

# Analyzing the Effect of Credit and Liquidity Risks on Profitability of Conventional and Islamic Jordanian Banks

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**ABSTRACT:** The present paper investigates the influence of financial risks on the profitability of banks in Jordan (Islamic and conventional) for the period between 2006 and 2015. Profitability was measured in this study by return on assets (ROA) and return on equity (ROE), while the financial risks were reflected by liquidity and credit risks. The study has employed panel data regression to test the hypotheses. Results illustrated a substantial influence of credit risks on both ROA and ROE for the Islamic as well as the conventional banks. The association between liquidity risk and ROE were found to be insignificant for the Islamic and conventional banks. The influence of liquidity risk on ROA is significant for the Islamic and conventional banks. This result gives a clear indication to bank managers and the sector as a whole, that undertaking risks funding ventures will result in higher funding losses, with the consequence to banks, of considerable depletion of resources.

**Keywords:** Financial Risks, Profitability, Islamic and Conventional Banks, Jordan.

## Introduction

The fluent movement of markets relies substantially on the acuity and subtlety of bank reactions and actions as financial intermediaries. When facing financial problems in markets, banks expected to provide borrowing facilities and generally to make funds available. A strong, confident, well-managed banking sector is the basis of the country's economy, and as such encourages an extensive and stable financial sector capable of improving the country's economic strength in the face of adverse economic conditions. Therefore, the country's whole economic security is vital to banks' profit-making ability. It is not surprising therefore, that this subject is not only of interest to managers, board members of banks, and others in finance provision, but also researchers in the academic field interested in identifying and analyzing the determining factors of highly lucrative returns or profits. The supreme assessment of risks control is maintenance of high returns, so "Superior risk management practices are really good for the bottom line" (Bird & Skinner, 2005). While, (Tafri, Hamid, Meera, & Omar, 2009) states that being aware of bank profit vulnerability resulting from financial risks, is a factor of major importance for managerial staff of all monetary establishments, if they are to be effective.

In the context of the present study, Jordan, the banking sector is considered one of the primary essential economic industries. According to the International Monetary Fund (2003) this sector is well developed. Recent decades have seen substantial differences, both quantitative and qualitative, due to improvement in the economic expansion witnessed in Jordan over recent decades. The Association Bank of Jordan (ABJ) in 2015, stated that over the past five-year period the bank profit index had remained quite stable, though slightly lower than the earlier period, showing an average ROE of 4.8%, and ROA of 0.6%. Such information could lead to the assumption that the banking sector in Jordan has faced many challenges during the last few years. Hence, the focus of the present study is to investigate the effect of financial risks on bank profit during these years, by examining two major types of financial risk: credit risk and liquidity risk.

Structure of the paper: The following section is a review of the literature dealing with the performance of both conventional and Islamic banks, and the factors that determine high profit levels; the next section discusses the methodology and data used in this study, in the third section; the analyzes and discusses the results are presented, while the final section gives concluding remarks.

### **Literature Review and Hypothesis Development**

A robust financial structure with banks achieving high returns stimulates growth, and creates an extensive stable base for an economy capable of withstanding severe financial storms; maintaining a lucrative return margin protects the financial sector and supports overall development of trade and industry. It is a widely accepted assumption that bank performance is reflected by its ability to achieve and maintain high return levels.

The literature presents abundant papers by international researchers regarding the elements that determine bank success, regard high levels of return as a predominant determining factor. These studies fall into two groups, being conducted in one country only (e.g. Athanasoglou, Brissimis, & Delis, 2008; Fayed, 2013; Kosmidou, Tanna, & Pasiouras, 2005; Miah & Sharmeen, 2015) or in several (e.g. Athanasoglou, Delis, & Staikouras, 2006; Demirgüç-Kunt & Huizinga, 1999; Goddard, Molyneux, & Wilson, 2004; Jawadi, Cheffou, & Jawadi, 2016). The aim of these studies is to examine both internal and external dynamics impacting bank success, in both regular banks and those following Islamic principles.

