

Edited By Okyay UCAN

DISCUSSIONS BETWEEN ECONOMIC AGENTS: Individuals, Firms and Countries

Nebiye YAMAK
Feyzullah YETGIN
Fatma KOLCU
Sukru CICIOGLU
Nigar OZCETIN

Erkan ALSU
Habibu DJUMA
Sibel CELIK
Sumeyye DASDELEN
Yasemin Deniz KOC



IKSAD
Publishing House

DISCUSSIONS BETWEEN ECONOMIC AGENTS: Individuals, Firms and Countries

Editor: **Assoc. Prof. Okyay UCAN**

Authors: **Prof. Nebiye YAMAK**
 Assoc. Prof. Feyzullah YETGIN
 Asst. Prof. Fatma KOLCU
 Asst. Prof. Sibel CELIK
 Asst. Prof. Yasemin Deniz KOC
 Asst. Prof. Sukru CICIOGLU
 Dr. Nigar OZCETIN
 Dr. Erkan ALSU
 Habibu DJUMA
 Sumeyye DASDELEN



Copyright © 2018 by iksad publishing house

All rights reserved. No part of this publication may be reproduced, distributed, or transmitted in any form or by any means, including photocopying, recording, or other electronic or mechanical methods, without the prior written permission of the Publisher, except in the case of brief quotations embodied in critical reviews and certain other noncommercial uses permitted by copyright law.
Institution Of Economic Development And Social
Researches Publications®

(The Licence Number of Publicator: 2014/31220)

TURKEY TR: +90 342 606 06 75

USA: +1 631 685 0 853

E posta: kongreiksad@gmail.com

www.iksad.net

www.iksad.org

www.iksadkongre.org

It is responsibility of the author to abide by the publishing ethics rules.

Iksad Publications – 2018©

ISBN: 978-605-7510-96-9

Cover Design: İbrahim Kaya

Size = 148 x 210 mm

October / 2018

CONTENTS

EDITED BY	DISCUSSIONS BETWEEN ECONOMIC AGENTS: INDIVIDUALS, FIRMS AND COUNTRIES Okyay UCAN	3 - 5
CHAPTER 1	ESTIMATING THE LONG-RUN LAFFER CURVE FOR THE TURKISH ECONOMY: ARDL COINTEGRATION APPROACH Fatma KOLCU and Nebiye YAMAK	6 - 31
CHAPTER 2	THE EFFECT OF TERRORIST INCIDENTS ON CAPITAL MARKET Sumeyye DASDELEN, Sibel CELIK and Yasemin Deniz KOC	33 - 61
CHAPTER 3	A CONCISE OVERVIEW ON THE HISTORICAL EVOLUTION OF THE INTERNATIONAL MONETARY SYSTEM Sukru CICIOGLU and Habibu DJUMA	62 - 103
CHAPTER 4	EVALUATION OF PERSPECTIVES ON THE ACCOUNTING AND INDEPENDENT AUDITOR'S PROFESSIONS OF UNIVERSITY STUDENTS: AN ECONOMETRIC ANALYSIS Nigar OZCETIN	126 - 163
CHAPTER 5	SUKUK AND THE FIRST EXAMPLE OF REAL ESTATE INVESTMENT TRUST ISSUANCE Feyzullah YETGIN	164- 221
CHAPTER 6	THE DEGREE TO WHICH PARTICIPATION AND TRADITIONAL BANKS HAVE BEEN AFFECTED BY THE GLOBAL CRISIS: A COMPARATIVE ANALYSIS Erkan ALSU	222- 270

Discussions between Economic Agents: Individuals, Firms and Countries

The interaction between individuals, firms, and countries is very important in a globalizing world. In this context, economics and business issues are almost connected to each other. The integration of real and financial markets has an effective role in the growth of countries. While the forerunner of the growth is the real sector and the export is in progress, the issue of terrorism prevents the growth of almost every country, particularly the developing countries. For said countries, foreign trade, terrorism, education, and defense are the sub-headings, however, they have also been witnessing the rise of economic issues in recent years. In this context, the articles mentioned in the following paragraphs are discussed together. There are six valuable works in the book.

In the first chapter of the book, Fatma KOLCU and Nebiye YAMAK prepared an analysis with the annual data from 1980-2017 in the study named "Estimating the Long Run Laffer Curve for the Turkish Economy: ARDL Cointegration Approach". The relationship between real tax revenues with a tax burden or average tax rate data were used to test the validity of the Laffer Curve in Turkey.

In the second chapter, Sumeyye DASDELEN, Sibel CELIK, and Yasemin Deniz KOC conducted a panel data analysis using 2014-2016 period and 89 countries included in global terrorism index in the study named "The Effect of Terrorist Events on the

Capital Market”. They investigated the effects of global terrorism index and macroeconomic variables on stock indices of countries.

In the third chapter of the book, the authors of the study “ A Concise Overview on the Historical Evolution of the International Monetary System”, Sukru CICIOGLU and Habibu DJUMA, researched the current international monetary system literature and discussed how the monetary systems can be developed through market forces and policy initiatives.

In the fourth chapter of the book, NigarOZCETIN conducted the study named “Evaluation of Perspectives on the Accounting and Independent Auditor’s Professions of University Students: An Econometric Analysis”, in which she surveyed senior students of Business Administration and Economics departments of the Faculty of Economics and Administrative Sciences, and Business and Accounting departments of the Vocational School of Social Sciences. In this study, she tried to determine the perspectives of the students towards the independent accountant and independent auditor professions.

In the fifth chapter of the book, Feyzullah YETGIN, the author of the chapter “ Sukuk and the First Example of Real Estate Investment Trust Issuance”, emphasized the increasing importance of Sukuk issuances in global markets. In addition, he foresees that such an Islamic financial instrument would be a potential means of financing in western countries, avoiding religious views.

“Global Crisis Impact of Traditional and Participation Banks: A Comparative Analysis” is the last chapter of the book. The author, Erkan ALSU, examined the impact of the crisis on the participating banks and the traditional banks comparatively in the light of certain variables before, during and after the crisis in 2008. In addition, both types of banks were compared before and after the global crisis to discuss the superior and weak sides of each.

Assoc. Prof. Okyay UCAN

CHAPTER 1:

ESTIMATING THE LONG-RUN LAFFER CURVE FOR THE TURKISH ECONOMY: ARDL COINTEGRATION APPROACH

Fatma KOLCU¹

Nebiye YAMAK²

¹ Asst. Prof. Dr., Trabzon University, Beşikdüzü Vocational School, Department of Management and Organization, Trabzon, Turkey, fkolcu@ktu.edu.tr.

² Prof. Dr., Karadeniz Technical University, Faculty of Economics and Administrative Sciences, Department of Economics, Trabzon, Turkey, nyamak@ktu.edu.tr.

1.INTRODUCTION

In the public finance literature, an inverted U-shaped relationship between tax rates and total amount of tax revenue has been called Laffer curve. According to the Laffer curve relationship which is also known as Laffer hypothesis, there is no a linear relationship between tax rates and tax revenue. Laffer hypothesis argues that there are two extreme tax rates of 0% and 100% at which there will be no tax revenue collected by government. Starting from zero tax rate, as tax rate rises tax revenues will also increase till a certain tax rate. At this tax rate, tax revenue will be maximum. After the rate which maximizes tax revenue, if tax rates go on rising, tax revenues will begin to decline. Therefore, the tax rate which maximizes tax revenues is called the optimal tax rate.

Laffer curve which were introduced by Arthur Laffer in 1974 has been investigated by several empirical studies for different economies and periods. For example, Yamak and Yamak (1995) Yamak (1996), Altunoz (2017) and Bilgin (2018) for Turkey, Hsing

(1996) for the U.S., Karas (2012) for Czech Republic, Khan and Mansoor (2016) for Pakistan, Jayasooriye (2017) for Sri Lanka are among them. The general findings have been that there is an inverted U-shaped relationship between tax rates and tax revenue. However, the implicit assumption of most of the studies in the process of estimation is that the variables are co-integrated. If they are co-integrated then they might have an error correction mechanism, so long run curve estimated by one of co-integration estimation techniques will be different from one estimated by simple ordinary least squares. If they are not, then Laffer curve must represent both short-run and long-run relationships instead of only long-run relationship between tax rates and amount of tax revenue. Accordingly, the validity of Laffer curve relationship first requires the existence of long-run relationship between tax rates and tax revenue. Then, the long-run curve must be estimated by one of the co-integration estimation techniques.

Accordingly, the main objective of this current study is to re-estimate the long-run Laffer curve for the

Turkish economy over the period of 1980-2017, by employing the co-integration technique developed by Pesaran and Shin (1999). After estimating the long-run relationship between tax rate and total amount of tax revenue, effectiveness of the fiscal policy in terms of the collected amount of tax revenue by government will be determined by comparing optimal tax rate with average effective tax rates.

2. A Review of the Recent Empirical Literature

In the beginnings of 1980's, Stuart (1981) examined the effects of increases in the level of taxation in the Swedish economy. For this purpose of the study, he used a two-sector model that contains a taxed sector, in which employed labor is taxed, and an untaxed sector in which supplied labor is not taxed. Marginal tax rate which maximizes total tax revenues was calculated in the interval 69-73 percent, while the actual tax rate was in excess of 80 percent. Statistical results of the study indicated that Sweden was on the downward-sloping portion of the Laffer curve in the 1970s. Later, Feige and McGee (1983) developed a simple macro model,

which derived a Laffer curve for Sweden. They found that the marginal tax rate was about 0.83. Their findings implied that Sweden was on the right side of the Laffer curve peak in 1979. Fullerton (1982) introduced a new curve which summarizes the tax rate and elasticity combinations that result in maximum revenues, separating the “normal area” from the “prohibitive area”³. The results indicated that the U.S. economy could be operating in the prohibitive area, but that the tax wedge or labor supply elasticity would have to be much higher than most estimates would suggest. Another study by Hsing (1996) on the U.S. economy re-examined the Laffer curve based on time series data during 1959-1991. His findings showed that the revenue maximizing tax rate was between 32.67 percent and 35.21 percent. On the other hand, the average tax rate was 19.58 percent based on tax liability and 20.18 percent based on tax payment. These results implied that there was room for

³In the literature, the upward-sloping portion of the curve is called the “normal” range and the downward-sloping segment is the “prohibitive” range (see, for example; Laffer, 1981, 1984; Fullerton, 1982).

the increase in the average tax rate to raise more tax revenue.

