs, inflation is expected to exert a positive effect on profitability. On the other hand, a negative coefficient is expected when its costs increase faster than its income.

These variables help to trace out the cross-sectional effect of the financial structure, and its impact on each sector's profitability can be either positive or negative, or might be no affect, depending on the relative importance of bank's financing in the economy.

4. Empirical Results

This study focuses on the differences in profitability between domestic and foreign banks; we split the sample into three sub-samples according to their ownership. The results are divided into three groups in order to understand how each group performs. In the first column, we included Public Banks only (Government ownership), in second column, the ownership describes the private and domestic control. The third column represents the foreign control ownership. The analysis of estimated variables is reported in the table 1, 2, 3 and table 4.

4.1 Determinants (Bank specific) of Foreign Sector Vs Domestic Sector for Bank's ROE

The empirical results for the first sub-sample show different results from those of the entire sample in the table 3. The deposit growth shows a positive relationship with profitability of private sector banks it means that the fluctuation in deposit affected the profitability of private banks not foreign and public banks. Thus the deposits (Private Sector) received by banks could be a source of increasing profits. Therefore this factor has a positive effect only for private sector and it does not show that receiving more deposits improve foreign banks Return on Equity (ROE) and Return on Asset (ROA). It may be analyzed that the deposit growth ratio is not a profitability determinant for foreign banks in the market.

Table 1. Durbin-Watson Test (Auto Correlation)

	Order					
	1	2	3	4	5	6
DW	2.1122	2.0321	2.1018	1.6454	1.6715	1.7074
Pr < DW	(0.3618)	(0.4747)	(0.7102)	(0.3485)	(0.4215)	(0.6291)
Pr > DW	(0.6382)	(0.5253)	(0.2898)	(0.6515)	(0.5785)	(0.3709)

According to Durbin and Watson (1949) method, there is no autocorrelation present up to 6th Lag.

The table 2 has summarized the value of tolerance, variance inflation factor, eigen value and condition index. The largest value of variance inflation factor (VIF) is 6.821 that is less than 10 so there is no Multicollinearity existed in above model. The values of Tolerance is also greater than 0.1.

Table 2. Multicollinearity Diagnosis

Variables	Tolerance (Tol)	Variance Inflation Factor	Eigen value	Condition Index
Capital to Asset Ratio	.694	1.441	.485	4.107
Provision to total Loan Ratio	.536	1.867	.245	5.782
Net Interest Margin	.725	1.379	.068	10.966
Cost Income Ratio	.194	5.159	.011	27.300
Liquid Asset Ratio	.174	5.759	.009	30.388
Deposit Growth Ratio	.229	4.362	.005	40.258
Gross Domestic Product	.147	6.821	.002	62.833
Inflation	.204	4.907	.001	126.323

The capitalization level has lost its significant (negative) effect on ROE for public and private sector both. While that very less but significant for foreign banks profitability (ROE). This could be interpreted in many ways. Firstly, it could be because bank capital is more costly for domestic banks than foreign banks. Secondly, it may suggest that foreign banks have better capability in increasing their earnings when increasing their equity. Thirdly, it could be due to the fact that foreign banks have lower capitalization than domestic banks has a negative association with profitability.

Net interest Margin shows the expected sign, a positive and significant effect on ROE for foreign sector, so we may assume that if banks have certain monopoly power, they will realize higher profits. Whereas the public sector banks and private sector banks not much effected by increasing or decreasing of interest margin. It shows that the profitability growth of public and private sector banks are not dependent on fluctuation of interest rate although the foreign banks can enjoy the high return due to increase or decrease in interest margin.

Cost Income has a negative impact on ROE of public and foreign sector Banks and positive/ insignificant impact on ROE of private sector banks. It analyzed that foreign and public sector banks that are not able to control their expenses and realize lower profits. On other hand the private sector banks have a plus point that they are controlling the cost factor and enhancing the profitability margin.

According to empirical result of literature that Liquidity ratio does improves domestic private bank's profitability, which suggests that investing in government securities is profitable for domestic banks. This may be due to the fact that foreign banks have access to other markets and better opportunities to invest their funds abroad. But our analysis shows that the liquidity ratio is not significant for any sectors profitability. The result could be interpreted that foreign banks have less investment opportunities in the market for short term period.