The study by Athanasoglou et al. (2008) focuses on the influence of three specific factors on bank profit levels, those factors pertaining to banks, to industry, and at the macro level of economy-wide phenomena, finding significant influence on bank profit of all the determining factors, except bank size and proprietor. Also, Kosmidou et al. (2005) focuses on commercial banks in the United Kingdom and the influences affecting their profit levels, specifically investigating the effect on net interest margin (NIM) and return on average assets by specific bank features, behavior and performance of the economy as a whole, as well as financial organization. The study found that assets covering losses in lending was of statistical

significance and a constructive influence on NIM regardless of bank features, while showing a positive ROA relationship.

The link between financial risks and bank profit levels is the focus of several studies including that by Hosna, Manzura, and Juanjuan (2009) investigating four commercial Swedish banks from 2000 to 2008, and finding it to be a positive relationship. A study by Kithinji (2010) on commercial banks in Kenya, found the influence on profit levels exercised by credit hazard was neither positive nor negative. In a further study on five commercial banks in Nigeria over the period from 2000-2010, Kolapo, Ayeni, and Oke (2012) found that the credit hazard and profit level link was negative. While an Indonesian study by Ruziqa (2013) investigates the impact of credit and liquidity jointly on bank' profitability, and showed the impact of credit risks was negative while that of liquidity was found to be positive. Therefore, despite extensive investigation into the impact of credit risks on bank profit levels, no definite confirmation, positive or negative, has been found.

A number of empirical studies comparable to those described above have also investigated determining factors impacting banks operating within Islamic parameters, including those by (Akhtar, Ali, & Sadaqat, 2011; Kyzy, Thim, & Choong, 2012), as well as comparative studies with conventional banks by (Muda, Shaharuddin, & Embaya, 2013; Onakoya & Onakoya, 2013; Ramlan & Adnan, 2016; Srairi, 2009).

The study by Wasiuzzaman and Tarmizi (2010) examined the effect of both external and internal influences on the profitability of 16 Malaysian Islamic banks, resulting in the conclusion that, contrary to the findings of (Kosmidou et al., 2005), bank profit levels were not influenced by liquidity, but were negatively influenced by principal, investments and other assets, quality of properties and other resources. In another study by Kyzy et al. (2012) investigating various aspects affecting performance of 13 Islamic banks in Malaysia, found that credit and liquidity risks positively influenced its financial performance. Likewise, Akhtar et al. (2011) with results from 'multivariate regression models', found a substantial positive influence of capital ratios on performance of the Pakistani Islamic banks investigated in the period 2006 to 2009, and contrary to the size of bank variable that has a negative influence on financial performance.

However, according to Rajhi and Hassairi (2013) in spite of financial volatility, inflation and the exchange rates which led to instability of the economy, positive contributions have been recognized by size of bank, liquidity, as well as GDP, as all having helped towards strength and stability of banking sector. On the contrary, Ashraf, Rizwan, and L'Huillier (2016) found that, in an investigation of 136 Islamic Banks in the period 2000 to 2013, an increased GDP had no apparent influence on financial stability. This result is supported by Rashid and Jabeen (2016) conducting a study of Islamic and conventional banks from 2006 to 2012, who found negative influence of GDP and interest rate on lending, although they found a trivial positive effect of bank size, with a positive effect on performance. Zarrouk (2012) in a comparative study of 20 GCC Islamic banks pre-and-post the 2008 financial crisis illustrated the negative impact of bank

specific factors on their performance and results in 2008. The financial crisis of 2009 had an actual impact on the banking and business sectors however, and Islamic banks in the UAE, Kuwait and Bahrein reported severely diminished returns and retrenchment in liquidity.