Walewski (1999) investigated whether there exists any evidence for the Laffer curve in the Czech Republic, Hungary and Poland. In the study, it was found that the Laffer curve for these three countries could be bell-shaped. In addition, it was determined that both Czech Republic and Poland were on the positively sloped part of the Laffer curve, whereas Hungary was about close to its optimal tax rate. Heijman and Ophem (2005) examined the computation of the maximum tax revenue generating taxation rate for 12 OECD countries. Their results showed that the revenue-maximizing rate was lower than the actual tax rate in Sweden. In all other countries, optimum tax rate was higher than the actual tax rate. Trabandt and Uhlig (2011) estimated the Laffer curves for consumption, labor, and capital taxes for the U.S. and EU-14 using a neoclassical growth model. They determined that the U.S. could maximally increase tax revenues by 30 percent with labor taxes and 6 percent with capital taxes. They obtained 8 percent and 1 percent

for the EU-14 economy, respectively. Following the methodology of Trabandt and Uhlig (2011), Nutahara (2015) investigated the Laffer curves for labor, capital and consumption taxes in Japan. He found that the government should increase the labor tax rate but decrease the capital tax rate to maximize total tax revenue.

Karas (2012) modelled the relationship between the rate of personal income tax and the revenue and naturally derived a tax rate that maximizes revenue for the Czech Republic. The findings showed that, in the period of 1994-2010, historical tax rate was lower than the rate designed to maximize the revenue. Khan and Mansoor (2016) estimated the Laffer curve for Pakistan economy for the period of 1990-2015. Their empirical findings confirmed the existence of Laffer curve in Pakistan economy but its existence was in the prohibited area of Laffer curve. Jayasooriya (2017) estimated Laffer curve for Sri Lanka for the period 1960-2014. The empirical results of the study provided support for a robust long-

run relationship between the variables, indicating that tax rate was positively related to tax revenue.

In the literature, there are a limited number of studies which empirically examine Laffer curve for Turkey. For example, Yamak and Yamak (1995) estimated Laffer curve for the period of 1960-1990 by using ordinary least squares method. The results of the study showed that the Turkish tax administration operated in the inefficient region of the Laffer curve for the periods of 1971-1973 and 1975-1981. Later, Yamak (1996) investigated the relationship between the tax revenue and the tax rate for Turkey for the period of 1960-1993. In the study, unlike the previous study, a quadratic function for the Laffer curve was specified and estimated under the Kalman Filter technique. According to the results of the study, when the tax rates maximizing the revenues were compared with the current tax rates, it appeared that the tax administration operated in the inefficient region of the Laffer curve for many years. Recently, Kurt (2017) estimated Laffer curve for Turkey for the period 2004-2015. His results of the estimation

indicated that optimal rates for total, indirect and direct taxes were respectively 25.3 percent, 16.7 percent, 9.06 percent; while current tax rates were 25.4 percent, 17.4 percent, 8 percent.

2. Data and Methodology

The data used in this study are annual and cover the period of 1980-2017. There are two main variables in this study. The first one is reel tax revenue (RTR). This variable is naturally dependent variable of the Laffer curve. The second variable is independent variable. It is tax burden or average tax rate (ATR). Average tax rate is measured by dividing the total tax revenue collected by government into gross national income. All variables come from the Turkish Revenue Administration and the Turkish Statistical Institute (www.gib.gov.tr and www.turkstat.gov.tr).

Since the main purpose of the study is to determine whether there exists a Laffer curve relationship, in other word an inverted U-shaped curve relationship between average tax rate and reel tax revenue for the long-run, the

following functional relationship is statistically estimated under modern time series analysis.

$$RTR = f(ATR, ATR^2) \quad (1)$$

In the public finance literature, there is a strong consensus on the inverted U-shaped relationship between the two variables. To investigate whether there exists an inverted U-shaped effect of average tax rate on real tax revenue, the following quadratic regression is estimated by the Autoregressive Distributed Lag (ARDL) model. In equation (2), the letter “L” in front of RTR variable indicates logarithm form of RTR variable.

$$LRTR_t = \beta_0 ATR_t + \beta_1 ATR_t^2 + \varepsilon_t \quad (2)$$

where β_0 and β_1 represent parameters of average tax rate and square of average tax rate, respectively. If β_0 and β_1 in the estimated long-run Laffer regression are found to be positive and negative respectively, it is then said that there exists an inverted U-shaped relationship between average tax rates and amount of tax revenue. So, the

average tax rate maximizing total amount of tax revenue collected by government in the long run will equal to $\beta_0/2\beta_1$ (Yamak and Yamak; 1995).

In this study, the Autoregressive Distributed Lag (ARDL) co-integration approach introduced by Pesaran and Shin (1999) was employed to investigate the long-run relationship between average tax rates and total amount of tax revenue. As known, the ARDL approach does not require prior knowledge on the order of integration of the variables. It can be easily used for the variables with different orders of integration. At this point, it should be noted that all variables should be I(0) or I(1), but not higher than I(1). The ARDL approach has some certain advantages in comparison with other conventional co-integration methods such as Engle-Granger (1987) and Johansen-Juselius (1990) methods. Among others, the most important advantage of this technique is that it gives the possibility of short and long run parameters of the model simultaneously by using the unrestricted ARDL error correction model. The ARDL

bounds testing methodology to co-integration involves estimating the following regression.

$$\Delta LTRR_t = \sum_{i=1}^p \alpha_i \Delta LTRR_{t-i} + \sum_{i=0}^q \gamma_i \Delta ATR_{t-i} + \sum_{i=0}^r \theta_i \Delta ATR_{t-i}^2 + \delta_1 LTRR_{t-1} + \delta_2 ATR_{t-1} + \delta_3 ATR_{t-1}^2 + \varepsilon_t \quad (3)$$

where the coefficients α_i , γ_i and θ_i represent the short-run dynamics of the variables and the coefficients δ_1 , δ_2 and δ_3 represent the long-run relationship average tax rate and reel tax revenue. After estimation of the above regression, the following null hypothesis of no co-integration is tested against the alternative hypothesis of the presence of co-integration by using F-statistics.

$$H_0: \delta_1 = \delta_2 = \delta_3 = 0$$

$$H_1: \delta_1 \neq 0, \delta_2 \neq 0, \delta_3 \neq 0$$

(4)

3. Empirical Findings

Even though the ARDL approach does not require prior knowledge on the order of integration of the variables, the order of integration must be determined for each variable in order to decide whether the use of the ARDL is appropriate. For this purpose, the Augmented Dickey-Fuller (ADF)⁴ unit root test was first performed for the level and first difference of each variable. Table 1 presents the results of the ADF test with and without the inclusion of a trend detecting a unit root in the levels and first differences of the variables⁵.

Table 1. ADF Unit-Root Test Results

Variables	Level Constant	Constant+ Trend	First Difference	
			Constant	Constant + Trend
LRTR	-0.3218	-2.452	-7.083***	-6.989***
ATR	-1.178	-2.158	-7.542***	-7.439***
ATR ²	-1.238	-2.312	-7.360***	-7.261***

Note: Lag length was selected by using Schwarz information criteria (SIC). The maximum lag length was set to 8.*** denotes significance level of 1%.

⁴Dickey and Fuller (1979).

⁵ The number of lags used in the ADF regressions were selected using the information criterion provided by Schwarz Information Criteria.

As seen from Table 1, the ADF- t statistics calculated for the levels of all variables indicate that the non-stationary of the levels of the variables can not be rejected at any significant level. However, the first difference of each appears to be stationary according to the ADF test statistics.

As noted before, in the ARDL approach all variables should be $I(0)$ or $I(1)$, but not higher than $I(1)$. According to the ADF unit root test results, all variables are found to be stationary in their first levels. Thus, the ARDL approach can be easily used to investigate the possible long-run relationship between average tax rate and total amount of reel tax revenue. As required by ARDL approach, firstly bounds test was applied to determine the presence of long-run relationship between the variables. The results of the ARDL bounds test are shown in Table 2.

Table 2. ARDL Bounds Test Results

Model	F-Statistics	Conclusion
(1,1,0)	10.086 ***	Co-integrated

Note: *** denotes significance at the 1% level. Critical value bounds are 5.3 at 1%, 3.83 at 5% and 3.19 at 10%, respectively.

As observed from Table 2, the value of the calculated F-statistic is greater than the upper critical value bounds at 1 % significance level. Thus, the null hypothesis of no long-run relationship between the variables is rejected at 1 % significance level. According to the ARDL bounds test results, there is a quadratic long-run relationship between average tax rate and reel tax revenue. After determining the presence of long-run relationship among the trivariates, the long-run elasticity of average tax rate on reel tax revenue was estimated for the model and the results were given in Table 3.