Table 3. Ordinary Least Square Estimation (For ROE)

Variables	Parameter Estimation		
	Public Sector	Private Sector	Foreign Sector
Capital to Asset Ratio	.014	-0.99	.095*
C.I. 95%	[-0.065 ; 0.093]	[-0.245 ; 0.048]	[-0.014 ; 0.205]
P Value	(.712)	(.171)	(.048)
Provision to total Loan Ratio	-.011	.026	.015
C.I. 95%	[-0.101 ; 0.078]	[-0.326 ; 0.378]	[-0.030 ; 0.060]
P Value	(.790)	(.875)	(.083)
Net Interest Margin	.068	.162	.517*
C.I. 95%	[-0.237 ; 0.372]	[-0.267 ; 0.591]	[0.206 ; 0.829]
P Value	(.643)	(.433)	(.003)
Cost Income Ratio	-.299*	.018	-0.809*
C.I. 95%	[-0.594 ; -0.003]	[-0.212 ; -0.249]	[-1.114 ; -0.504]
P Value	(.048)	(.867)	(.000)
Liquid Asset Ratio	-.884	2.471	.109
C.I. 95%	[-1.834 ; 0.067]	[-.127 ; 5.070]	[-.475 ; .694]
P Value	(.066)	(.061)	(.696)
Deposit Growth Ratio	-.362	1.737*	-.189
C.I. 95%	[-1.111 ; 0.388]	[-0.017 ; 3.491]	[-.625 ; .248]
P Value	(.320)	(.042)	(.372)
Gross Domestic Product	2.307*	.170	.044
C.I. 95%	[0.935 ; 3.679]	[2.235 ; 2.576]	[-1.331 ; 1.419]
P Value	(.003)	(.882)	(.947)
Inflation	-.510	-.731	-1.289*
C.I. 95%	[-1.401 ; 0.381]	[-1.920 ; 0.459]	[-2.401 ; -.176]
P Value	(.241)	(.210)	(.026)
R^2	.887	.838	.955

*Significant at the 0.05 level

4.2 Determinants (Bank specific) of Foreign Sector Vs Domestic Sector for Bank's ROA

The results reported in table 4 are for the Public Sector Banks, Private Sector Banks with domestic or foreign control and foreign control banks. This division allows us to detect the effect of foreign investment on domestic banks' ROA. The results indicate that return from assets is not much influenced on foreign banks profitability but the return from their equity is source of generating the profitability growth. On other hand the comparison with private sector banks shown that most of the variables have influenced on Banks ROA except Cost Income Ratio and Provision to total loan.

Table 4 shows that that only one determinate i.e. Capital Adequacy is same among private sector and foreign sector banks that increasing their ROA but other factors are influencing only private banks ROA. The R-squared of the foreign sector banks are high as compare to private and public sector banks. The results are also shown by looking at the foreign ownership variables, that it still has no effect. According to Ali (2005), Return on Asset (ROA) is not influenced on all sectors of Banks in Lebanon Banking Industry. This factor has been able to distinguish banks according to their ROE; it is not able to separate them according to their ROA. But our results shows that in our banking context the foreign banks ROA determinates are serrate and domestic banks ROA determinants.

Table 4. Ordinary Least Square Estimation (For ROA)

Variables	Parameter Estimation		
	Public Sector	Private Sector	Foreign Sector
Capital to Asset Ratio	-.002	-.010*	.275*
C.I. 95%	[-.012 ; 0.009]	[-0.020 ; 0.001]	[0.262 ; 0.289]
P Value	(.708)	(.037)	(.000)
Provision to total Loan Ratio	.003	.013	.002
C.I. 95%	[-0.009 ; 0.015]	[-0.010 ; 0.036]	[-0.004 ; 0.008]
P Value	(.580)	(.246)	(.468)
Net Interest Margin	.015	.033*	.035
C.I. 95%	[-0.025 ; 0.056]	[-0.005 ; 0.061]	[-.003 ; 0.074]
P Value	(.431)	(.026)	(.069)
Cost Income Ratio	-.056*	.006	-.096*
C.I. 95%	[-0.095 ; -0.017]	[-0.010 ; -0.021]	[-.134 ; -.058]
P Value	(.008)	(.440)	(.000)
Liquid Asset Ratio	-.085	.311*	-.051
C.I. 95%	[-0.212 ; 0.042]	[.140 ; 0.483]	[-.123 ; .022]
P Value	(.172)	(.002)	(.155)
Deposit Growth Ratio	-.007	.211*	-.045
C.I. 95%	[-0.107 ; 0.093]	[0.095 ; 0.327]	[-0.099 ; .009]
P Value	(.884)	(.002)	(.098)
Gross Domestic Product	0.302*	-.094	.179*
C.I. 95%	[-0.119 ; 0.485]	[-0.253 ; 0.065]	[0.009 ; .349]
P Value	(.003)	(.229)	(.041)
Inflation	.003	-.014	-.091
C.I. 95%	[-0.116 ; 0.121]	[-0.092 ; 0.065]	[-.229 ; .046]
P Value	(.962)	(.718)	(.177)
Adj R^2	.879	.832	.995