In order to achieve stronger outcomes when investigating the solidity of Islamic banks in comparison with conventional banks, some researchers including Beck, Demirgüç-Kunt, and Merrouche (2013) selected 22 countries with long-established operation of both types of banks, comprising 88 Islamic banks and 422 conventional banks during 1995 to 2009. The study found that banks operating within the Islamic system had better financial provision as well as high quality assets, which enabled them if necessary, to engage in risky ventures.

In view of the above, four hypotheses are proposed:

H1: There is a negative relationship between Credit risk and return of assets of banks.

H2: There is a negative relationship between Credit risk and return of equity of banks.

H3: There is a negative relationship between Liquidity risk and return of assets of banks.

H4: There is a negative relationship between Liquidity risk and return of equity of banks.

### **Data and Method of Analysis**

The study sample comprised 16 banks in total, 13 conventional and 3 operating according to Islamic principles, between 2006 and 2015; these 16 were the only banks out of the whole population to fulfill full data disclosure relating to ASE (Amman Stock Exchange). Data sources were ASE data stream and CBJ (Central Bank of Jordan) Annual Reports.

### **Variables and Measures**

The profitability of banks is the dependent variable in the current study, which is measured by return on assets (ROA) and return on equity (ROE), indicators used in previous literature (Abdullah & Tan, 2017; Matar, 2017; Ramlan & Adnan, 2016; Tafri et al., 2009), calculated as follows:

$$ROA = NI / TA \quad (1)$$

Where 'ROA' is the return on assets and 'NI' is the net income and 'TA' is total assets.

$$ROE = NI / TE \quad (2)$$

Where 'ROE' is the return on equity and 'NI' is the net income and 'TE' is the total equity.

The independent variable in this study is financial risk of banks, which is reflected by two indicators: credit and liquidity risks derived from literature (Ariffin & Tafri, 2014; Berger & DeYoung, 1997; Kolapo et al., 2012; Matar, 2014; Petria, Capraru, & Ihnatov, 2015; Rajan & Dhal, 2003; Samad, 2004), to assess their link with banks' profitability. The present study concentrates on these two indicators since they are more prominent compared to other financial risks. The calculation for these indicators as follows:

$$CR = LLP / TL \quad (3)$$

Where 'CR' is credit risk, 'LLP' is loans loss provision and 'TL' is total loans.

$$LIQ = TL / TD \quad (4)$$

Where 'LIQ' is liquidity risk, 'TL' is total loans and 'TD' is total deposits.

The present study utilized three control variables: bank size measured by natural log of total assets of the bank (Ariffin & Tafri, 2014; Kosmidou et al., 2005); bank capital, represented by the bank's equity ratio to total assets (Al-Khouri, 2011; Tafri et al., 2009); gross domestic production (GDP) which is used to control for the effect of the economic environment on banks' profitability as in previous studies (Ariffin & Tafri, 2014; Ramadan, 2011). In addition, a dummy variable will be introduced: 'Dummy type', required by regression results to differentiate between bank types.

### **Data Analysis Technique**

Time series cross-sectional data (panel data analysis) is utilized in this present study, using the following baseline models:

$$ROA_{it} = \beta_0 + \beta_1 ROA_{i,t-1} + \beta_2 CR_{it} + \beta_3 LIQ_{it} + \beta_4 BSIZE_{it} + \beta_5 BCAP_{it} + \beta_6 GDP_t + \mu_{it}$$

$$ROE_{it} = \beta_0 + \beta_1 ROE_{i,t-1} + \beta_2 CR_{it} + \beta_3 LIQ_{it} + \beta_4 BSIZE_{it} + \beta_5 BCAP_{it} + \beta_6 GDP_t + \mu_{it}$$

Where:

$ROA_{it}$  = represent the return on assets.

$ROE_{it}$  = represent the return on equity.

$ROE_{i,t-1}$  = represent the return on equity for year t-1

$ROA_{i,t-1}$  = represent the return on assets for year t-1

$CR_{it}$  = represent credit risk.

$LIQ_{it}$  = represent liquidity risk.

$BSIZE_{it}$  = represent the log of total assets.

