

**DETERMINANTS OF ISLAMIC BANK PROFITABILITY IN TURKEY:
BANK SPECIFIC FACTOR ANALYSIS**

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ABSTRACT

The aim of this study is to estimate the effects of bank specific factors on profitability of Islamic banks in Turkey. Ordinary Least Squares (OLS) method is used by using monthly real data for the period 2006M1-2016M2. Aggregated Islamic banks' data which covers Albaraka Türk Participation Bank, Bank Asya, Kuveyt Turk Participation Bank Inc., Türkiye Finans Participation Bank, and Ziraat Participation Bank are used in this study. Return on Asset (ROA) is determined as a dependent variable of this study. In addition, equity to total assets (ETA), loan quality (LQ), loan to total assets (LTA), net interest margin (NIM), operational expenses to total assets (OETA), market share (MS), and non-interest income to total assets (NII) are included to model as determinants of bank profitability. Empirical results suggest that ETA, NIM, and MS have positive effect on bank profitability. Coefficient of NIM which is estimated as 0.432 can be described as the strongest determinant that affects the bank profitability. Furthermore, negative developments on Bank Asya since 2014 have affected bank profitability of Islamic Banks in Turkey, negatively.

Keywords: *Bank Profitability, Bank Specific Factors, Islamic Banking*

**TÜRKİYE'DE İSLAMİ BANKALARIN KARLILIĞININ
BELİRLEYİCİLERİ: BANKA İÇİ FAKTÖR ANALİZİ**

ÖZET

Bu çalışmanın amacı, banka içi faktörlerin Türkiye'deki İslami bankaların karlılıkları üzerindeki etkilerini tahmin etmektir. Tahmin yöntemi olarak En Küçük Kareler (EKK) metodu kullanılmıştır. Çalışmada, 2006 yılı birinci ay ve 2016 yılı ikinci ay dönemleri arası aylık veriler kullanılmıştır. Çalışmada kullanılan veriler Türkiye'deki beş katılım bankasının, Albaraka Türk katılım Bankası, Bank Asya, Kuveyt Türk Katılım Bankası, Türkiye Finans Katılım Bankası, Ziraat Katılım Bankası, toplulaştırılmış verileridir. Aktif karlılığı (ROA) çalışmada bağımlı değişken olarak kullanılmıştır. Diğer yandan, öz sermayenin toplam varlıklara oranı (ETA), kredi kalitesi (LQ), kredilerin toplam varlıklara oranı (LTA), net faiz marjı (NIM), faaliyet giderlerinin toplam varlıklara oranı (OETA), pazar payı (MS), ve faiz

dışı gelirin toplam varlıklara oranı (NII) banka karlılığını belirleyen bağımsız değişkenler olarak modele eklenmiştir. Ampirik sonuçlara göre, ETA, NIM ve MS'nin banka karlılığı üzerindeki etkileri pozitif ve anlamlıdır. NIM değişkeninin katsayısı 0,432 olarak hesaplanmış ve banka karlılığını etkileyen en güçlü banka içi faktör olarak belirlenmiştir. Bununla birlikte, 2014 yılından itibaren Bank Asya üzerindeki negatif gelişmelerin Türkiye'deki İslami bankaların karlılığını olumsuz yönde etkilediği sonucuna ulaşılmıştır.

Anahtar Kelimeler: Banka İçi Faktörler, Banka Karlılığı, İslami Bankacılık

1. Introduction

Islamic banking refers a banking system that is based on halal principles. Borrowing and lending transactions are strictly prohibited by Islam. Thus, economic life and financial instruments are shaped by this restriction in Islamic societies. The financial restrictions in Islam ensured that Islamic societies to specialize especially in trade.

Middle East region have already been the center of trade since the prehistoric eras. Moreover, this region has been governed by Islamic countries for centuries. Thus, Islamic financial instruments found the chance to develop with trade in Middle East (Khorshid, 2004: 11). In particular, the share of Islamic banks in the financial system has developed in recent years. Although there are many difficulties for operating Islamic finance, it spreads on a wide range. These kinds of banks have enlarged from this region to whole world banking system. Special interest for Islamic finance of the world is based on several causes. These causes are increase in Islamic awareness, strong demand on halal products in banking, high prosperity in Islamic countries, variety of banking products, and relatively small negative effects of 2008 global economic crisis on these kind of banks rather than conventional banks (Sakarya and Kaya, 2013: 3).