Table 3. Long-Run Coefficients

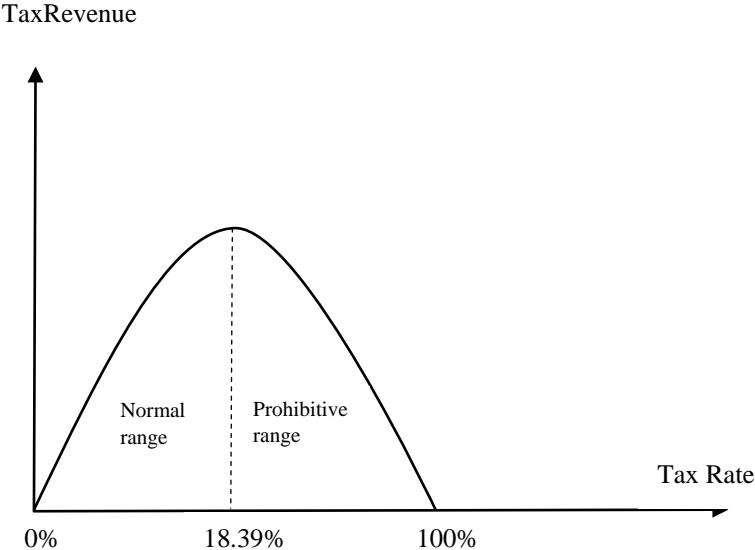
Dependent Variable	ATR	ATR ²	ARDL Model
LRTR	134.585 **	-365.940 **	(1,1,0)

Note: ** denotes significance at the 5% level. The optimum ARDL model order is determined by the information criteria based on Schwarz information criteria (SIC).

As previously mentioned, if the coefficients of ATR and ATR^2 in the estimated regression are found to be positive and negative respectively, it is then said that there exists an inverted U-shaped relationship between average tax rate and tax revenue. As seen from Table 3, the estimated long run coefficient of ATR is 134.585 and is statistically significant at 5% level. In addition, the estimated long run coefficient of ATR^2 is -365.940 and is also statistically significant at 5% level. This means that the relationship between average tax rate and total amount of real tax revenue is the inverted U-shaped curve in Turkey. The tax rate which maximizes tax revenues was found to be 18.39 percent. This finding implies that when the average tax rate starts to increase to 18.39 from zero, tax revenue is starting to increase. After that point (18.39), tax revenue starts to decrease gradually. The actual or effective tax rate, on the other hand, for the year 2017 in Turkey is about 21 percent. When the tax rate maximizing the revenues is compared with the actual tax rates, it appears that Turkey was on the upward-sloping portion of the Laffer curve that refers to

the normal range of the curve for the periods of 1980-1999 and 2007-2009. However, Turkey was on the downward-sloping portion of the Laffer curve, the prohibitive range, for the periods of 2000-2006 and 2010-2017. Basing on the results of the ARDL estimation, the Laffer curve of Turkey was plotted and presented in Figure 1.

Figure 1. The Laffer Curve of Turkey



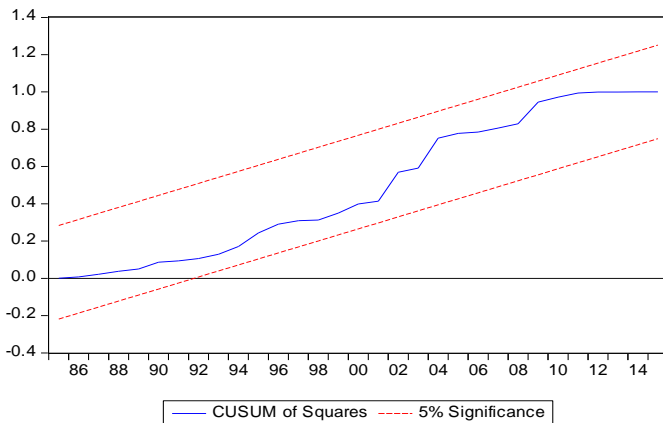
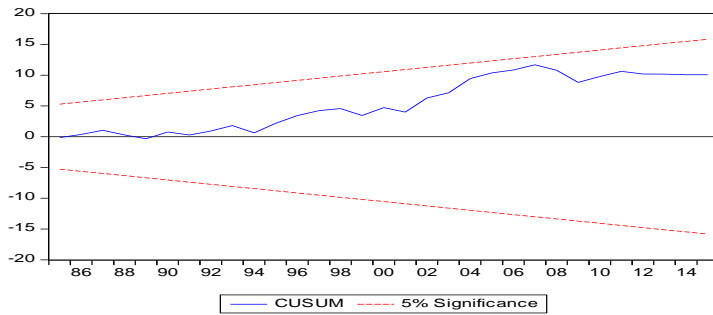
results of diagnostic tests on the residuals for serial correlation, normality, heteroscedasticity and stability

were reported in Table 4. As seen from the table, firstly, there is no autocorrelation problem in the model. In the estimated model, the calculated χ^2 is not greater than the critical value. Therefore, the null hypothesis that indicates non-existence of autocorrelation can not be rejected at any significant level. Secondly, for the ARDL model, heteroscedasticity does not seem to be a diagnostic problem on residuals. Thirdly, the Jarque-Bera test indicates that the residuals in the model are normally distributed. At this point, the model passes the diagnostic tests of the ARDL model in terms of stability. Figure 2 presents CUSUM and CUSUMSQ of the model. As can be seen from Figure 2, the plots of CUSUM and CUSUMSQ statistics stay approximately within the critical bonds of 5% level of significance. Thus, the null hypothesis that all coefficients in the given regression are stable can not be rejected at the 5% level.

Table 4.Diagnostic Test Results of ARDL Model

Dependent Variable	Heteroscedasticity χ^2	Serial Correlation χ^2	Normality JB	Is model stable?
LRTR	0.346	0.097	2.752	Yes

Figure 2. CUSUM and CUSUMQ Test Results



4. Conclusion

In this study, whether there exists a Laffer curve relationship for the long-run in Turkey for the period of 1980-2017 was investigated by using ARDL co-integration approach. According to the ARDL bound test results, there is a strong long-run relationship between average tax rate and total amount of reel tax revenue. After determining the presence of long-run relationship between the variables, the long-run elasticity of average tax rate on reel tax revenue was estimated for the model. As expected, the estimated long run coefficients of average tax rate and square of average tax rate were found to be positive and negative, respectively. These results indicate that the relationship between average tax rate and reel tax revenue is the inverted U-shaped curve. In other words, there exists a Laffer curve relationship for the long-run in Turkey for the period of 1980-2017. In addition, the tax rate which maximizes tax revenues, namely optimal tax rate, was found to be 18.39 percent. This rate implies that when the average tax rate starts to increase to 18.39 from zero, tax revenue will start to

increase. After the rate (18.39), if tax rates go on rising, total amount of tax revenue collected by government will begin to decline.

In order to determine whether the tax policy conducted in Turkey for the period of 1980-2017 is effective in terms of the real tax revenues, the tax rate maximizing tax revenues must be compared to the actual average tax rates. If the actual or effective tax rate is above the maximum level of the inverted U-shaped curve, it is said that the fiscal authority has power to increase the tax revenues by reducing the effective tax rate. According to the results of the ARDL estimation in this study, the tax policy applied in Turkey for the periods of 1980-1999 and 2007-2009 is mostly effective in keeping the average tax rate lower than its optimal level. However, especially for the periods of 2000-2006 and 2010-2017, it is higher than the optimal rate. It was possible to increase tax revenues by lowering the average tax rate. As a result, after 2000's tax policy implemented in Turkey is not effective in increasing the real tax revenues.

REFERENCES

- Altunöz, U.(2017). The Application of the Laffer Curve in the Economy of Turkey.*The Journal of International Social Research*, 50(10), 654-659.
- Bilgin, H. K. (2018). An Empirical Analysis for Laffer Curve: The Case of Turkey.*Academic Review of Humanities and Social Sciences*, 1(2), 84-99.
- Dickey, D.A., Fuller, W.A.(1979). Distribution of the Estimators for Autoregressive Time Series with a Unit Root.*Journal of the American Statistical Association*, 74(366), 427-431.
- Engle, R.F., Granger,C.W.J. (1987). Co-Integration and Error Correction: Representation, Estimation, and Testing.*Econometrica*, 55(2), 251-276.
- Feige, E.L., McGee, R.T.(1983). Sweden's Laffer Curve: Taxation and the Unobserved Economy. *IUI Working Paper*,No. 95.
- Fullerton, D.(1982). On the Possibility of an Inverse Relationship between Tax Rates and Government Revenues..*Journal of Public Economics*, 19, 3-22.

- Heijman, W. J. M., van Ophem, J. A. C.(2005). Willingness to Pay Tax: The Laffer Curve Revisited for 12 OECD Countries. *The Journal of Socio-Economics*, 34, 714-723.
- Hsing, Y.(1996). Estimating the Laffer Curve and Policy Implications. *The Journal of Socio-Economics*, 25(3), 395-401.
- Jayasooriya, S.P.(2017). Macroeconomic Policy: Evidences from Growth Laffer Curve for Sri Lanka. *International Research Conference of the Central Bank of Sri Lanka, IRC-2017*.
- Johansen, S., Juselius, K.(1990). Maximum Likelihood Estimation and Inference on Cointegration with Applications to the Demand for Money. *Oxford Bulletin of Economics and Statistics*, 52(2), 169-210.
- Karas, M.(2012). Tax Rate to Maximize the Revenue: Laffer Curve for the Czech Republic. *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, LX, 20(4), 189-194.

- Khan, I., Mansoor, A.(2016).Is Laffer Curve Alive in Pakistan?. *MDSRC - 2016 Proceedings*, 16-17 November, 2016 Wah/Pakistan,415-423.
- Kurt, M.(2017). Türkiye'nin 2004-2015 Dönemi Vergi Gelirlerine İlişkin Laffer Eğrisi. *Adnan Menderes Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 4(2), 52-68.
- Laffer, A.B.(1981). Government Exactions and Revenue Deficiencies. *Cato Journal*, 1(1), 1-21.
- Laffer, A.B.(2004). The Laffer Curve: Past, Present, and Future. *Executive Summary Backgrounder, The Heritage Foundation*, June 1(1765), 16.
- Nutahara, K.(2015). Laffer Curves in Japan. *Journal of the Japanese and International Economies*, 36, 56–72.
- Pesaran, M.H., Shin, Y.(1999).An Autoregressive Distributed Lag Modelling Approach to Cointegration Analysis.(Ed: S. Strom), *Econometrics and Economic Theory in the 20th Century: the Ragnar Frisch Centennial*

Symposium, Cambridge: Cambridge University Press.