$BCAP_{it}$  = represent the bank capitalization.

$GDP_t$  = represent the GDP growth rate.

$\mu_{it}$  = represent error term.

### **Empirical Results**

To check the strengthen validity of the observations, some diagnostic tests were applied including multicollinearity test, autocorrelation test, panel unit root test, and heteroscedasticity test. These tests confirm, or refute, the reliability of the regression models and absence of econometric problems. Although no problems were detected in stationary or multicollinearity, the data were found to have autocorrelation and heteroscedasticity problems. So, the study has applied robust standard errors method to correct the violations of these assumptions.

Table 1 illustrates the descriptive statistics for the variables of interest in term of means, maximum, minimum, and standard deviations. The dependent variable, profitability was assessed by return on assets (ROA) and return on equity (ROE). As illustrated in the table, ROE has the higher score at 3.1 %, and a maximum of 20.8% while ROA scores 0.63% and varies from -2.38% to 11.7%. The study examined the effect of the financial risks on the profitability of banks, the financial risks being represented by two variables, credit risks (CR) and liquidity risks (LIQ). The table shows that LIQ average is 10.9% and varies from 0% to 952%. CR has an average of -0.2%, with a maximum of 24.6%.

Regarding the control variables; bank size (BSIZE) indicated an average of 21.1% with maximum 12.9%; bank capital (BCAP) average 8.5%, varying from -69.8% to 93.2%; GDP average 4.5% and maximum 8.2%.

**Table 1: Descriptive Statistics**

<b>Variables</b>	<b>Mean</b>	<b>Max</b>	<b>Min</b>	<b>Std. Dev</b>
<b>ROA</b>	0.0063	0.117	-0.0238	0.0182
<b>ROE</b>	0.0309	0.2085	-0.2183	0.1056
<b>LAGROA</b>	0.0136	0.117	-0.0129	0.0129
<b>LAGROE</b>	0.0913	0.2183	-0.0313	0.0530
<b>CR</b>	-0.0021	0.2469	-1.2719	0.1236
<b>LIQ</b>	10.8653	952.1517	0	83.4917
<b>BSIZE</b>	21.1027	23.9759	18.4865	1.1085
<b>BCAP</b>	0.0856	0.9327	-6.9870	0.7365
<b>GDP</b>	0.0448	0.0817	0.0233	0.0237

Table 2 illustrate the results of exploring the association between return of assets (ROA) and return of equity (ROE) which are the bank' profitability indicators, and financial risk which is represented by two variables, credit risks (CR) and liquidity risks (LIQ). The two models achieved an F-Statistic and were rated 'Applicably correct and appropriate'; independent variables accounted for 41% of dissimilarities in the dependent variable of model 1, and 43% in model 2. The estimation results show insignificant coefficient for lagged dependent variables (LAGROA) and (LAGROE). The implication is therefore that the environment in which Jordanian banks function is reasonably contentious.

**Table 2: The Panel Regression Results of Models (1 and 2)**

Dep/Inde. Variables	Model (1) ROA		Model (2) ROE	
	Coefficient	Std. Error	Coefficient	Std. Error
LAGROA	0.04027	0.06974	----	----
LAGROE	----	----	-0.11534	0.27376
CR	-0.03036***	0.00832	-0.10299**	0.04794
LIQRISK	-0.000021***	0.00045	0.00003	0.00005
BSIZE	-0.00251***	0.00078	-0.00989*	0.00552
BCAP	-0.00055	0.00062	-0.00536	0.00372
GDP	-0.00279	0.05878	-0.01676	0.41048
DUMMY	-0.00991***	0.00183	-0.06710***	0.01774
R2	0.41		0.43	
F-Stat	0.00		0.00	

In models 1 and 2 the first independent variable CR (credit risk) showed a significant negative relationship with ROA and ROE at levels of 1% and 5% respectively. This illustrates that higher credit risk result in lower profits, supporting findings by Asma'Rashidah Idris et al. (2011), Kolapo et al. (2012) and Ruziqa (2013), and a clear indication that credit risk control is vital. This outcome could be the consequence of higher loss provision being documented due to extra exposure to highly risky financing, and therefore the reason for reduced profits.

