Paradigms: A Research Journal of Commerce, Economics, and Social Sciences
Print ISSN 1996-2800, Online ISSN 2410-0854
2018, Vol. 12, No. 1 Page 38-43
DOI: 10.24312/paradigms120106

Internal and External Determinants of Profitability: A Case of Commercial Banks of Pakistan

Bilal Sarwar[1], Ghulam Mustafa[2], Aroosa Abid[3], Muhammad Ahmad[4]

ABSTRACT

The aim of this research is to investigate the internal and external determinants of the profitability of commercial banks in Pakistan. We took data from 21 commercial banks listed on Pakistan Stock Exchange-PSX, earlier Karachi Stock Exchange, from 2006-2015. Panel regression analysis is used to evaluate the impact of internal and external determinants of profitability. Data is analyzed by using E-views software. ROA and ROE are used as proxy variables to measure profitability. Internal variables are bank size, capital adequacy, asset quality, asset management, liquidity, management quality, and financial risk, whereas, GDP, inflation, interest rate, and, exchange rate are used as external determinants. The outcomes indicate that among internal factors bank size, capital adequacy ratio, liquidity, management quality, and asset management are found to be significant determinants of banks' profitability. In case of external factors, GDP and exchange rate are significant determinants of profitability, whereas, the interest rate is significant at 10% level of significance. The banks need to improve the quality of assets in order to improve profitability. The fiscal policy of the country should be aligned with the need of the banking sector.

***Keywords*:** Commercial Banks, Profitability, Internal Determinants, External Determinants, ROA, ROE

INTRODUCTION

Banking sector is important as it contributes to the economic and financial progress of a country. This study is of the factors that contribute to the profitability of a banking system, which is important because the fact that financial system of most of the countries is based on their banking system (Ali, Akhtar, & Ahmed, 2011). The performance of banks also affects the economic growth of a country. The banking operations are continuously changing with the ever-changing business environment. A sound banking industry is the only way out to coup with any financial crisis. To stabilize the financial system banks apply investment techniques for the productive use of savings and thus earn superior profits and consequently attract more savings from the public and provide quality services to the customers (Bilal, Saeed, Gull, & Akram, 2013). Banks constantly transfer money from depositors to investors. To perform this intermediation function commercial banks, have to earn income to cover their cost that is incurred in a certain time period and they also need to be profitable.

Profitable banks will be in a better position to reward their investors and depositors, whereas poor performance of banks may cause banking failure and create a financial crisis, which has a negative impact on the bank and on the economic development of the country (Ongore & Kusa, 2013). Banks cannot function without being profitable, that not only helps them to cover the expenses and losses but also rewards the investors and depositors. Therefore, it is important to study the factors, which have an impact on the profitability of banks (Riaz & Mehar, 2013). There are two main sources of income for banks. Banks pay interest on customers' deposits and receive interest on loans and advances from borrowers. This is the spread income, which is the difference between the paid and received interest rate. Beside this, banks also earn income from investments. The profitable banks positively participate in the Gross Domestic Product (GDP) of a country. Therefore, it is essential to study the indicators that have any impact on the profitability of banks as the ever-changing social, legal and macroeconomic environment may cause these factors to change (Owoputi, Kayode, & Adeyefa, 2014). It is important to know the internal determinants of performance of commercial banks not only because they help to maintain the financial stability but also for the benefits of the stakeholders of banks like investors and depositors. On the other hand, the changes in the external factors will also have an effect on the performance of commercial banks so it is important to find out the macroeconomic factors, which could affect the performance of banks (Jamal, Karim, & Hamidi, 2012). Management of the banks is in a better position to control the internal factors that influence the performance of the banks while external factors are not in the control of the bank's management rather the change in these external factors may cause severe problems for the banks. For example, change in the interest rates by the central bank may cause to decrease the revenue of the bank.