Main difference between the conventional and Islamic banks arises from an interest based system. The conventional banking system is based on interest in debt and finance. The whole system is built on debt money. On the other side, all transactions are depended to commodities in Islamic banking. Moreover, the risk sharing forms the basis of the Islamic finance (Ng et. al., 2015: 161). This situation doesn't coincide with modern conventional banking system. There is profit-loss sharing system instead of fixed interest rate system in Islamic financial institutions. So, this main component, non-fixed interest rate regime, determines all transactions in Islamic financial institutions. Some researchers also show that interest-free banking system has a structurally stable money demand relationship and a good manner at velocity of money in contrast to conventional banking system. Interest-free banking system has also a sound role in providing price stability (Darrant, 2000: 803).

Although the Islamic financial institutions have more advantages against the conventional financial system, there are also some weaknesses. Islamic financial institutions are closely related to real sector. Thus, the negative developments in real sector can also affect Islamic financial sector negatively. Moreover, the aggressive speculative investment strategies that causes higher expected returns with higher risk affects the Islamic financial institutions without standards of sound risk management and precautionary growth in expansion (Venardos, 2010: 3).

The main goal of this study is to estimate the effects of bank specific factors on profitability of Islamic banks in Turkey. For this purpose, Ordinary Least Squares (OLS) method is used for the empirical analysis. Generally, panel data is used for examining the determinants of bank profitability in the literature. In this study, aggregated time series data is used for the analysis. This feature differentiates the study from existing literature on Turkey.

This paper consists of six parts. In the second part, a broad information is provided about the Islamic banking in Turkey. Third part includes relevant literature review. Data and methodology of the model are explained in the fourth part. Part five presents the econometric results of the study. In the final section, general conclusions and policy recommendations are provided.

2. Islamic Banking in Turkey

In Turkey, modern Islamic financial institutions started to operate with the law that was accepted in 1983. These modern institutions were called as Private Financial Institutions or Private Finance Houses. The main purpose of these institutions was defined as providing to take the capital flows of Middle Eastern countries into Turkey. Firstly, Albaraka Türk Private Financial Institution started to run in 1985. After, in order, Kuwait Türk Awqaf Financial Institution in 1989, Anadolu Financial Institution in 1991, İhlas Financial Institution in 1995, and Asya Financial Institution in 1996 are other Islamic financial institutions that were established after the law.

There have been four Islamic banks in Turkey for many years. This fact restricted the development of the interest-free financing system in the country for decades. However, the Justice and Development Party (JDP) government pay attention to this field. Thus, the first state-owned Islamic bank, Ziraat Participation, was founded in May, 2015, and the second state-owned Islamic bank, Vakıf Participation, was founded in February, 2016. These developments show that the share of Islamic banking in total sector may increase in time. However, negative developments on Bank Asya have increased since the beginning of 2014. Finally, Turkey's Savings Deposit Insurance Fund (SDIF) took over the bank management of Bank Asya on 4 February, 2015.

There are six Islamic banks in Turkey now: Albaraka Türk Participation Bank, Bank Asya, Kuveyt Turk Participation Bank Inc., Türkiye Finans Participation Bank, Vakıf Participation Bank, and Ziraat Participation Bank. Overview of the Islamic banking sector is presented in Table 1.

Table 1: Overview of Islamic Banking Sector in Turkey

Ratios	2016M2
Non-Performing Loans / Total Cash Loans	6.69%
Profit (Loss) Before Tax / Total Assets	-0.01%
Net Interest Revenues / Total Assets	0.27%
Operational Expenses / Total Assets	0.20%
Equity / Total Assets	9.34%
Loans / Total Assets	60.26%
Non-Interest Income / Total Assets	0.15%
Market Share	5.04%

Source: Banking Regulation and Supervision Agency (BRSA)

All these ratios are used as variables in this study. It is seen that non-performing loans to total cash loans for Islamic banks is higher than conventional banks' ratio, 3.20 per cent, in Turkey. In addition, profit (loss) before tax, net interest revenues, operational expenses, and non-interest income to total assets are very low. Moreover, equity to total asset ratio is close to 10 per cent. Besides, loans of Islamic banks to total assets are around 60 per cent. Lastly, market share of Islamic Banks in Turkish banking sector is around 5 per cent. However, this share is increasing year after year.