*Significant at the 0.05 level

4.3 Determinants (Macroeconomic variables) of Foreign Sector Vs Domestic Sector for Bank's Performance

The macroeconomic variable GDP is not affected for foreign banks ROE but it has affected the ROA of foreign banks. But the private sector banks have no influenced from GDP growth in host market. It shows that in growth of GDP, the return from equity of foreign banks could be increase or decrease because they brought their equity in the market for investment from their parent country. But in case of private sector banks the result shows that there is no relationship exists between ROE/ROA of Private Sector and the macroeconomic factor of country. This may be evidence that although the foreign banks operate in the Pakistan market, they are less influenced by its macroeconomic conditions as compare to domestic banks because there major parts of investment portfolio are depended on abroad. The result also found that the Inflation affects foreign banks more than domestic ones.

5. Conclusion

This paper investigates the profitability differences and determinants of commercial banks of Pakistan Banking Industry for the year 2004 to 2010 (on quarterly basis). It has analyzed the influence of macro economic indicator (inflation and GDP) on foreign and domestic banking sector of Pakistan. The empirical findings report that the profitability determinants of foreign banks are different from domestic banks.

This research also shows the better capability in explaining the variability of domestic banks' profitability (ROE and ROA) than foreign ones, which may lead to a conclusion that foreign banks operating in a market are not only affected by the conditions in that market, but also by other factors

that could be related to their home markets. We conclude that local controlled commercial banks in Pakistan are more profitable than foreign controlled ones as far as the volume of the profit is concerned which is reflected in their earnings per share but the foreign controlled commercial banks in Pakistan, as a whole are more capital efficient as compared to the local controlled commercial banks subject to few exceptions.

There are also some areas that could benefit from more qualitative research. So often researchers decide on what issues are of significance to measure the Banking Sector's Performance, efficiency and profitability. The researchers has a wide area to study the different functional areas of foreign banks and domestic banks to measure their efficiency differences and their determinants. There is also an opportunity to study Islamic Banking System of Foreign Banks and Local Banks in Pakistan. Many of Foreign Banks are introducing and entering the Islamic Banking in Pakistan through their branches and other financial institutions.

References

- Ali, A. (2005), *Domestic banks and foreign banks profitability and differences and their determinants*. Case business school city of London.
- Dorothea, S., Oleksandr, T. (2007), *The Impact of Foreign Banks Entry on Domestic Banks' Profitability in a Transition Economy*. DIW Berlin, discussion paper, No.74.
- Durbin, J., Watson, G.S. (1950), *Testing for Serial Correlation in Least Squares Regression*. *Biometrika*, 37, 409-428.
- Fisher, A., Molyneux, P. (1996), *A note on the determinants of foreign bank activity in London between 1980 and 1989*. *Applied Financial Economics*, 6(3), 271-277.
- Grosse, R., Goldberg, L.G. (1991), *Foreign bank activity in the United States: An analysis by country of origin*. *Journal of Banking and Finance*, 15, 1093-1112.
- Hultman, C., McGee, R. (1989), *Factors affecting the foreign banking presence in the U.S.*, *Journal of Banking and Finance*, 13, 383-396.
- Janek, U. (2004), *Effect of foreign banks entry on bank performance in the CEE Countries*. Tartu University Press, ISBN 9985-04-0416-5, order No.569.
- John, G., Philip, M., John, O. S. W. (2004), *Dynamics of Growth and Profitability in Banking*. *Journal of Money, Credit and Banking*, 36(6), 1069-1090.
- Khalid, U. (2006), *The Effect of Privatization and Liberalization on Banking Sector Performance in Pakistan*. *SBP Research Bulletin*, 2, 403-425.
- Peek, J., Rosengren, E., Kasirye, F. (1999), *The poor performance of foreign bank subsidiaries: Were the problems acquired or created?* *Journal of Banking and Finance*, 23, 579-604.
- Wahid, S., Rehman, K. (2009), *Foreign Banks are more efficient - a Myth or Fact*. *International Journal of Business and Management*, 4(11), 116-126.