The major change in the history of Pakistani banking sector was the nationalization of banks in the early 1970's. This experience was not fruitful for the financial sector so it was decided by the government to denationalize the banks in the late 1980's. The public banks were having the 90 percent share of the total assets of the baking sector while the rest belonged to foreign banks (Ameer, 2015). The process of privatization started in 1991 that brought a positive change in the performance of banks. The performance and working conditions were much improved as compared to the public banks (Kausar, Gul, & Iqbal, 2014).

[1] School of Accounting and Finance, Faculty of Management Studies, UCP bilal.sarwar@ucp.edu.pk
[2] School of Accounting and Finance, Faculty of Management Studies, UCP
[3] School of Accounting and Finance, Faculty of Management Studies, UCP
[4] School of Accounting and Finance, Faculty of Management Studies, UCP

Macroeconomic and internal factors both affect the profitability of banks. Internal factors like quality of management, size of the bank, and risk management are the major determinants of profitability (Almansour, Asad, & Shahzad, 2016). On the other side government policies related to interest rate, appreciation or depreciation of currency, and inflation also affect profits of banks. To improve the performance of banks in terms of profitability the role of these internal and external variables needs to be established. However, the impact of these variables on the profitability of banks is not agreed upon among researchers.

Due to this nonagreement banks are unable to apply their resources in an efficient manner. Therefore, there is a need to identify which specific variables (internal and external) are significant for the profitability of banks.

- To evaluate the effect of internal determinants on the profitability of commercial banks of Pakistan
- To investigate the influence of external determinants on the profitability of commercial banks of Pakistan

The performance of commercial banks in Pakistan is examined and explored in terms of the impact of internal and external determinants on the profitability of commercial banks. The hypotheses of this study are:

H_1: Internal determinants significantly affect the profitability of commercial banks of Pakistan

H_2: External determinants have a significant impact on the profitability of commercial banks of Pakistan

Banking sector is important for an economy as it provides funds to other sectors of the economy. It cannot perform its functions if the sector itself is not profitable. For a desirable performance, the policymakers should know what the relevant factors are that influence the profitability. The significance of this research is that: firstly, it takes all the commercial banks listed on Pakistan Stock Exchange; secondly, two more variables that is interest rate and exchange rate are used as external determinants, which were not used as determinants of profitability before in Pakistan; thirdly, it uses ten years' data to evaluate the performance, which also covers the period of global financial crises. This research will not only identify the factors that influence the profitability of commercial banks but will also be useful for the bank management, investors, and policymakers.

LITERATURE REVIEW

Almumani (2014) described that the researchers could not be agreed upon the specific variables that had any impact on bank performance. Javaid, Anwar, Zaman, and Ghafoor (2011) are of the viewpoints that in order to attract the international capital flow the domestic markets should be financially stable. They have examined the impact of different internal factors on return on assets which is used as a proxy to measure the bank's profitability. They concluded that total deposit to total asset and equity to total asset had a positive and significant relationship with return on asset. They also suggested that other internal and external determinants of bank profitability should be explored.

Messai, Gallali, and Jouini (2015) argued that only a profitable banking system might in a better position to absorb the financial crises and this profitability was dependent on various internal and external factors. The researcher selected a sample of 322 banks in Europe to examine four internal and three external factors whether they had any impact on profitability. By using the panel data analysis, the researched concluded that capital adequacy ratio and the gross domestic product had a positive and significant effect on profitability while liquidity and inflation had a negative impact on profitability.

Adzis and Ramli (2015) pointed out that the global financial crises of 2007 had caused many USA banks to sign a petition of bankruptcy. The losses by the banks during that period was estimated by IMF amounted to one trillion US dollars. Malaysia was also affected by this global crisis and the GDP growth declined to -1.5% in the year 2009. The study reported that the capital adequacy ratio, size of bank and credit risk had a positive influence on the profitability of banks. Moreover, there was no effect of global financial crises over the profitability of banks of Malaysia. The most recent financial crises had started in the United States of America due to home mortgage loans to unworthy clients and the regulators were unsuccessful to avoid the crises. Therefore, it was essential to work on the internal and external variables that might have any impact on the profitability of banks. If it is possible, such crises might be anticipated and managed.