3. Literature Survey

Studies on bank profitability of Islamic banks become very popular in recent years. Some of these studies covers a single country while others employ group of countries. Also, in most studies disaggregated data are used to perform profitability of Islamic banks. Recent literature about Islamic bank profitability are listed below as chronological order.

Ahmad and Noor (2011) examine the profitability of 78 Islamic banks from 25 countries for the period between 1992 and 2009. The Fixed Effect Model (FEM) is used to estimate the coefficients of determinants of banks' profitability. Results suggest that the larger, more diversified, and better capitalized banks are relatively more profitable than others. In addition, results support that expense preference theory, and credit risk has a negative impact on profitability of Islamic banks. Moreover, more profitable banks are those that higher operating expenses against asset, more equity against assets, and concentrated at high income countries to demonstrate close relationship between monetary factors. Furthermore, profitability

of Islamic banks wasn't impacted by 1998 Asian Financial Crisis and 2008 Global Financial Crisis.

Idris et.al. (2011) examine the determinants of profitability of Islamic Banking in Malaysia for the period of 2007-2009 based on quarterly data. General Least Square (GLS) panel data methodology is conducted for investigating this analysis. Independent variables of this study are capital adequacy, credit risk, liquidity, bank size, and management of expenses. Result suggest that just bank size has positive and significant effect on profitability.

Akhtar et. al. (2011) investigate the factors which affect the profitability of Islamic banks of Pakistan for the period 2006M1-2009M12. They set up two different multivariate regressions as Model 1 and Model 2. Return on Asset (ROA) and Return on Equity (ROE) are included to these models as dependent variables, respectively. According to results, relationship of gearing ratio and capital adequacy ratio have a positive relationship in both models. Furthermore, coefficient of asset management is positive and significant for Model 1, and capital adequacy is found to have significant relation for both models.

Macit (2012) estimates the bank specific and macroeconomic determinants of participation bank' profitability for Turkish banking sector by using quarterly data of 2005-2010. Pooled feasible generalized least squares method is used for estimating models. ROA and ROE are determined as dependent variables which shows the bank profitability. According to results, ratio of equity to total assets (ETA) and real assets (LRA) have positive effect while ratio of non-performing loans to total loans (NPL) has negative effect on ROA. On the other hand, ETA and NPL have negative impact while LRA has a positive impact on ROE. On the macroeconomic determinants side, impacts of exchange rate and real interest rate are positive and significant for both models.

Obeidat et. al. (2013) examines the effects of internal and external variables on Islamic bank profitability in Jordan over the period 1997-2006. Multiple regression is used to analyze predicting coefficients of independent variables. Empirical results support that most significant determinants of profitability are deposit, cost of deposit, total expenditures, Mudaraba loans, and restricted investment deposits as internal factors. On the other side, the fundamental external factors are the money supply and market share.

Muda et. al. (2013) examines the determinants of profitability of Islamic Banks and make comparison between domestic and foreign Islamic Banks for Malaysian banking sector. GLS model is employed with unbalanced panel data on 17 banks which cover the period between 2007Q1-2010Q4. Empirical results suggest that

domestic banks are more profitable than foreign banks. Their determinants of bank profitability quite different from foreign banks. Overhead expenses (-), loans ratio (+), technical efficiency (+), gross domestic product growth rate (+), and bank size (+) have significant effect on domestic banks' ROE. Gross domestic product per capita has a negative and significant effect for foreign banks' profitability. In addition, deposits (+), capital and reserves (-), inflation (-), and age of banks (-) have also strong impact on profitability of both domestic and foreign banks' ROE.

Abduh et. al. (2013) investigates the impact of bank specific factors and macroeconomic factors on profitability performance of both Islamic banks and conventional banks for Malaysian banking sector for the period between 2005 and 2009. The sample consist of 17 conventional banks and 13 Islamic banks. Panel data regression analysis is used as an econometric technique for estimating determinants of profitability of banks. Empirical results suggest that liquidity ratios and macroeconomic condition are the determinants of profitability under pooled OLS (Ordinary Least Squares) method. On the other hand, only liquidity ratio is statistically significant under random effect model. According to fixed effect framework, economic growth has a positive impact on bank profitability in Malaysia. Furthermore, results reveal that Islamic banks are more profitable than conventional banks for the period of 2005-2009.