Stuart, C.(1981). Swedish Tax Rates, Labor Supply and Tax Revenues. *Journal of Political Economy*, 89(5), 1020-38.

Trabandt, M., Uhlig, H.(2011). The Laffer Curve Revisited. *Journal of Monetary Economics*,58, 305-327.

Walewski, M.(1999). A Short Play on the Idea of the Laffer Curve in Transition Economies.*CASE-Center for Social and Economic Research, Warsaw 1999, Working Paper*, No: 175.

Yamak, N., Yamak, R.(1995). Türkiye'nin Vergi Türlerine Göre Laffer Eğrisi.*Ekonomik Yaklaşım*, 18-19, 51-65.

Yamak, R.(1996). Türkiye'nin Laffer Eğrisi: Kalman Filtre Tahmin Tekniği.*Ekonomik Yaklaşım*, 7(21), 27-38.

CHAPTER 2:

THE EFFECT OF TERRORIST INCIDENTS ON CAPITAL MARKET

Sümeyye DAŞDELEN*

Sibel ÇELİK**

Yasemin Deniz KOÇ***

* sumeyedasdelen@gmail.com

** Dumlupınar Üniversitesi, Sigortacılık ve Risk Yönetimi Bölümü Öğretim Üyesi,
sibelcelik1@gmail.com

*** Dumlupınar Üniversitesi, Bankacılık ve Finans Bölümü Öğretim
Üyesi, denizkoc12@gmail.com

1. INTRODUCTION

The Stock Certificates are the most risky assets in capital market and give very fast reactions to the economic changes. In this study, the probable positive and negative indicators in a terrorist incident's existence for capital markets were analyzed. Although the ways and the responsible persons might differentiate, the humanity always faced with terrorism in history. The terrorist incidents occurred in every society and period and continued to happen with heavier results compared to the previous experiences. As the completed analyses were reviewed, there can be witnessed many and different definitions of terror and terrorism . Notwithstanding there isn't a clear definition for terror and terrorism, which can be accepted by everyone, it is a steady result that the experiences on terrorist incidents came with many material and nonmaterial losses. Scaring people with terrorism and mobilizing them towards their own aims are the intentional meaning with those incidents. This

situation sells fear and panic among the people and resulted in uncertainty.

Along with the developed technologies, the terrorist also changed their tactical behaviors and strategies and began to plan more harmful incidents that cover more people and spatial items. Hence, the security of human being began to be imperiled in a higher sense. The values on religion and ethnic identities were also begun to be used for propaganda in order to realize some strategic aims.

The concept as struggle against the terror was converted into the struggle against the finance of terror by the course of time. In order to annihilate the terror, first of all, it has become significant that the groups or countries are needed to be stopped. The mass media became more important in an atmosphere where people, now, could be aware of every incident within seconds. How the media launched the experiences is also very significant. The terrorist incidents can sell more panic among the people due to launched news, hence the conscious steps have to

be taken in order to keep and drive forward the sense of solidarity and togetherness within society, and hold off the chaos.

In this study, how the terrorist incidents were reflected on capital market of countries is analyzed via looking at macroeconomic datum. Indeed, the terrorist incidents in literature and experienced with some certain results were investigated, and the effects of those incidents along with their results were sounded, added up with the examination for some specific dates for daily terroristic incidents. Indeed, looking at the studies and the reports as published by Vision of Humanity of the past three years, there isn't found any study that used the terror indexes given to countries. Using another variable as an independent variable in this study will give a great contribution to the literature.

This study is composed by three chapters. In the first chapter the different definitions for terrorism were placed , then the history of terrorism along with its types were tried to be explained. In the meantime, the financial resources

of terrorism and the expenditures of terrorist organizations were placed, and the financial effect of terrorism on economy and financial markets was investigated. In the second chapter, the literature review was placed. The third chapter gave a place for the results obtained from Panel Data Analysis , and those results were interpreted here as well.

2. The effect of Terrorist Incidents on Financial Markets and Economy

The state administrators who want to confront the terrorist incidents spend the material expenditures mostly on defense in this struggle. In order to sustain the reconstitution after the terrorist incidents and heal the effects on society as soon as possible, the material and non-material supports have to be met. When the terrorist incidents are looked at, it is seen that those incidents resulted not only material but also non-material losses having no point of return. (IŞIK, DEMİR, & KILINÇ, TERÖRÜN KAMU HARCAMALARINA ETKİSİ: İSLAM İŞBİRLİĞİ TEŞKİLATI'NA ÜYE ÜLKELER

ÜZERİNE BİR İNCELEME, 2016, s. 47). Especially, the unemployment and terrorism are related with the socio-economic conditions of regions in a very close sense and increase the migration which occurs towards the out of region. Keeping the school building closed for a long time, the precluded position of teachers and students on going schools, the impossibilities for new social or sportive activities to benefit the young generations, which are all occurred because of terrorist incidents, affect the employment, production and education in the region negatively. (DÜCAN, TÜRKİYE'DE İÇ GÖÇÜN SOSYO-EKONOMİK NEDENLERİNİN BÖLGESEL ANALİZİ, 2016, s. 181).

By paying attention on terrorism, today, states, the public view of world, the international companies, the small enterprises and non-governmental organizations are taking precautions for every type of plans and projects in this way and laying a scheme for future. Hence, it can be said that terrorism have many effects on a lot of items, directly or indirectly, and it will also probably continue to

have in the future. (UYTUN, 11 EYLÜL 2001 TERÖR SALDIRISI SONRASI DEĞİŞEN TERÖRİZM ALGISI, 2009, s. 2).

3. Literature Review

Chen and Siems (2004), in their study, investigated the reaction of USA financial market after 14 terror and military incidents by the year 1915 in a methodology about case investigation. The effect on the stock certificates' indexes which have no interest rate was analyzed. As a result of the study, it was observed that only two terrorist incidents had given a reaction among the experienced terrorist incidents in USA capital market. The terrorist incidents which the stock certificated gave a reactions were the bombing incident on Indian Airlines passenger plane in 1985 and September 11th incidents in 2011. They explained the weak position of those responses with the reasons that the USA capital market could heal itself more quickly compared to other global capital markets, and the existence of increasing elasticity of market and relatively stable banking and financial sector.

Abadie and Gardeazabal (2005) inserted 110 countries in International Monetary Fund which existed among 186 countries in WMRC Global Terrorism Index in their study. The foreign direct investments which were published by international risk gradation institution and the datum on gross national product per capita which was taken from World Bank were investigated with regression analysis. The effect of terrorism of foreign direct investments was detected in negative direction.

Çetinkaya (2010) in his study handled the terrorist incidents in 97 different countries belonging to the years which are between 1988 and 2003. The number of deaths and injuries happened because of those incidents were taken from Global Terrorism Databases on yearly basis. Çetinkaya analyzed the economic and political factor on terrorist incidents in this time by making a differentiation from the studies which investigated the effect of terrorist incidents on economy. Doing this analysis, the econometric methods such as Panel Count Poisson and Ordered Probit Estimation were chosen. As a result of

the application, when the rate of per capita income, urbanization and education expenditures on national income were paid attention, it was seen that the experienced increases had decreased the terrorist incidents, and the increases in unemployment had increased the terrorist incidents. Again, as to another obtained result, the increases in military expenditures increased the terrorist incidents in the country.

Gul et al. (2010), estimated the effect of terrorist incidents in the years between 2006 and 2008 on financial markets in Pakistan. The relation between terrorist incidents and Pakistan Karachi Stock Market, FOREX market and Interbank markets were analyzed. Studying with daily datum, the OLS model was used. According to the result of study, it was determined that terrorist incidents affected the financial position in negative sense.

Liargovas (2010) analyzed three experienced major terrorist incidents (September 11th 2001 incidents New York, the bombing incident in March 11th 2004 on Madrid train and the train bombardment in London on 7th July

2005) using 14 Greek commercial banks' daily stock market datum via Case Study Methodology. It was observed that there was no important effect of Madrid terrorist incident on stock certificate. Abnormal increases were witnessed in September 11th incidents. Before 10 days from the terrorist incidents in London, the stock market gave negative but meaningful results, but after the incident a positive effect was witnessed in the stock market.

Ağırman et al. (2014), investigated the effect of terrorism on financial market by handling the years between 2003 and 2011 for 35 different countries. In the study, the Global Terrorism Index from the resource as Vision of Humanity and the yearly average stock market index values which were obtained from World Federation of Exchanges. In the application, the panel data analysis was used. As is seen in the results, there isn't witnessed any causal relation in the attacks which was directed from the stock certificate markets towards the terrorist incidents or the attacks which was directed from terrorist incidents

towards the stock certificate markets. The large number of the countries which were chosen for the study were handled as developed or developing countries. As a result of this, the situation that the stock certificate markets in those countries are sufficiently developed produced the result on their not being affected in long term because of experienced shocks in many aspects.

When we have a general outlook on the literature, the studies in which the effect of terrorist incidents on capital market covered the years as 1915-2016. In the applications in which different study models were used, generally Panel Data Analysis, GARCH Analysis, Granger Causality Analysis and Case Study Methodology. Among the used datum, the variables which were used frequently are the direct and foreign investment, the trading volume, the per capita gross domestic product, the expenditures on export and military. In most of the studies, a negative relation between terrorist incidents and the variables belonging to capital market was found, and it was observed that the terrorism affected the capital market

negatively. Indeed, among the results it can also be seen that this effect had a short-range, and after a short period of time the markets run its own course, as well.