The researchers found that the operating efficiency, portfolio composition, and gross domestic product had a positive impact on return on asset while capital adequacy and credit risk showed a negative impact on profitability Erin and Lace (2013). A profitable banking sector would be in a better position to resist the financial shock and might work better for the financial strength of the economy. The previous financial crises emphasized the need to explore the factors affecting the profitability of banks. Ameer (2015) found that foreign direct investment, size of the bank, capital adequacy, deposits, and loans had a positive relationship with the profitability of banks and credit risk, expenses and inflation had an indirect association with the profitability of banks. Ashraf, Haider, and Sarwar (2016) also divided the factors affecting the bank's profitability into internal and external factors. The management of the bank had full control over the magnitude of internal factors while it had no control over the external factors which were decided by the government or regulators. Panel data analysis was conducted over the data of selected Asian banks to conclude that gross domestic product, financial risk, asset size, and leverage had a significant positive impact on return on equity but inflation and capital adequacy ratio had a significant negative impact.

THEORETICAL FRAMEWORK

There are two approaches of Efficiency Structure Theory (ES); the X-efficiency and scale efficiency hypothesis. X-efficiency approach suggests that more efficient firms are more profitable by maintaining lower costs. Such firms also enable

to increase their market share (Athanasoglou, Brissimis, & Delis, 2005). ES Theory assumes that bank profitability is affected by internal efficiencies and management decisions. The scaling approach focuses on economies of scale instead of different management or production technology. Larger firms can earn higher profits and get lower unit cost through economies of scale. Due to this, firms get market share, which ultimately results in higher profitability (Olweny & Shipho, 2011). The X-efficiency theory indicates that better and efficient management of banks increase their profits and control their costs. The scale efficiency theory explains that with the help of better production methods banks control their costs (Jeon & Miller, 2005).

Therefore, the efficiency structure theory suggests that bank profitability is affected by internal efficiencies and management decisions. As suggested by the theory the impact of internal factors on the profitability of banks are explored in the current study. Stephen Ross presented the arbitrage-pricing theory in 1976. Arbitrage pricing theory is a universal theory of asset pricing that reflects that the expected return of a financial asset can be modeled as a linear function of many macroeconomic indicators (Arbitrage Pricing Theory, 2017). The theory is developed to express the sensitivity of return on assets due to changes in various macroeconomic variables. The arbitrage pricing theory takes into account several macroeconomic variables such as inflation, interest rate, energy prices etc. (Ross, 2015).

This theory explains that prices of assets are influenced by external factors such as macroeconomic factors, determine based on profitability. This study finds the effect of internal and external determinants on the profitability of banks. In this study different proxy variables uses to measure profitability and internal and external determinants. Thirteen variables included in this study. Out of which two variables are dependent and seven variables are taken as internal determinants and four as external determinants.