Toraman et. al. (2015) analyses the performance of the conventional and participation banks in Turkey for the period of 2006-2014. Independent samples t-test results reveal that magnitude of liquid assets and total assets of deposit banks higher than participation banks. Moreover, deposit banks have stronger capital adequacy structure than participation banks. Besides, Generalized Methods of Moments (GMM) is used to analyze determinants of bank profitability. Results suggest that capital adequacy and operational efficiencies have positive impact while ratio of non-performing loans to total loans has negative impact on ROA.

Ali (2015) estimates the macroeconomic determinants which includes interest rate, exchange rate, and inflation rate of Islamic banks' profitability in Pakistan by using quarterly data of 2006-2012. OLS method, Johansen and Juselius Cointegration method, and Granger Causality test are used for finding relationship between the profitability and these three main macroeconomic variables. OLS results support that interest rate and inflation rate have positive impact on bank profitability. Granger causality results show that there is a unidirectional causality from inflation to probability, from exchange rate to interest rate, and from interest rate to inflation rate. Lastly, cointegration test reveal that variables are cointegrated in the long run.

Karakuş and Küçük (2016) investigate the effects of bank specific and macroeconomic factors on bank profitability in Turkey for the period of 2010Q1-

2014Q4 using panel regression. Return on Equity (ROE) and Return on Asset (ROA) were used as explained variables in the panel data analysis. Empirical results suggest that there is a negative relationship between US Dollar effective exchange rate, consumer price index (CPI), gross domestic product (GDP), fixed assets to total assets ratio, and both profitability ratios. Furthermore, a positive relationship is found between number of employees and profitability indicators. Moreover, results reveal that the industrial production index, the banking sector credit volume, weighted average interest rate of loans, unemployment rate and total funds collected to total assets ratio have a positive effect on ROA. Although real sector confidence index, unemployment rate and credit used to total assets ratio have a negative effect on ROE. In addition, there is a positive relationship between other operating expenses to total assets ratio, off-balance sheet liabilities to total assets ratio, short terms loans used to total loan used ratio.

4. Data and Methodology

In this study, the main goal is estimating coefficients of determinants of bank profitability of Islamic banks in Turkey for the period of 2006M1-2016M2. There are two basic indicators to measure bank profitability in the literature; Return on Asset (ROA) and Return on Equity (ROE). In this study, ROA is used as a dependent variable and seven main internal (bank specific) factors are determined as independent variables. These variables are equity to total assets (ETA), loan quality (LQ) which is equal to non-performing loans to total cash loans, loan to total assets (LTA), net interest margin (NIM), operational expenses to total assets (OETA), market share (MS), and non-interest income to total assets (NII). Shortly, ROA can be showed as a function like $ROA = F(ETA, LQ, LTA, NIM, OETA, MS, NII)$. All data are gathered from Banking Regulation and Supervision Agency (BRSA) (2016) website. Moreover, all series are converted to seasonally adjusted monthly data by the Census X-13 additive method. Table 2 gives the summary of descriptive statistics which includes mean, median, maximum value, minimum value, standard deviation, skewness, and kurtosis of dependent and independent variables. An econometric model can be constructed like in Eq. 1 for this study.

Table 2: Descriptive statistics of the variables

Descriptive Statistics	ROA	ETA	LQ	LTA	NIM	OETA	MS	NII
Mean	0.191	11.307	4.012	68.335	0.358	0.277	4.229	0.243
Median	0.184	11.132	3.748	68.781	0.333	0.267	4.252	0.198
Maximum	0.418	14.469	6.707	77.934	0.551	0.409	5.505	3.945
Minimum	-0.365	8.572	2.975	57.739	0.250	0.179	2.418	-0.930
Standard Deviation	0.121	1.602	0.861	4.755	0.080	0.053	0.932	0.374
Skewness	-0.994	0.172	0.770	-0.349	0.429	0.248	-0.301	7.791

Kurtosis	5.918	1.888	2.651	2.542	1.870	1.852	1.903	80.919
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$$ROA_t = \alpha + \beta_1 ETA_t + \beta_2 LQ_t + \beta_3 LTA_t + \beta_4 NIM_t + \beta_5 OETA_t + \beta_6 MS_t + \beta_7 NII_t + \beta_8 TREND_t + \beta_9 DUMMY_t + \varepsilon_t \quad (1)$$