4. The Method of Study and Results

Panel data analysis was used in the study in order to measure the effect of terrorist incidents on capital markets. In the study, original series were used in regression analysis. In the estimation stage of panel data regression, the fixed effect model and random effect model were applied in general. The existence of fixed effects and random effects in errors were analyzed respectively by F_{OLS} and LM tests. The model of the study was given in the 1st Equation

$$\mathbf{HS}_{i,t} = \mathbf{c} + \mathbf{KTE}_{i,t} + \mathbf{GSMH}_{i,t} + \mathbf{TUFE}_{i,t} + \mathbf{CID}_{i,t} + \boldsymbol{\varepsilon}_{i,t}$$

89 different countries of which stock certificate datum were available, being included in global terrorism index has been included in the study. The yearly datum belonging to the years 2014-2016 were used. The stock certificate datum which was the dependent variable was

taken from Investing.com. The first of the independent variables in the study were the index datum which were in Global Terrorism Index reports published by Vision of Humanity. The other independent variables are Gross National Product (GNP), Consumer Price Index (CPI) and Current Account Balance (CAB). Those variables were taken from International Monetary Fund (IMF).The definitions about the variables used in the study were given in the below Table-1.

Table1: Variable in the Study

Variable	Definition
Stock Certificate (SC)	By averaging the index datum of countries' monthly stock certificate, they were converted into the yearly stock certificate datum.
Global Terrorism Index (GTI)	The yearly Global Terrorism Index datum in the reports published by Vision of Humanity were used.
Gross National Product (GNP)	The datum on the basis of US dollar about gross national product with ruling prices were handled.
Consumer Price Index (CPI)	The period-end consumer price index were included.
Current Account Balance (CAB)	It is composed by the rate of current account balance on GDP
Variable	Definition

The statistical datum about the variables were given in Table -2

Table 2: Brief Statistics

	HS	KTE	GSMH	TÜFE	CİD
Average	8255,486	2,6323	824,1876	3,29E+11	0,8398
Median	2978,150	2,1390	215,2960	116,3100	-0,8880
Maximum	163242,5	10,0000	18569,10	3,15e+13	105,9000
Minimum	46,9108	0,0000	5,4920	-5,6510	-28,1350
Standard Deviation	16703,13	2,6100	2292,788	3,10e+12	12,4948
Skewness	5,1219	0,8134	5,8254	9,3362	5,4645
Kurtosis	37,3261	2,7550	40,3650	88,5442	44,23881
JB Statistics	14275,81	30,1121	17042,33	85289,59	20248,44
(p-value)	0,0000	0,0000	0,0000	0,0000	0,0000

Looking at the all statistical values of used variables, the hypothesis of Jargue-Bera as “ H_0 : It shows normal distribution.”, is rejected; the variables have no normal distribution.

The existence of fixed effect is tested by F_{OLS} statistics. The results of F_{OLS} statistics are given in the Table-3. sonuçlarına

Table3:Fixed Effects Model F_{OLS} Test Results

	H_1	H_2	H_3
F-value	28,2062	28,4780	0,1177
p-value	0,0000	0,0000	0,8889

According to results obtained from Table3, the hypothesis as $H_1: \mu = 0, \lambda = 0$ is reject at the significance level as 1%. Looking at the hypotheses as $H_2: \mu = 0, \lambda \neq 0$ and $H_3: \lambda = 0, \mu \neq 0$ the H_2 hypothesis is rejected at the significance level as 1%, and H_3 hypothesis is accepted. The fixed effect is determined in only the dimension of cross section. The existence of random effect in errors is investigated with LM test. The results of LM test is given in Table4.

Table 4:The Random Effects Model- LM Test Results

	H₁	H₂	H₃
χ² value	217,5701	216,2871	1,2830
p-value	0,0000	0,0000	0,2573

Looking at the results given in Table4, the hypothesis as $\mathbf{H}_1: \sigma_{\mu}^2 = \sigma_{\lambda}^2 = \mathbf{0}$ is rejected, and it is seen that a random effect existed at least one dimension. The hypothesis as $\mathbf{H}_2: \sigma_{\mu}^2 = \mathbf{0} | \sigma_{\lambda}^2 > 0$ is rejected at the significance level as 1%. The hypothesis as $\mathbf{H}_3: \sigma_{\lambda}^2 = \mathbf{0} | \sigma_{\mu}^2 > 0$ is accepted. Following these results, the existence of random effect is witnessed in the dimension of cross section, and no random effect is found in time dimension.

It was observed that both the fixed effects and random effects could be used in errors. Hausman test was used in order to find which estimator was more convenient. In a linear model as $\mathbf{y} = \mathbf{bX} + \mathbf{u}$ the dependent variable is represented as y, and x represents the independent variable.

The symbol of error is u . Two different estimators as β_0 and β_1 existed herein. H_0 is coherent in both estimators, and β_1 is efficient. $H_1 = \beta_0$ is coherent but β_1 is not coherent. Making a choice among the fixed effects model and random effects model, β_0 symbolizes the fixed effects estimator and β_1 symbolizes the random effects estimators. If H_0 hypothesis isn't rejected, as both of the estimators are coherent but only the random effects estimator is efficient, the random effects estimator will be used. The hypothesis as H_0 is rejected, in this circumstances as the random effects estimator is incoherent, and the fixed effect estimator is coherent, the fixed effects estimator will be used (ÇELİK, KURUMSAL YÖNETİM UYGULAMALARI VE HİSSE SENEDİ LİKİDİTESİ: BORSA İSTANBUL ÖRNEĞİ, 2014, s. 77). The results are shown in Table 5.

Table5: Hausman Test Results

Chi-square value	2,1814
p-value	0,7024

As a result of Hausman test, the hypothesis as H_0 is accepted. In this circumstances, the using of random effect in the dimension of cross section for the estimation of model is decided. The results of panel data regression model in order to find the effect of terrorist incidents on capital market were shown in Table- 6.

Table6: Panel Data Regression -Estimation Results

Dependent Variable: SC				
Independent Variables	Coefficient	Std. Error	t-statistics	Probability
C	6863,610	2062,737	3,3274	0,0010
KTE	154,5076	411,3366	0,3756	0,7075
GSMH	0,6165	0,7186	0,8579	0,3917
TÜFE	1,34E-09	5,11E-10	2,6283	0,0091
CİD	42,0985	80,9909	0,5197	0,6036
R²	0,0304			
F	2,0604			0,0863

The panel data regression is estimated in the dimension of cross section by the method as random effects. According to the obtained results, the fixed term coefficient is found as 6863,610, and it is statistically meaningful. This result will explain the value to be taken by dependent variable, even if all independent variables take the value as 0 (ÇELİK, KURUMSAL YÖNETİM UYGULAMALARI VE HİSSE SENEDİ LİKİDİTESİ: BORSA İSTANBUL ÖRNEĞİ, 2014, s. 79).

The sign of the GTI variable is positive but not meaningful in statistical sense. This circumstances showed that there is no relation between the experienced terrorist incidents and capital market. Although the expectations are on that the terrorist incidents affected the stock certificate markets negatively, in this study there wasn't found any meaningful effect, and it can be because of the frequency of data used in analysis. The global terrorism index was taken on yearly basis. In literature, the effect of terrorist incidents on financial markets is determined as short-range, and it was seen that this effect disappeared in

long term (LIARGOVAS, 2010). In this study, as the used datum having long term range, the effect between the terrorism and financial markets weren't determined probably. The coefficient of GNP was found positive, as it is in the study of Yaman (2014), but isn't meaningful. Indeed, some other studies which show the negative relation between the gross national product and stock certificate also exist (HORASAN, 2008). There was also found a positive and meaningful relation between CIP and the prices of stock certificates of countries. This obtained result also accords with the previous studies(YILMAZ, GÜNGÖR, & KAYA, 1997; TAÇALI, 2008; CİHANGİR & KANDEMİR, 2010; KUWORNU & OWUSUNANTWI, 2001; AKTAŞ & AKDAĞ, 2013). Investors prevent the savings' losing value against inflation rates by investing on stock certificates in the periods that CIP ratios are increasing. There are also studies in which the relation between stock certificate and CIP was negative.(GENÇTÜRK, 2009). The coefficient of CAB is also positive and statistically meaningless. The value as

R^2 shows the explanatory power of independent variables, which were included in the study, on dependent variable. According to the obtained results, it was seen that the value as R^2 was found 3 % in the model, hence it showed that dependent variables included in the study explained approximately 3 % of stock certificate. The value of F statistics is found as 2,0604 and it is statistically meaningful at the level as 10 %. The situation that the F statistical value was meaningful, and it showed that the model is meaningful in general.

5. Conclusion

The effect of terror and terrorism of which have different definitions given by everyone, today, reached at a level covering many human beings in the world, regions and countries. Against the continuously developing technology, terrorist groups began to improve new methods and tactics for themselves in an attempt to be more harmful for societies, in our time. These hitches of themselves resulted in big complications in countries and international platforms. These leave negative marks on

countries' economies, political structures, and social and cultural spheres, and put leverage on people's psychology with frightening and intimidation. The effect of those hitches on capital markets are handled in literature differentially and investigated, but very few studies were found on this topic.

Stock certificates are risky assets and their prices are important for investors. In the determination of prices, the circumstances in which a country exists with its economic, political, social and cultural condition have equal importance as for the history of companies, the earning rates, the market values. In this study, the effect of terrorist incidents on capital market was tested. 89 different countries of which stock markets are accessible, being in the Global Terrorism Index report published by Vision of Humanity in the years as 2014-2016, were included in the study. The datum as gross national product, consumer price index and current accounts balance were chosen and investigated among the factors which affect the stock certificate.

According to the application results, it was seen that there existed a meaningful effect of consumer price index on stock certificates. The consumer price index became the only macroeconomic variable which affected stock certificate meaningfully, as is seen in the other studies. All variables affected positively the prices of stock certificates. Gross national product and current accounts balance had positive but meaningless effect on stock certificate. The global terrorism index has a positive effect on the prices of stock certificate, but it is meaningless in statistical sense. Following these results, there wasn't found a meaningful relation between the experienced terrorist incidents and the prices of stock certificate. There exists no relation between terrorist incidents and capital markets.