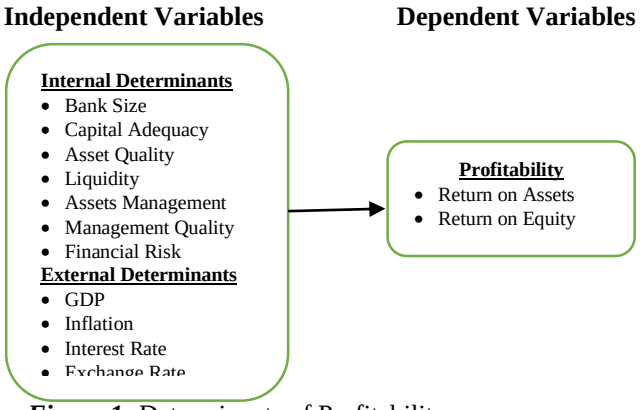

Figure 1: Determinants of Profitability

METHODOLOGY

The type of research is quantitative and data of this study is secondary. The type of data available for analysis is panel data because it is a combination of both time series and cross-section data. This section explains the methodology of the study and it specifies the sources of data. The population of this research consists of all the commercial banks which are listed on Pakistan Stock Exchange (PSX) except two. There are 23 listed commercial banks at PSX (Pakistan Stock Exchange Limited, 2016). This study has considered the commercial banks listed on Pakistan Stock Exchange (PSX). The sample size of this study consisted of 21 commercial banks, which are listed on Pakistan Stock Exchange due to the availability of data. Two banks were omitted due to non-availability of sufficient data for selected variables. The time period of this study is ten years from 2006 to 2015.

The data which is used in this study is secondary and the frequency of data is yearly. The data with respect to internal determinants and profitability measures are collected from financial statements of commercial banks. Financial statements are obtained from the website of the State Bank of Pakistan (SBP) and official websites of commercial banks. The data regarding external variables are collected from World Bank indicators and International Financial Statistics (IFS). In this study, thirteen variables are discussed in order to evaluate the effect of internal and external determinants on the profitability of commercial banks in Pakistan. Two variables are considered as dependent variables and others as explanatory variables. To measure the profitability of banks, Return on Assets (ROA) and Return on Equity (ROE) may be used as proxy variables. ROE shows the profit generated from the amount that shareholders have invested (Albulescu, 2015). ROA shows the ability of the bank to generate profit by utilizing its assets (Masood, Ashraf, & Turen, 2015). In this study, internal and external determinants of profitability of commercial banks in Pakistan are examined. Bank specific variables are used as internal determinants of profitability and macroeconomic variables are used as external determinants of profitability. For this aim, seven internal variables and four external variables are used as independent variables.

Table 1: *Measurement of Variables*

Serial No.	Variable name	Measurement
Variable Type	Dependent Variables (Profitability)	
1	Return on assets (ROA)	Net income after tax/ Total assets X 100
2	Return on equity (ROE)	Net income after tax/ Total equity X 100
Variable Type	Independent Variables (Internal Determinants)	
1	Bank size	Natural logarithm of assets
2	Capital adequacy (AC)	Regulatory capital/ Risk-weighted assets
3	Asset quality (AQ)	Non-performing loans/ Total assets
4	Liquidity (L)	Total loans/ Total assets
5	Asset management (AM)	Operating income/ Total assets
6	Management quality (MQ)	Operating expense/ Total assets
7	Financial risk (FR)	Total liabilities/ Total assets
Variable Type	Independent Variables (External Determinants)	
1	Gross domestic product (GDP)	The annual growth rate of GDP
2	Inflation (I)	Annual consumer prices
3	Interest rate (IR)	The annual real interest rate will be used
4	Exchange rate (ER)	Annual average based on monthly averages (PKR to U.S dollar)

To avoid problems of autocorrelation, hetroscedesactiry, and multicollinearity Log is applied on all variables Structure of

data in this study is of panel type, therefore; panel regression is run to determine unobservable features of each bank (Hoffmann, 2011). In panel data, analysis of two well-known techniques is fixed effect model and random effect model. The difference between fixed effect and random effect model is that in a fixed effect model intercept is constant for each cross-sectional unit and while in random effect model, common intercept denotes the mean value of all intercepts and error component denotes the deviation of individual intercept from this mean value (Gujarati & Porter, 2009).

In the fixed effect model, it is assumed that individual error component and predictor variables are correlated. Fixed effect model is used to analyze the effect of variables that change over time.