The second financial risks variable, liquidity risk (LIQRISK), the results found that it has significant negative relationship with ROA at level 1%, but no relationship with ROE. An increase in the liquidity risk is associated with a decrease of profitability in term of assets. Since many bank actions are founded on the ability to liquidate assets when necessary, lack of this function will diminish income from lending-based businesses. In consequence, diminished interest income from lending is reflected in a diminished interest margin which negatively affects bank proficiency. In addition, liquidity problems may well cause lack of customer confidence particularly if withdrawal demands cannot be met. These findings concur with those of Petria et al. (2015) and Hakimi and Zaghdoudi (2017). Consequently, since the coefficient and p-value of the variables in models 1 and 2 support the main hypothesis, hypotheses H1, H2, H3 and H4 are accepted.

In these two models one of the A dummy variable (DUMMY) was employed to differentiate between conventional and Islamic banks, resulting in subsequent findings of important variances in the impact of financial risks on profit sustainability with regard to assets and equity. In term of the first independent variable CR, the result of the dummy variable showed that this variable has more effect on the profitability of conventional banks in terms of assets and equity compared to the Islamic banks. The same result has been for the second independent variable LIQ in its relation to the dependent variable ROA, while the second

dependent variable ROE has shown no relationship to the liquidity variable LIQ for both conventional and Islamic banks.

In relation to the control variables, the results for the first control, bank size, showed that ROA and ROE have significant negative relationship with the size of the banks in models 1 and 2. Thus, increasing bank size lead to decrease the profitability in both Islamic and conventional banks. While in the second control variable, bank capital, the result showed that ROA and ROE have no relationship with the capital of the banks in models 1 and 2. The same results have been indicated for the last control variable, which is GDP, this finding agrees with (Ariffin & Tafri, 2014; Ramadan, 2011).

### **Conclusion**

In common with all financial organizations, the banking industry is invariably exposed and vulnerable to a number of dangers and threats, both internal and external, to their effective and efficient business operations. The risk-list is formidable, including credit risk, liquidity risk, operational problems, exchange and interest rate variances, and political upheavals. Overall however, those considered in general to pose the greatest threat to the security and stability of banks, are the risks associated with lending. As witnessed during the 2008 financial crisis, decline, stagnation and insolvency were very real possibilities, oftentimes as a result of poor management in general and particularly so in the case of risks lending ventures, whereby insolvency could lead to economic failure, liquidation and bankruptcy. Notwithstanding the fact that harsh and valuable lessons were undoubtedly learnt, there is an ongoing essential need to update, upgrade, and develop the understanding, supervision and practice of financial risks management in the banking industry, to evade the possibility of similar future disasters.

Through practical investigation, break down and collation of results, the present study illustrates the linkage of financial risks and high-return opportunities, prospects, and limitations facing both conventional and Islamic banks, in the Jordanian banking sector. As is clearly evident from the findings however, the various types of risks investigated in reference to the level of profit achieved by the banking institutions, do not all impact bank profitability. Liquidity risks for instance, has no association with ROE, whereas the opposite is shown to apply in the effect of the credit risk variable (loan loss reserve ratio to total loans), which shows a substantial adverse influence on bank profit, illustrating that the more risks the lending venture, the less opportunity and expectation of high returns.

This result gives a clear indication to bank managers and the sector as a whole, that undertaking risks funding ventures will result in higher funding losses, with the consequence to banks, of considerable depletion of resources. Therefore, the final analysis of the present study illustrates a definite impact on ROA and ROE of conventional banks, as a consequence of credit risks and the off-balance sheet activities of the banks in relation to derivatives. In respect of the Islamic banking system, ROA profit-making level is impacted by credit risk, liquidity risk, and bank size, while that of ROE is impacted only by credit risk and bank size.