α denotes intercept term while β s are coefficients of the independent variables, and ε_t denotes error terms of the model. TREND denotes the linear time trend, and negative developments on Bank Asya after 2014 is included to model as a dummy variable. This model will be estimated by OLS method, and theoretical background of this method is explained below. In this study, multiple regression analysis is used to estimate Eq. 1. A classical multiple regression can be constructed like in Eq. 2:

$$Y_i = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_K X_{Ki} + u_i \quad i = 1, 2, \dots, n \quad (2)$$

where Y denotes dependent variable, X s are independent variables, and u is the error term. α denotes intercept term while β s are coefficients of the independent variables. In addition, K denotes number of independent variables. Ordinary Least Squares method is used for estimating coefficients of the variables. Least squares minimizes the residual of sum of squares (RSS). Residuals and RSS are calculated by Eq. 2 and Eq. 3, respectively:

$$e_i = Y_i - \hat{\alpha} - \sum_{k=2}^K \hat{\beta}_k X_{ki} \quad (3)$$

$$RSS = \sum_{i=1}^n e_i^2 = \sum_{i=1}^n (Y_i - \hat{\alpha} - \hat{\beta}_2 X_{2i} - \dots - \hat{\beta}_K X_{Ki})^2 \quad (4)$$

The residual sum of squares is minimized by the K first order conditions:

$$\frac{\partial(\sum_{i=1}^n e_i^2)}{\partial \hat{\alpha}} = -2 \sum_{i=1}^n e_i = 0 \quad (5)$$

$$\frac{\partial(\sum_{i=1}^n e_i^2)}{\partial \hat{\beta}_k} = -2 \sum_{i=1}^n e_i X_{ki} = 0, \quad \text{for } k = 1, \dots, K. \quad (6)$$

(Baltagi, 2008: 73)

5. Econometric Results

Stationary series should be used in econometric techniques. Because, empirical studies with non-stationary series can lead to spurious regression (Granger and Newbold, 1974). This type of regression causes high R^2 and significant t-statistic. In this study, Augmented Dickey Fuller (ADF) Test and Phillips-Perron (PP) Test are used to determine stationarity of the series. Unit root test results are displayed in Table 3.

Table 3: Unit Root Test Results

Variables	ADF Test		PP Test	
	Constant	Constant & Trend	Constant	Constant & Trend
ROA	-0.862	-11.005***	-5.467***	-11.016***
ETA	-0.900	-2.487	-0.767	-2.492
LQ	0.986	0.574	-0.035	-0.242
LTA	-1.404	-2.773	-1.345	-2.778
NIM	-1.551	-2.887	-1.770	-4.932***
OETA	-0.707	-2.494	-1.912	-6.716***
MS	-2.302	0.205	-2.210	0.183
NII	-10.171***	-10.640***	-10.176***	-10.907***
Δ ETA	-12.278***	-12.528***	-12.352***	-12.680***
Δ LQ	-3.286**	-3.541**	-9.736***	-10.025***
Δ LTA	-4.343***	-10.184***	-12.365***	-12.389***
Δ NIM	-18.069***	-18.010***	-24.131***	-24.474***
Δ OETA	-10.425***	-10.379***	-30.094***	-29.940***
Δ MS	-10.893***	-11.497***	-11.054***	-11.479***

Note: *** and ** denote 1% and 5% significance level, respectively. Δ is the first difference operator.

According to Table 3, ADF and PP Tests suggest that ROA and NII are stationary at their level values (I(0)). However, ETA, LQ, LTA, NIM, OETA, and MS have a unit root in their level values. They are stationary at first difference (I(1)). So, stationary series should be used in the multiple regression analyses in this study. Multiple regression results based on OLS method are showed in Table 4.

Table 4: Regression Results

Variables	Coefficients	t-statistic	p-value
Constant	0.344	20.710	0.000***
Δ ETA	0.065	2.844	0.005***
Δ LQ	0.021	0.555	0.579
Δ LTA	-0.004	-0.929	0.354
Δ NIM	0.445	1.991	0.048**
Δ OETA	-0.331	-1.062	0.290
Δ MS	0.213	1.871	0.063*
NII	-0.006	-0.348	0.728
TREND	-0.002	-9.110	0.000***
DUMMY	-0.039	-1.713	0.089*

Note: ***, **, * denote 1%, 5%, and 10% significance level, respectively. Δ is the first difference operator.