After September 11th, the dimension of terrorism incidents showed its true color once again. Terrorism claim lives without looking at the differences on religion, language, race, culture, social and political structure, and brings some material, non-material, and sometimes,

permanent damages to the societies. In this respect, the precisely preventive interventions about counter terrorism have to be created. Severe sanction on the countries and groups which support terrorism have to be led, and the finance of terrorism has to be hindered.

The education level of societies has to be leveled up, and the differences across the regions have to be disappeared. In the regions in which the terrorist incidents were experienced, the events such as concerts, festivals, trips, etc. have to be organized, and the reintroduction of these regions to society has to be realized. The economic level and employment have to be leveled up, and the unemployment has to be pulled down at minimum levels. The positive increases to be occurred in economic, political, social and cultural areas will sustain the decreases in terrorist incidents. The sense of trust which will be created in his circumstances has to be at a satisfactory level for human beings.

REFERENCES

- Abadie, A., & Gardeazabal, J. Terrorism And The World Economy. *European Economic Review*, 52 (1), 1-40.
- Ađırman, E., Özcan, M., & Yılmaz, Ö. (2014). Terörizmin Finansal Piyasalara Etkisi: Ampirik Çalışma. *Bddk Bankacılık Ve Finansal Piyasalar*, 8 (2), 99-117.
- Aktaş, M., & Akdağ, S. (2013). Türkiye'de Ekonomik Faktörlerin Hisse Senedi Fiyatları ile İlişkilerinin Araştırılması. *International Journal Science Research*, 2 (2), 50-67.
- Chen, H. A., & Siems, F. T. (2004). The Effects Of Terrorism On Global Capital Markets. *European Journal Of Political Economy* (20), 349-366.
- Cihangir, M., & Kandemir, T. (2010). Finansal Kriz Dönemlerinde Hisse Senetleri Getirilerini Etkileyen Makroekonomik Faktörlerin Arbitraj Fiyatlandırma Modeli Aracılığıyla Saptanmasına Yönelik Bir

Çalışma. *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 15 (1), 257-296.

Çelik, S. (2014). Kurumsal Yönetim Uygulamaları ve Hisse Senedi Likiditesi: Borsa İstanbul Örneği. *Bankacılık Dergisi* (90), 68-82.

Çetinkaya, İ. (2010). Ekonomik ve Politik Faktörlerin Uluslararası Terörizm Üzerine Olası Etkileri. *Yüksek Lisans Tezi, Adnan Menderes Üniversitesi, Sosyal Bilimler Enstitüsü*. Aydın.

Dücan, E. (2016). Türkiye'de İç Göçün Sosyo-Ekonomik Nedenlerinin Bölgesel Analizi. *Ekonomik ve Sosyal Araştırmalar Dergisi*, 12 (2), 167-183.

Gençtürk, M. (2009). Finansal Kriz Dönemlerinde Makroekonomik Faktörlerin Hisse Senedi Fiyatlarına Etkisi. *Süleyman Demirel Üniversitesi İktisadi ve İdari Bilimler Fakültesi Dergisi*, 14 (1), 127-136.

- Gul, T., Hussain, A., Bangash, S., & Khattak, S. W. (2010). Impact Of Terrorism On The Financial Markets Of Pakistan. *European Journal Of Social Sciences*, 18 (1), 97-108.
- Horasan, M. (2008). Hisse Senedi Getirileri ve Reel Sektör Performansı Arasındaki İlişkiler. *Doktora Tezi, Atatürk Üniversitesi Sosyal Bilimler Enstitüsü* . Erzurum.
- Işık, N., Demir, F., & Kılınç, E. C. (2016). Terörün Kamu Harcamalarına Etkisi: İslam İşbirliği Teşkilatı'na Üye Ülkeler Üzerine Bir İnceleme. *Mehmet Akif Ersoy Üniversitesi Sosyal Bilimler Enstitüsü Dergisi*, 8 (16), 46-60.
- Kuwornu, J. K., & Owusu-Nantwi, V. (2001). Macroeconomic Variables And Stock Market Returns: Full Information Maximum Likelihood Estimation. *Research Journal Of Finance And Accounting*, 4 (2), 49-64.

Liargovas, P. (2010). The Impact Of Terrorism On Greek Banks' Stoks: An Event Study. *International Research Journal Of Finance And Economics* (51), 88-96.

Taçali, E. D. (2008). Hisse Senedi Getirilerini Etkileyen Ekonomik Faktörlerin Arbitraj Fiyatlama Modeli ile Analizi:Türkiye Örneği. *Yüksek Lisans Tezi, Dokuz Eylül Üniversitesi Sosyal Bilimler Enstitüsü* . İzmir.

Uytun, A. (2009). 11 Eylül 2001 Terör Saldırısı Sonrası Değişen Terörizm Algısı. *Yüksek Lisans Tezi, Ufuk Üniversitesi, Sosyal Bilimler Enstitüsü* , 1-100. Ankara.

Yaman, B. O. (2014). Hisse Senedi Endeks Getirileri Üzerinde Temel Makro Ekonomik Değişkenlerin Etkilerin Ölçülmesi: Bazı Avrupa Birliği Üyesi Ülkeler ile Türkiye Örneği. *Yüksek Lisans Tezi, Gaziosmanpaşa Üniversitesi Sosyal Bilimler Enstitüsü* . Tokat.

Yılmaz, Ö., Güngör, B., & Kaya, V. (1997). Hisse Senedi Fiyatları ve Makro Ekonomik Değişkenler Arasındaki Eşbütünleşme ve Nedensellik. *İstanbul Menkul Kıymetler Borsası Dergisi*, 8 (34), 1-16.

CHAPTER 3:

A CONCISE OVERVIEW ON THE HISTORICAL EVOLUTION OF THE INTERNATIONAL MONETARY SYSTEM

Dr. Şükrü Cicioğlu*

Habibu Djuma**

*Sakarya University, Faculty of Political Sciences,
cicioglu@sakarya.edu.trTel:5305413547

**Sakarya University, Institute of Social Sciences, Department of Public Finance,
habibudjuma@gmail.com

INTRODUCTION

The International monetary system has witnessed huge development over the past few decades. A lively debate on the system (IMS) has both developed in policy and academic circles over the past few years giving rise to a series of persuasive questions. July McKay mentioned (2013) that two broad groups of questions have stood out: Do some features of the current IMS contribute to the build-up of serious economic and financial imbalances that eventually result in disruptive and painful processes of market adjustment? Particularly, did the IMS contribute to the macroeconomic environment that facilitated the “micro” unfolding of the global financial crisis which started in summer 2007? And, if the answer to these questions is “yes”, to what extent are the ongoing initiatives to strengthen the IMS in response to the crisis changing it for the better? Are there reasons to believe that certain IMS-related risks remain unaddressed, which might sow the seeds for the next crisis? If so, what market developments and further policy initiatives and reforms are needed to strengthen the IMS? (Durruci al.2013 p.8).

A rich literature has been generated following the actual state of the current debate on the International monetary system (IMS) exploring some more specific questions. First, whether the characteristics of the current IMS create incentives that promote the build-up of global imbalances, and therefore some implications for global stability; second, whether the persistence of the US dollar as the dominant international currency still

implies an “exorbitant privilege”¹ for the issuing country and/or a Triffin-type dilemma for the international monetary system²; third, whether the nature of an international monetary system based on national reserve currencies should become more multipolar or whether should be complemented by a global supranational reserve currency; fourth, whether increase in global demand for safe debt instruments has put unsustainable pressure on the financial system; and finally, whether the functioning of the international monetary system can be undermined by the excess capital flow volatility and contagion stemming from external shocks (Durruci and McKay,2013 p.9).

The goals imbedded in the above whether-questions are attempting to offer answers that would pave the way for changing the statu quo for international monetary system from its very inception at the Mount Washington Hotel³ to the present floating era. However, the replies to these questions remain very contentious and open in nature, but they are crucial to assessing any desirable policy measure in the face of today’s international monetary system (Ettore al.2013 p.8). In the words of Ettore again (2013 second side p.8) the policy initiatives under discussion are wide-ranging, from

¹ The expressions “exorbitant privilege” and “dollar trap” have been coined to depict the situation in which global investors have been willing to provide financing to the United States through unconstrained accumulation of the US dollar assets, given the scarcity of equally credible alternatives. (See also Borio and Disyatat, 2010)

² As formulated in Triffin (1961) The “Triffin Dilemma” refers to the dilemma that issuer of an international reserve currency may face as if it is required to run repeated and large balance of payments deficits in order to accommodate the global demand for reserves, while on the other hand seeking to preserve confidence in its currency so that it retains its value (which is a key requirement for a reserve currency).

³ The Mount Washington Hotel was the location of the Bretton Woods conference, July 1944. (Courtesy of The International Monetary Fund).

enhanced surveillance to mutual policy assessment, from the introduction of a global financial safety net to the promotion of domestic financial development in emerging market economies, from calls for greater exchange rate flexibility and lower unilateral accumulation of foreign reserves to changes in the international role of the special drawing rights (SDRs) of the international monetary system.

This paper puts forward a possible definition of the international monetary system and assesses the literature and policy debate on the system and its link to global macroeconomic and financial stability from the heyday of the Bretton Woods so far. The paper, in other words, presents a clear, short and more concise overview of the Bretton woods experience. It offers analysis of the performance of the Bretton Woods – as an international monetary system– relative to earlier international monetary regimes as well as the subsequent one. Although it does not unfortunately lean toward addressing some of the questions above, the paper tends either to put forth and unveil in a very simple approach the origins of the system, its problems, operation and demise. Should there be noticed that this paper is not centred on how to improve the international monetary system. The main focus is also on the aspects embedded in the bottle of the Bretton Woods, not financial market reforms which, though crucial, go beyond the scope of this study.