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### **References**

- Abdullah, N., & Tan, Y. (2017). Profitability of Commercial Banks revisited: New Evidence from oil and non-oil exporting countries in the MENA region. *Investment Management and Financial Innovations*, 14(3).
- Akhtar, M. F., Ali, K., & Sadaqat, S. (2011). Factors influencing the profitability of Islamic banks of Pakistan. *International Research Journal of Finance and Economics*, 66, 125-132.
- Al-Khoury, R. (2011). Assessing the risk and performance of the GCC banking sector. *International Research Journal of Finance and Economics*, 65, 72-81.
- Ariffin, A. F., & Tafri, F. H. (2014). *The Impact of Financial Risk on Islamic Banks' Profitability*. Paper presented at the International Conference on Business, Sociology and Applied Sciences (ICBSAS'14) March.
- Ashraf, D., Rizwan, M. S., & L'Huillier, B. (2016). A net stable funding ratio for Islamic banks and its impact on financial stability: An international investigation. *Journal of Financial Stability*, 25, 47-57.
- Asma'Rashidah Idris, F. F. A., Asari, H., Taufik, N. A. A., Salim, N. J., Mustafa, R., & Jusoff, K. (2011). Determinant of Islamic banking institutions' profitability in Malaysia. *World Appl. Sci. J.*, 12, 01-07.
- Athanasoglou, P., Brissimis, S., & Delis, M. (2008). Bank-specific, industry-specific and macroeconomic determinants of bank profitability. *Journal of international financial Markets, Institutions and Money*, 18(2), 121-136.
- Athanasoglou, P., Delis, M., & Staikouras, C. (2006). Determinants of bank profitability in the South Eastern European region.
- Beck, T., Demirgüç-Kunt, A., & Merrouche, O. (2013). Islamic vs. conventional banking: Business model, efficiency and stability. *Journal of Banking & Finance*, 37(2), 433-447.
- Berger, A. N., & DeYoung, R. (1997). Problem loans and cost efficiency in commercial banks. *Journal of Banking & Finance*, 21(6), 849-870.
- Bird, A., & Skinner, T. H. (2005). Enterprise risk management not for you? Wrong. *American Banker*, 170(67), 10.
- Demirgüç-Kunt, A., & Huizinga, H. (1999). Determinants of commercial bank interest margins and profitability: some international evidence. *The World Bank Economic Review*, 13(2), 379-408.
- Fayed, M. E. (2013). Comparative performance study of conventional and Islamic banking in Egypt. *Journal of Applied Finance and Banking*, 3(2), 1.
- Goddard, J., Molyneux, P., & Wilson, J. O. S. (2004). The profitability of European banks: a cross-sectional and dynamic panel analysis. *MANC The Manchester School*, 72(3), 363-381.
- Hakimi, A., & Zaghdoudi, K. (2017). Liquidity Risk and Bank Performance: An Empirical Test for Tunisian Banks. *Business and Economic Research*, 7(1), 46-57.