According to regression results, ETA, NIM, and MS have positive effect on bank profitability of Islamic banks. One-unit increase in ETA leads to 0.065-unit increase

in ROA. Moreover, one-unit increase in NIM leads to 0.445-unit increase in ROA. In addition, one-unit increase in MS causes to 0.213-unit increase in ROA. It is obviously seen that NIM is the strongest determinants of bank profitability. Furthermore, DUMMY variable is found statistically significant at 10 per cent. So, we can conclude that negative developments on Bank Asya affected bank profitability, negatively.

ETA denotes the capital adequacy that has positive impact over return on total assets. Its coefficient indicates that banks which have high capital level are more profitable than banks which have low capital level in our analysis. Empirical results suggest that our results are compatible with Ahmad and Noor (2011), Akhtar et. al. (2011), Macit (2012), and Toraman et. al. (2015). However, it doesn't coincide with Muda et. al. (2013). According to Athanasoglou et. al. (2008), positive capital adequacy shows that bank managers implementing risk-averse policies to get higher profits by monitoring activities over credit risks. Secondly, NIM is the proxy for the efficiency of banks by measuring the effectiveness of earnings which are provided by interest. Positive coefficient of NIM is coherent with the priori expectations. Lastly, MS can be used as representative of the size of Islamic banks in banking industry. Positive coefficient of MS reveals the increasing demand for financial products launched by Islamic banks in Turkey. Our regression results stresses that market share has a positive impact on Islamic bank profitability. Our findings are similar with Idris et. al. (2011), Macit (2012), and Muda et. al. (2013). Conversely, it dissociates with the results of Karakuş and Küçük (2016).

On the contrary, LQ, LTA, OETA, NII are found statistically insignificant. These results show that these variables don't have explanatory power over the profitability of Islamic Banks in Turkey for the period of 2006M-2016M2.

Descriptive statistics of the model are displayed in Table 5. The model passed the all diagnostic tests successfully except normality assumption. R^2 and Adjusted R^2 are high and standard error of the regression is very low. The joint probability (F-statistic) is significant at 1 percent. Furthermore, there is no autocorrelation and heteroskedasticity problem in this model. There is normality problem in this model however OLS is still BLUE (Best Linear Unbiased Estimator) (Baltagi, 2008: 98). Besides, CUSUM test results are displayed in Figure 1. According to Figure 1, the CUSUM fall within the lines. Thus, the long run model is effective with stable recursive residuals. There is no structural break in this model.

Table 5: Descriptive Statistics of the Model

R^2	0.715
Adjusted R^2	0.692
Standard Error of the Regression (SER)	0.067

F-statistic	30.990 (0.000)
Breusch-Godfrey LM Test (X^2)	2.397 (0.301)
White Heteroscedasticity Test (X^2)	13.383 (0.146)
Jarque-Bera Normality Test (X^2)	518.599 (0.000)

Note: Numbers in parenthesis are prob. value of statistics.

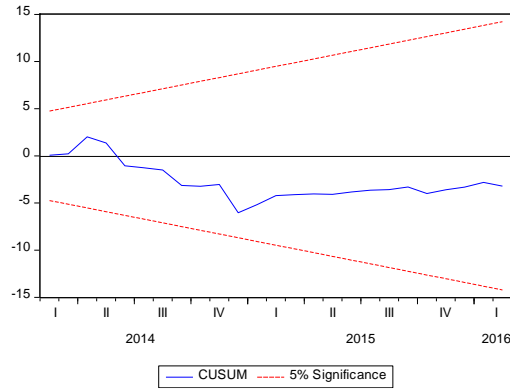


Figure 1: CUSUM of the Model

6. Conclusion

This study aims to determine bank specific (internal) factors of Islamic banks' profitability in Turkey, using OLS method for the period from first month of 2006 to second month of 2016. All the variables are consisted of sum of the 5 Islamic banks' data. These banks are Albaraka Türk Participation Bank, Bank Asya, Kuveyt Turk Participation Bank Inc., Türkiye Finans Participation Bank, and Ziraat Participation Bank. Vakıf Participation is excluded from this study, since it was founded at February, 2016 which is the last data of this study.

According to empirical results, ETA, NIM, and MS have positive effect on bank profitability of Islamic banks. One-unit increase in ETA leads to 0.065-unit increase in ROA. Furthermore, one-unit increase in NIM leads to 0.445-unit increase in ROA. Besides, one-unit increase in MS causes to 0.213-unit increase in ROA. Results reveals that NIM is the strongest determinants of bank profitability. All the other independent variables are found statistically insignificant. Furthermore, DUMMY variable is found negative and statistically significant at 10 per cent. So, we can conclude that negative developments on Bank Asya affected profit of Islamic banking sector, negatively. The results pass all the diagnostics tests except homoscedasticity assumption.