$ROA_{it}=\beta_0+\beta1logBSit+\beta2logCAit+\beta3logAQit+\beta4logAMit+\beta5logLit+\beta6logMQit+\beta7logFRit+\beta8logGDPit+\beta9logIit+\beta10logIRit+\beta11logERit+\mu_{it}$

$ROE_{it}=\beta_0+\beta1logBSit+\beta2logCAit+\beta3logAQit+\beta4logAMit+\beta5logLit+\beta6logMQit+\beta7logFRit+\beta8logGDPit+\beta9logIit+\beta10logIRit+\beta11logERit+\mu_{it}$

Random effect model is used in the analysis of panel data when it allows for individual effects which mean that each cross section has its own intercept value. There is no correlation between cross-section specific error component and repressors.

$ROA_{it}=\beta_0+\beta1logBSit+\beta2logCAit+\beta3logAQit+\beta4logAMit+\beta5logLit+\beta6logMQit+\beta7logFRit+\beta8logGDPit+\beta9logIit+\beta10logIRit+\beta11logERit+\mu_{it}+e_{it}$

$ROE_{it}=\beta_0+\beta1logBSit+\beta2logCAit+\beta3logAQit+\beta4logAMit+\beta5logLit+\beta6logMQit+\beta7logFRit+\beta8logGDPit+\beta9logIit+\beta10logIRit+\beta11logERit+\mu_{it}+e_{it}$

μ_{it}= combined error term or error term of bank I at time t

e_{it}= individual error term or error term with zero mean and constant variance

Housman test is used to decide which model is more suitable. Rejection of null hypothesis of the test means fixed effect model is more appropriate. In a table below the correlation between independent variables were given. In order to avoid the problem of multicollinearity variable, which has a high correlation with another independent variable, were eliminated. As it can be seen that asset quality had a high correlation with asset management and interest rate and high correlation inflation. Therefore, two variables were eliminated from the study, which was asset management and inflation.

Table 2: *Correlation Matrix*

	AM	AQ	BS	CA	ER	FR	GDP	I	IR	L	MQ
AM	1.0	-0.6	0.5	-0.1	-0.0	0.1	0.1	-0.1	-0.1	0.0	-0.4
AQ	-0.6	1.00	-0.1	-0.1	-0.1	0.0	-0.2	0.1	0.2	0.1	0.1
BS	0.5	-0.1	1.0	-0.5	-0.3	0.5	-0.0	-0.1	-0.0	0.0	-0.3
CA	-0.1	-0.1	-0.5	1.0	0.2	-0.9	0.0	0.1	-0.0	-0.3	0.3
ER	-0.0	-0.1	-0.3	0.2	1.0	-0.2	0.1	0.2	-0.0	0.4	-0.0
FR	0.1	0.0	0.5	-0.9	-0.2	1.0	-0.0	-0.0	-0.0	0.3	-0.3
GDP	0.1	-0.2	-0.0	0.0	0.1	-0.0	1.0	-0.8	-0.8	-0.1	-0.2
I	-0.1	0.1	-0.1	0.1	0.2	-0.0	-0.8	1.0	0.7	0.3	0.2
IR	-0.1	0.2	-0.0	-0.0	-0.0	-0.0	-0.8	0.7	1.0	0.1	0.2
L	0.0	0.1	0.0	-0.3	0.4	0.3	-0.1	0.3	0.1	1.0	-0.0
MQ	-0.4	0.1	-0.3	0.3	-0.0	-0.3	-0.2	0.2	0.2	-0.0	1.0

Housman test was run first to make choice between Fixed effect and Random effect model. As it is shown in Table 1 that value of probability for both models is less than 0.05 which means that Random effect model is appropriate.