- Hosna, A., Manzura, B., & Juanjuan, S. (2009). Credit risk management and profitability in commercial banks in Sweden. *rapport nr.: Master Degree Project 2009: 36*.
- IMF. (2003). *Financial Development in the Middle East and North Africa*. Retrieved from
- Jawadi, F., Cheffou, A. I., & Jawadi, N. (2016). Do Islamic and conventional banks really differ? A panel data statistical analysis. *Open Economies Review, 27(2)*, 293-302.
- Kithinji, A. M. (2010). *Credit risk management and profitability of commercial banks in Kenya*. School of Business, University of Nairobi, Nairobi.
- Kolapo, T. F., Ayeni, R. K., & Oke, M. O. (2012). Credit Risk and Commercial Banks' Performance in Nigeria: A Panel Model Approach. *Australian journal of business and management research, 2(2)*, 31.
- Kosmidou, K., Tanna, S., & Pasiouras, F. (2005). *Determinants of profitability of domestic UK commercial banks: panel evidence from the period 1995-2002*. Paper presented at the Money Macro and Finance (MMF) Research Group Conference.
- Kyzy, B. T., Thim, C. K., & Choong, Y. V. (2012). Performance of Islamic commercial banks in Malaysia: An empirical study. *Journal of Islamic Economics, Banking and Finance, 8(2)*, 67-80.
- Matar, A. (2014). *Analyzing the profitability of Islamic banks versus conventional banks: Evidence from Jordan*. Paper presented at the Innovation Management in Business Conference Proceeding Al - Zaytoonah University. Amman, Jordan, 21 - 23. April.
- Matar, A. (2017). Evaluating the Performance of Islamic and Commercial Banks in Jordan. *Jordan Journal of Economic Sciences, 4(1)*.
- Miah, M. D., & Sharmeen, K. (2015). Relationship between capital, risk and efficiency: A comparative study between Islamic and conventional banks of Bangladesh. *International Journal of Islamic and Middle Eastern Finance and Management, 8(2)*, 203-221.
- Muda, M., Shaharuddin, A., & Embaya, A. (2013). Comparative analysis of profitability determinants of domestic and foreign Islamic banks in Malaysia. *International Journal of Economics and Financial Issues, 3(3)*, 559.
- Onakoya, A. B., & Onakoya, A. O. (2013). The performance of conventional and Islamic banks in the United Kingdom: A comparative analysis. *Journal of Research in Economics and International Finance, 2(2)*, 29-38.
- Petria, N., Capraru, B., & Ilnatov, I. (2015). Determinants of banks' profitability: evidence from EU 27 banking systems. *Procedia Economics and Finance, 20*, 518-524.
- Rajan, R., & Dhal, S. C. (2003). Non-performing loans and terms of credit of public sector banks in India: An empirical assessment. *Occasional Papers, 24(3)*, 81-121.
- Rajhi, W., & Hassairi, S. A. (2013). Islamic banks and financial stability: a comparative empirical analysis between MENA and southeast Asian countries. *Région et développement, 37*, 149-177.
- Ramadan, I. Z. (2011). Bank-Specific Determinants of Islamic Banks Profitability: An Empirical Study of The Jordanian Market. *International Journal of Academic Research, 3(6)*.
- Ramlan, H., & Adnan, M. S. (2016). The profitability of Islamic and conventional bank: Case study in Malaysia. *Procedia Economics and Finance, 35*, 359-367.

- Rashid, A., & Jabeen, S. (2016). Analyzing performance determinants: Conventional versus Islamic banks in Pakistan. *Borsa Istanbul Review*, 16(2), 92-107.
- Ruziqā, A. (2013). The impact of credit and liquidity risk on bank financial performance: the case of Indonesian Conventional Bank with total asset above 10 trillion Rupiah. *International Journal of Economic Policy in Emerging Economies*, 6(2), 93-106.
- Samad, A. (2004). Performance of Interest-free Islamic banks vis-à-vis Interest-based Conventional Banks of Bahrain. *International Journal of Economics, Management and Accounting*, 12(2).
- Srairi, S. (2009). A comparison of the profitability of Islamic and conventional banks: The case of GCC countries. *Bankers, Markets & Investors*, 98, 16-27.
- Tafri, F. H., Hamid, Z., Meera, A., & Omar, M. A. (2009). The impact of financial risks on profitability of Malaysian commercial banks: 1996-2005. *International Journal of Social and Human Sciences*, 3(3), 807-821.
- Wasiuzzaman, S., & Tarmizi, H. (2010). Profitability of Islamic banks in Malaysia: an empirical analysis. *Journal of Islamic Economics, Banking and Finance*, 6(4), 53-68.
- Zarrouk, H. (2012). Does financial crisis reduce Islamic banks' performance? Evidence from GCC countries. *Journal of Islamic Finance and Business Research*, 1(1), 1-16.