1. Defining the Contours

1. Suggesting Definition of an International Monetary System

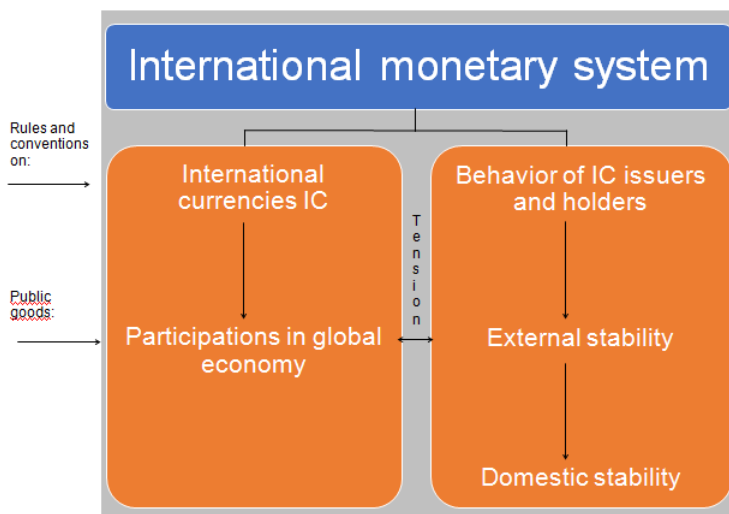
An international monetary system can be defined as (i) the set of conventions, rules and policy instruments as well as (ii) the economic, institutional and political environment which determine the delivery of two fundamental global public goods: an international currency (or currencies) and external stability (Dorrucci and McKay 2011p.9). Dick Cooper (1985) regarded "the international monetary system as the rules and conventions that govern financial relations between countries ... ". According to Cooper (1987) the set of conventions, rules and policy instruments comprises, among other things, the conventions and rules governing the supply of international liquidity and the adjustment of external imbalances; exchange rate and capital flow regimes; global, regional and bilateral surveillance arrangements; and crisis prevention and resolution instruments. Thus the economic, institutional and political environment tend , for example, to encompass a free trade environment; the degree of economic dominance countries have at the centre of the system; the interconnectedness of countries with differing degrees of economic development; some combination of rules versus discretion and of supra-national institutions versus intergovernmental arrangements in the management of the system; and a given mix of cooperation and conflict in the broader political environment arena(Ettore al.2013 p.9).

Regarding the two fundamental public goods, the first – *an international currency* or currencies – allows private and public-sector agents of different countries to interact in international economic and financial activity by using them as a means of payment, a unit of account or a store of value (McKay al.2013 first side p. 9). The second global public good – *external stability* – refers to a global constellation of cross-country real and financial linkages (e.g. current account and asset/liability positions) which is sustainable, i.e. does not, and is not likely to, give rise to disruptive and painful adjustments such as disorderly exchange rate and asset price swings or contractions in real output and employment⁴. Though these two elements meet the definition of global public good because they are – at the global level – non-rivalrous (consumption by one country does not reduce the amount available for consumption by another) and non-excludable (that is, it is not possible to prevent consumption of that good, whether or not the consumer has contributed to it), they still create a free-rider problem (Ettore al.2013 second side p.9). Thus, such a situation leads (Ettore al.2013 same p.) to an under-provision of the good, because there is no incentive to provide it – that is, *the return to the provider is lower than the cost of providing the good*; having the implication that if the international monetary system functions properly, all countries benefit, but if it works badly, all countries are likely to suffer.

⁴ Ettore Durruci and Julie Mackay (2013), the notion of external stability is identified by the IMF as the core objective of surveillance in its 2007 Decision on Bilateral Surveillance over Members' Policies (IMF (2007b)).

The international monetary system provides the two public goods in an intertwined form, as illustrated in Table1. In the words of Ettore (2013, p.9) the currency of a country or monetary union gains international status only if foreigners are willing to hold assets denominated in this currency, which requires the delivery of the second public good with respect to that currency: external stability. Market participants will accept to hold one or more international currencies only to the extent that they believe that the “core issuers” are pursuing policies that will ensure they can always repay their debts (Ettore al.2013 same p.)

Table1. Stylizing the International Monetary System



Source: ECB Staff(Durrucci al.2011 p.9)

This circularity may provoke tension under certain situations.It may even entail a conflict or dilemma between the status of international currency and external

stability as it is illustrated in chart I (McKay al.2013 p.10).

From *a monetary perspective*, the main source of liquidity to the global economy is the increase in the gross claims denominated in international currencies. However, excessive global liquidity may erode confidence in one or more international currencies if associated with unsound policies in the economies that issue those currencies (Ettore al.2011 right side p.10). This calls to mind the long-standing “Triffin dilemma”, although its dynamics look very different today from those in the Bretton Woods times (Triffin 1961 chap.6).

From *a balance-of-payments perspective*, the same circularity may imply a tension between deficit “financing” and “adjustment”: the success of any IMS ultimately depends on the willingness of foreign investors *to finance* the core issuers, but also on the readiness of borrowers (i.e. issuers) *to adjust* possible imbalances of any nature if and when they become unsustainable (Durrucci and McKay 2011 p.11). Presumably this readiness presupposes in turn two complementary elements. First, any adjustment has to be *symmetric* for the system to work properly; hence the readiness of the currency issuer to adjust must be matched by the readiness of its creditor countries to adjust; and second, given that external imbalances are the mirror image of domestic imbalances, external adjustment requires – sometimes painful – domestic adjustments (Smaghi 2008). There is no single possible way to address the likelihood of the tension between the

two public goods⁵ – though inevitable-, and many different forms of IMS have indeed existed over time. While some emphasized on adjustment and restricted the availability of international money, others have made it easier to create international liquidity and finance possible imbalances, reducing thereby the need for adjustment, though this can put external stability at risk if the imbalances become too large⁶.

2. Chronological Steps of the International Monetary System

2.1. The International Monetary System before the First World War

The prevailing system before the First World War was the international gold standard. Henrique(1999 p.2) Gold constituted the international reserve asset and its value was fixed by the declared par value that countries specified. The gold standard as an international monetary system helped contribute to relatively free trade and payments. Drummond (1987 p.11) In gold-standard countries there were many sorts of money bank notes, government paper currency, gold coin, other metallic coins and deposits in the banking system, the array and the mix varying from one nation to another. The volume of gold coin was considerable: in 1913, the circulation of gold coin in Europe, the Americas, the British Empire and Japan was estimated to be 4,100 million American dollars, while the gold reserves in the same territories

⁵ The notion that International currency (currencies) and external stability are the two-fundamental global public goods is of the making of Ettore Durruci and Julie McKay (see their Occasional Paper No.23 of February 2011 at the ECB).

⁶ In the literature on the IMS, Eichengreen (1987) and Camdessus (1999) among many others, have used a similar notion of “public good”.

summed to \$4,900 million(Drummond 1987 p.11-16). The system could and did co-exist with major international financial crises, such as that of 1907; gold-standard countries, however, did not always find it easy or painless to remain 'on gold': some Latin American states were 'off' as often as they were 'on', and even the mighty Russian Empire, struggling with war and revolution in 1904-5, clung to the gold standard only by the skin of its teeth (Drummond 1987 p.11-16). In words of Drummond again (1987) The gold-standard system did not automatically produce balance of payments equilibrium, or any other sort of happy economic result, such as the absence of uncomfortable fluctuations in prices, profits or employment. Indeed, some countries were chronically in current-account surplus, while others chronically ran deficits: that is to say, their receipts from the exports of goods and services chronically fell short of their earnings from the same sources (Drummond, 1987 p.14). The most influential formalization of the gold-standard mechanism is *the pricespecie flow model* of David Hume⁷ (Eichengreen, 2008 p.24). Perhaps the most remarkable feature of this model is its durability: developed in the eighteenth century, it remains the dominant approach to thinking about the gold standard today (Eichengreen, 2008 p.24).

⁷ See Hume 1752

2.2 International Monetary system between the First and the Second World War

The prewar gold standard was backed up by a particular set of economic and political situations specific to that time and place. In the words of Eichengreen (2008 chap.3) Interwar experience makes the same point by counterexample. Sterling, which had provided a focal point for the harmonization of policies, no longer enjoyed a favored position in the world economy (Eichengreen, 2008 p.43-44). In the period imposed by the gold standard, the stability of the exchange between the major shines is preserved, although the stability of the rates was abandoned when needed; price stability and other national objectives were carried out⁸ (Akdiş, 2011 p.40). At the beginning of the First World War in July 1914, the balance of the forces in Europe was shaken, and at the end of successive financial crises, countries that adopted the international gold standard, especially Britain, were gradually damaged (Akdiş, 2011 p.41). The interwar gold standard, resurrected in the second half of the 1920s, consequently shared few of the merits of its pre-war predecessor (Eichengreen, 2008 p.44). With labour and commodity markets lacking their traditional flexibility, the new system could not easily accommodate shocks and governments lacking insulation from pressure to stimulate growth and employment, the new regime lacked credibility (Eichengreen, 2008 p.44). As the system was disturbed, financial capital that had once flowed in stabilizing directions took flight, transforming a limited disturbance into an economic and political crisis (Eichengreen, 2008 p.44). In fact, the 1929 downturn that

⁸ See Richard Copper N.1987 p.59

became the Great Depression reflected just such a process; meaning ultimately that, the casualties included the gold standard itself (Eichengreen, 2008 p.44). However, three issues dominated the perception of the interwar experience: the flaws of the gold exchange standard; the case against floating exchange rates; and bilateralism (D. Borno, 1993 p.31).