Table 3: *Housman Results*

	Model (ROA)			*Model (ROE)*		
Summary	Chi-Sq. Stat	d.f.	Prob.	Chi-Sq.	. d.f.	Prob.
Cross-Selection Random	20.710	11	0.03	20.63	11	0.03

Table 4: *Random Effect Model (ROA)*

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-10.9	5.5	-1.9	0.0
LOG(BS)	0.0	0.1	3.6	0.0
LOG(CA)	9.5	5.4	1.7	0.0
LOG(AQ)	-17.3	2.3	-7.3	0.0
LOG(L)	4.4	1.6	2.7	0.0
LOG(MQ)	-65.7	13.4	-4.8	0.0
LOG(FR)	3.0	5.0	0.6	0.5
LOG(GDP)	0.3	0.1	1.9	0.0
LOG(IR)	0.2	0.1	1.6	0.0
LOG(ER)	-99.2	83.0	-1.1	0.2
R-squared	0.4	Mean depen var		0.5
Adj R-squared	0.4	S.D. depen var		2.3
S.E. regression	1.7	Sum squa resid		631.9
F-statistic	17.8	D-Watson stat		1.8
Prob(F-statistic)	0.00			

Note: *1, **5, ***10 percent level of significance

Value of Durbin Watson was close to 2, which indicate of no autocorrelation. Value of R- square was 0.445. A probability value of F statistics was also less than 0.05, which shows the significance of the model Results for model ROA in the above table revealed that among internal factors bank size, asset quality, liquidity, and management quality were significant at 5% level of significance.

Capital adequacy was significant at 10% level of significance. Financial risk was only internal factor, which was insignificant. Among external factors, only GDP was found to be significant at 5%level of significance whereas interest rate was significant at 10% level. Exchange rate found to have an insignificant impact on the profitability of banks.

Table 5: *Random Effect Model (ROE)*

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-134.93	70.97	-1.90	0.05
LOG(BS)	8.17	1.87	4.36	0.00
LOG(CA)	102.68	69.37	1.48	0.14
LOG(AQ)	-363.33	30.68	-11.83	0.00
LOG(L)	24.75	20.54	1.20	0.22
LOG(MQ)	30.02	171.75	0.17	0.86
LOG(FR)	21.08	65.10	0.32	0.74
LOG(GDP)	3.94	1.96	2.00	0.04
LOG(IR)	2.11	1.42	1.48	0.13
LOG(ER)	-1262.4	909.90	-1.38	0.16
R-squared	0.52	Mean depen var		4.226
Adjusted R-squared	0.50	S.D. depen var		31.186
S.E. of regression	21.89	Sum squd resid		9590.24
F-statistic	24.87	D-Watson stat		1.495
Prob(F-statistic)	0.00			

Note: *1, **5, ***10 percent level of significance

For ROE model bank size and asset quality were significant factors at 5% level of significance and all other internal factors were having the insignificant impact of the dependent variable. Among external factors, only GDP found to have a significant impact on ROE. Value of F statistics was also significant which confirm the goodness of the model. Variation explained by the independent variables in the dependent variable was 52%. Durbin Watson test value was 1.49 which confirm of no autocorrelation.

CONCLUSION

The purpose of this study is to determine the impact of external and internal factors on the profitability of commercial banks of Pakistan. In the light of findings of the study, it is concluded that bank size is a significant factor for profitability. So profitability of large banks may have better profitability position as compared to small banks. As most of the internal factors have a significant impact on profitability, this means that the quality of management of banks is important for profitability. Among external factors, only GDP and interest rate have an impact on profit. As banks are an important part of the economy, therefore, their profit does affect the performance of the overall economy and specific financial policies.

Recommendations

Results of this study reveal that government policies have a major impact on the profitability of banks. Therefore, the government needs to consider this fact while making decisions regarding interest rate and exchange rate. Favorable policies by the government for improvement of the economy is also required for the growth of this important financial sector. For profitability, banks need to adopt effective scrutiny while advancing loans to customers. Banks also need to place efficient management policies to control operating expenses and proper utilization of assets. As financial risk was also a significant determinant of profitability so the bank needs to apply proper risk management strategies.

REFERENCES

Adzis, A. A., & Ramli, N. H. (2015). Bank-specific and macroeconomic determinants of bank profitability: Malaysian evidence during the 2007-209 global financial crisis. *The 11th Asian Academy of Management International Conference 2015* (1-10). Penang: The Asian Academy of Management, Malaysia.