In this study, effects of only bank specific factors on profitability of Islamic banks in Turkey are investigated. In addition, this study is based on monthly time series data. Future studies which is related to this subject could include more variables especially macroeconomic factors like interest rate, inflation rate, gross domestic product, and

exchange rate etc. Moreover, panel data could be used instead of time series data. On the other side, a comparison of profitability between Islamic banks and conventional banks in terms of both bank internal factors and macroeconomic factors could be investigated.

References

ABDUH, M., OMAR, M., & MESIC, E. (2013). Profitability determinants of Islamic and conventional banks in Malaysia: A panel regression approach. *Terengganu International Finance and Economics Journal*, 3 (1), 1-7.

AHMAD, N., & NOOR, M. (2011). The impact of 1998 and 2008 financial crises on profitability of Islamic banks. *Bangladesh Development Studies*, 34 (1), 1-22.

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.

ALI, M. (2015). Macroeconomic determinants of Islamic banks profitability in Pakistan: A time series analysis. *Journal of Business Strategies*, 9 (2), 83-97.

ATHANASOGLU, P. P., BRISSIMIS, S. N., & DELIS, M. D. (2008). Bank-specific, industry-specific and macroeconomic determinants of bank profitability. *Journal of International Financial Markets, Institutions and Money*, 18 (2), 121-136.

BALTAGI, B. H. (2008). *Econometrics*. 4th Edition. Springer.

Banking Regulation and Supervision Agency (BRSA) (2016). *Turkish Banking Sector Interactive Monthly Bulletin*. Retrieved May 31, 2016, from https://www.bddk.org.tr/WebSitesi/english/Statistical_Data/Monthly_Reports/Monthly_Reports.aspx

Central Bank of the Republic of Turkey (CBRT) (2016). *Electronic Data Delivery System*. Retrieved May 31, 2016 from http://evds.tcmb.gov.tr/index_en.html

DARRAT, A. F. (2000). Monetary stability and interest-free banking revisited. *Applied Economics Letters*, 7 (12), 803-806.

GRANGER, C. W., & NEWBOLD, P. (1974). Spurious regressions in econometrics. *Journal of Econometrics*, 2 (2), 111-120.

IDRIS, A. R., ASARI, F. F. A. H., TAUFİK, N. A. A., SALIM, N. J., MUSTAFFA, R., & JUSOFF, K. (2011). Determinant of Islamic banking institutions' profitability in Malaysia. *World Applied Sciences Journal*, 12, 1-7.

KARAKUŞ, R., & YIKMAZ KÜÇÜK, Ş. (2016). Katılım bankalarında karlılığın belirleyicileri: Türkiye örneği için bir panel veri analizi. *Niğde Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 9 (2), 119-132.

KHORSHID, A. (2004). *Islamic insurance: A modern approach to Islamic banking*. Routledge.

MACİT, F. (2012). Bank specific and macroeconomic determinants of profitability: Evidence from participation banks in Turkey. *Economics Bulletin*, 32 (1), 586-595.

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), 559-569.

NG, A., MIRAKHOR, A., & IBRAHİM, M. H. (2015). *Social capital and risk sharing: An Islamic finance paradigm*. Palgrave Macmillan.

OBEIDAT, B. Y., EL-RIMAWI, S. Y., MAQABLEH, M. M., & AL-JARRAH, I. M. (2013). Evaluating the profitability of the Islamic banks in Jordan. *European Journal of Economics, Finance and Administrative Sciences*, 56, 27-36.

SAKARYA, B., & KAYA, Y. (2013). Türk bankacılık sektöründe katılım ve mevduat bankalarının performans farklılaşması. *EY International Congress on Economics I, 24-25 October 2013, Ankara, Turkey*.

TORAMAN, C., ATA, H. A., & BUĞAN, M. F. (2015). Mevduat ve katılım bankalarının karşılaştırmalı performans analizi. *C. Ü. İktisadi ve İdari Bilimler Dergisi*, 16 (2), 301-310.

VENARDOS, A. M. (2010). Resilience and stability: Socioeconomic response in Southeast Asia. *Current Issues in Islamic Banking and Finance: Resilience and Stability in the Present System*, 1-16.