Albulescu, C. T. (2015). Banks' profitability and financial soundness indicators: A macro-level investigation in Emerging countries. *Procedia Economics and Finance*, *23*(1) 203-209.

Ali, K., Akhtar, M. F., & Ahmed, H. Z. (2011). Bank-specific and macroeconomic indicators of profitability - Empirical evidence from the commercial banks of Pakistan. *International Journal of Business and Social Science, 2*(6), 235-242.

Almansour, A. Z., Asad, M., & Shahzad, I. (2016). Analysis of corporate governance compliance and its impact over return on assets of listed companies in Malaysia. *Science International, 28*(3), 2935-2938.

Almumani, M. A. (2014). Determinants of equity share prices of the listed banks in Amman Stock Exchange: Quantitative approach. *International Journal of Business and Social Science*, *5*(1) 91-104.

Ameer, B. M. (2015). Determinants of banking sector performance in Pakistan. *Global Journal of Management and Business Research*, *15*(6) 1-29.

Arbitrage Pricing Theory. (2017, March 10). *Arbitrage Pricing Theory*. Retrieved from Wikipedia Website: https://en.wikipedia.org/wiki/Arbitrage_pricing_theory.

Arif, M., Khan, M. Z., & Iqbal, M. (2013). Impact of bank size on profitability: Evidence from Pakistan. *International Journal of Applied Research, 2*, 98-109.

Ashraf, M., Haider, Z., & Sarwar, M. B. (2016). Bank specific and macroeconomic determinants impact on banks profitability: Evidence from Asian countries. *International Journal of Sciences: Basic and Applied*, *33*(3) 187-199.

Athanasoglou, P. P., Brissimis, S. N., & Delis, M. D. (2005). Bank-specific, industry-specific and macroeconomic determinants of bank profitability. *Bank of Greece Working Paper 25*, 4-37.

Bilal, M., Saeed, A., Gull, A. A., & Akram, T. (2013). Influence of bank-specific and macroeconomic factors on the profitability of commercial banks: A case study of Pakistan. *Research Journal of Finance and Accounting, 4*(2), 117-127.

Erina, J., & Lace, N. (2013). Comercial Banks profitability Indicators: Empirical Evidence from Latvia. *IBIMA Business Review, 2013*(2013), 1-9.

Gujarati, D. N., & Porter, D. C. (2009). *Basic Econometrics (5th Edition).* New York: McGraw_Hill.

Gul, S., Irshad, F., & Zaman, K. (2011). Factors affecting bank profitability in Pakistan. *The Romanian Economic Journal*, *39*(1) 61-87.

Hoffmann, P. S. (2011). Determinants of the profitability of the US banking industry. *International Journal of Business and Social Science, 2*(22), 255-269.

Husain, A., Affandi, S., & Shukur, N. A. (2015). The internal determinants of Islamic banks' profitability in Malaysia. *Journal of Basic and Applied Scientific Research, 5*(7), 17-21.

Jaber, J. J., & Al-khawaldeh, A. A. (2014). The impact of internal and external factors on commercial bank profitability in Jordan. *International Journal of Business and Management, 9*(4), 22-30.

Jamal, A. A., Karim, M. A., & Hamidi, M. (2012). Determinants of commercial banks' return on asset: Panel evidence from Malaysia. *International Journal of Commerce, Business, and Management, 1*(3), 55-62.

Javaid, S., Anwar, J., Zaman, K., & Ghafoor, A. (2011). Determinants of Bank Profitability in Pakistan: Internal Factor Analysis. *Journal of Yasar University*, 3794-3804.

Jeon, Y., & Miller, S. M. (2005). Bank performance: Market power or efficient structure? *Economics Working Papers*, 1-26.

Kamran, H. W., Johnson, Z., & Sammer, M. (2016). Determinants of profitability in the banking sector. *International Journal of Information Research and Review, 3*(5), 2258-2264.

Kausar, A., Gul, F., & Iqbal, M. (2014). The impact of privatization on the financial performance of the banking industry: a comparison of privatized and public banks in Pakistan. *First International Conference on Emerging*

Trends in Engineering, Management and Sciences 2014 (1-8). Peshawar.

Kiganda, E. O. (2014). Effect of macroeconomic factors on commercial banks profitability in Kenya: Case of Equity Bank Limited. *Journal of Economics and Sustainable Development, 5*(2), 46-56.

Masood, O., & Ashraf, M. (2012). Bank-specific and macroeconomic profitability determinants of Islamic banks: The case of different countries. *Qualitative Research in Financial Markets, 4*(2/3), 255-261.

Masood, O., Ashraf, M., & Turen, S. (2015). Bank-specific and macroeconomic determinants of bank profitability: Evidence from Member States of the OIC. *Journal of Islamic Financial Studies, 1*(1), 43-51.

Merin, M. A. (2016). Determinants of bank profitability in Ethiopia: A case study of private commercial banks. *Research Journal of Finance and Accounting, 7*(7), 28-43.

Messai, A. S., Gallali, M. I., & Jouini, F. (2015). Determinants of bank profitability in Western European Countries: Evidence from system GMM estimates. *International Business Research, 8*(7) 30-42.

Olweny, T., & Shipho, T. M. (2011). Effects of banking sectoral factors on the profitability of commercial banks in Kenya. *Economics and Finance Review, 1*(5), 1-30.

Ongore, V. O., & Kusa, G. B. (2013). Determinants of the financial performance of commercial banks in Kenya. *International Journal of Economics and Financial Issues, 3*(1), 237-252.

Onuonga, S. M. (2014). The analysis of profitability of Kenya`s top six commercial banks: An Internal factor analysis. *American International Journal of Social Science, 3*(5), 94-103.

Owoputi, J. A., Kayode, O. F., & Adeyefa, F. A. (2014). Bank-specific, industry-specific and macroeconomic determinants of bank profitability in Nigeria. *European Specific Journal, 10*(25), 408-423.

Pakistan Stock Exchange Limited. (2016, 25th January). *Registered Companies*. Retrieved from http://www.psx.com.pk

Rahaman, M. M., & Akhter, S. (2015). Bank-specific factors influencing the profitability of Islamic banks in Bangladesh. *Journal of Business and Technology (Dhaka), 10*(1), 21-36.

Rahman, M. M., Khan, M. A., & Hamid, M. K. (2015). Determinants of bank profitability: Empirical evidence from Bangladesh. *International Journal of Business and Management, 10*(8), 135-150.

Riaz, S., & Mehar, A. (2013). The impact of bank-specific and macroeconomic indicators on the profitability of commercial banks. *The Romanian Economic Journal, 47*(1), 91-110.

Ross, S. (2015, January 30). *What is Arbitrage Pricing Theory?* Retrieved from Investopedia Wikipedia: http://www.investopedia.com/ask/answers/013015/what-arbitrage-pricing-theory.asp

Saeed, M. S. (2014). Bank-related, industry-related and macroeconomic factors affecting bank profitability: A case of the United Kingdom. *Research Journal of Finance and Accounting, 5*(2), 42-50.

Simiyu, C. N., & Ngile, L. (2015). Effect of macroeconomic variables on the profitability of commercial banks listed in the Nairobi Securities Exchange. *International Journal of Economics, Commerce, and Management, 3*(4), 1-16.

Sufian, F., & Kamarudin, F. (2012). Bank-specific and macroeconomic determinants of profitability of Bangladesh's commercial banks. *Bangladesh Development Studies, 35*(4), 1-29.

Zeb, O., & Bashir, M. F. (2016). Bank specific and macroeconomic determinants of net interest margin: A case of selected commercial banks of Pakistan. *International Journal of Economics and Empirical Research, 4*(5), 220-228.