2.3 The international Monetary System after the Second World War

2.3.1. Dexter White and Maynard Keynes's Plans

2.3.1.1. Henry Dexter White and the Bretton Woods

White looked beyond the terrible tides of the war, seeing only the economic challenges that lay beyond them that he set out “three inescapable problems” that the United States would face in the immediate postwar world (Steil, 2013 26% of reading). First, to prevent the disruption of foreign exchanges and the collapse of monetary and credit systems; second, to assure the restoration of foreign trade; and third, to supply the huge volume of capital that will be needed virtually throughout the world for reconstruction, for relief, and for economic recovery (Steil, 2013 26% of reading). He urged no delay in developing and implementing plans “for the creation of agencies with resources, powers and structure adequate to meet the three major post-war needs” (White Archive, 1942). In Steil’s words, White laid out a blueprint for two new agencies to carry out his plan: a “United and Associated Nations Stabilization Fund”

- The main stated purpose of White’s Stabilization Fund would be to reduce, dramatically and perpetually, barriers

to international trade and the associated capital flows □ and a “Bank for Reconstruction and Development of the United and Associated Nations.” Although White expected his bank to play an important role in lending capital and guaranteeing private loans for the reconstruction of countries significantly damaged by the war (loan guarantees being a New Deal practice to hold down interest rates), the fund emerged as clearly the more geopolitically significant of the two proposed institutions(Steil, 2013 p.135-55). The main stated purpose of White’s Stabilization Fund would be to reduce, dramatically and perpetually, barriers to international trade and the associated capital flows. The most important of White’s aims, however—the one that would obsess him in the coming years—was very deliberately left border gold movements would no longer have the power to dictate changes in U.S. monetary policy(Steil, 2013). White’s assessment of gold’s role in the international monetary system was vastly more favorable than Keynes’s. In White’s words, gold is the best medium of international exchange yet devised. Gold’s superiority over any other means of settling balances ... rests on the common experience of nations which has revealed time and again in many quarters of the globe that a country with adequate gold can engage more freely and effectively in international trade and finance than a country with little or none (White Archives Aug. 4, 1942).White would have expected the modern system of fiat monies, revolving like small planets around a globally dominant fiat dollar, to be volatile and politically contentious (Steil, 2013 p.135-55). In White’s words, there may possibly come a time when gold will no longer retain its superiority over other

devices, but that can be only when national monetary systems and national monetary policies cease to exist and are replaced by an international authority which will decide the monetary, credit and trade policy that each nation is to pursue. A sort of monetary League of Nations which would control world economic policy.

His conclusion was that, a stabilization fund was a convenient instrument to countries which, while not wishing to resort to the drastic insulation of the domestic economy involved in exchange controls, nevertheless desire not to be deflected from the pursuit of given domestic economic objectives by changes in its international balances, which immediately reflect foreign disturbances and developments (White Archives (updated)).

Table 2. Characteristics of the Scheme of White's Stabilization Fund

Nature of Fund	Member governments duties	Critics
<p>The fund would operate under detailed and complex rules that would allow member governments to buy from its other members' currencies, provided such demand was limited, adequately collateralized by gold and other currencies, and needed strictly to meet legitimate, trade-related balance-of-payments difficulties—that is, not just to add to their stock of gold and stronger currencies.</p>	<p>In return for these privileges, the member governments would pledge to abandon, within one year after joining the fund:</p> <p>all restrictions on foreign exchange transactions with other member countries; not to alter exchange rates without the fund's consent; not to engage in discriminatory bilateral clearing or exchange rate arrangements with other members; and gradually but continually to reduce import tariffs and other trade barriers. (The fund would be empowered only to opine on trade barriers, however, and would not have sanction powers.)</p>	<p>Critically, members would not be permitted "to adopt any monetary or general price measure or policy, the effect of which, in the opinion of a majority of member votes, would be to bring about sooner or later a serious disequilibrium in the balance of payments, if four-fifths of the member votes of the Fund submitted to the country in question their disapproval of the adoption of the measure."</p>

Source: Benn Steil, 2013
from 28-35% reading.

White Archives,
March 1942

2.3.1.2 John Maynard Keynes and The Bretton Woods

Providentially, Maynard Keynes, entirely on his own initiative, had begun germinating his own ideas for a new international monetary system in August 1941, just a few months before White began formally developing his. The façades of the two schemes would emerge looking remarkably similar. But the structural supports suggested very different engineering concepts, reflecting clashing (conflicting) national interests. Keynes had been thinking about how to fix the international monetary system for over twenty years. He had analyzed it intensively in his 1923 *Tract on Monetary Reform*, and even proposed a world bank to create a supranational money, whose function would be to help countries manage temporary balance-of-payments problems without deflation, in his 1930 *Treatise on Money*. But the shock of the American Article VII bombshell prodded him to begin crafting a detailed blueprint for a new global system—one that would offer Britain a measure of protection against American monetary and trade diktat (Steil, 2013 p.135-55).

2.3.1.2.1. Characteristics of Keynes' plan

The basic mechanics of what became known as the “Keynes Plan” were more complex, and certainly more ambitious, than those of the White Plan. First, International transactions would be settled through a new International Clearing Bank (ICB). Neither the national central banks nor the ICB would actually hold foreign currency. Second, the national central banks would buy and sell their own currencies among themselves by

means of credits and debits, denominated in newly created “bank money,” to their ICB “clearing accounts.” Keynes would later call this bank money *bancor* (literally “bank gold” in French). Third, Bancor was to have a fixed exchange rate with all members’ currencies and gold. Fourth, in addition to acquiring bancor through trade, national central banks could add bancor credits to their clearing account by paying in gold. But they would not be allowed to redeem bancor for gold; bancor could only be used for transfers into other national central bank clearing accounts (Steil, 2013 p.135-55).

Keynes’s central idea was that the ICB should be a tool for encouraging the growth of money in circulation globally, and for putting up barriers against monetary contraction. Each item a member country exported would add bancors to its ICB account, and each item it imported would subtract bancors (Steil, 2013 p.135-55). Limits would be imposed on the amount of bancor a country could accumulate by selling more abroad than it bought, and on the amount of bancor debt it could rack up by buying more than it sold. This was to stop countries from building up excessive surpluses or deficits (Steil p.135-155). The creation of a new international currency, **bancor**, was clearly the boldest proposal (Akdaşı, 2011 p.46). Keynes believed it would solve many of the problems that afflicted Britain and the global economy in the 1920s and ’30s (Steil, 2013 p.28-38% of reading).

Table 3: Keynes’s step-shaping arguments of the bancor

Arguments	Convergent views- Keynes and White
<p>1. Bancor would have international acceptability, and therefore render unnecessary major irritants such as blocked balances (inconvertible holdings of foreign currency) and bilateral clearing agreements (import discrimination to balance trade between pairs of countries).</p>	<p>Like White, Keynes wanted a system that would support liberalized trade while keeping global payments imbalances from emerging—and, when they did emerge, allow them to be corrected with minimal economic pain(author’s)</p>
<p>2. Bancor would facilitate an orderly mechanism for controlling the relative exchange values of different national currencies, and therefore dissuade countries from undertaking beggar-thy-neighbor competitive devaluations.</p>	<p>Like White, Keynes insisted on a system that left vastly more autonomy and discretion to national economic policy makers(author’s).</p>
<p>3. Bancor would be a much less capricious global money than gold. The monetary gold supply was determined by unhelpful factors such as changes in mining technology and the vagaries of national gold reserve policies, whereas bancor supply would be governed by the actual needs of global commerce as well as technocratic decisions to expand or contract it to offset deflationary or inflationary tendencies in effective global demand.</p>	<p>Like White, Keynes chose to treat the problem of re-creating and sustaining a multilateral trading system, and eliminating discriminatory and trade-depressing bilateral agreements, as a currency problem, rather than a trade problem, which had the advantage of being of necessity technical and abstract, and therefore less likely to trigger parliamentary or congressional apoplexy.</p>
<p>4. Creditors as well as debtors would be pressured to take corrective action to reduce imbalances. The mechanism of fining creditors was one of the many novel features of the plan, the idea being to encourage surplus countries to import more so as reduce their bancor balance—it was a matter of “use it or lose it.”</p>	<p>The view that creditor nations, rather than debtor nations, could be primarily culpable for imbalances was a radical position in White and Keynes’s day.</p>

<p>5. The creation of <i>bancor</i> provided a mechanism for starting each country off after the war with a stock of reserves appropriate to its contribution to world commerce, without which many countries would be unwilling to liberalize policy for fear of imminent payments crisis.</p>	
<p>6. The creation of the institution of the ICB would take the destructive politics out of “the planning and regulation of the world’s economic life.</p>	

Sources: (Benn Steil, 2013 26% of reading),

Both Keynes and White’s plans involved the building of a new international currency. *Keynes’s bancor*⁹ was intended to become more important over time, contributing to both the demonetization of gold and a lesser global dependence on the dollar (Benn Steil, 2013 p.135-55). White, in contrast, proposed “*unitas*,” (Akdiş, 2011 p.46). White’s proposed “*unitas*” was intended to appeal to those attracted to the idea of an international currency, even though it would actually make the world more, rather than less, dollar-centric (Steil, 2013 p.135-55). White wanted to make the U.S. dollar, and only the U.S. dollar, synonymous with gold, which would give the U.S. government a virtual free hand to set interest rates and other monetary

⁹Gold could be paid into the ICU and would serve as reserves, but *bancor* could not be redeemed in gold. Gold could also be used in settlements between members (See Micheal D.Bordo, 1993).

conditions at will—not just for the United States, but for the world (Steil, 2013 p.40-44%reading). Keynes disapproved of gold and dollar’s influence onto the world that he remained consistent with his idea of creating a new supranational currency regardless of the fact that this issuance¹⁰ would or not follow some of the principles in strong consistency with expansionist policy. (Steil, 2013 p.135-55) Keynes was repelled by the notion of any sort of renewed gold standard labeling it the “barbarous relic.” He argued, for example, that under the gold standard the process of adjustment is *compulsory* for the debtor and *voluntary* for the creditor.... For whilst a country’s reserve cannot fall below zero, there is no ceiling which sets an upper limit (Keynes (1980) XXV, Aug. 8, 1941, p. 28.). Keynes was harshly critical about White’s “**unitas**” that he observed that “**unitas**” seems to serve no purpose, but its purpose was precisely to neutralize calls for a real international currency (Keynes (1980) XXV, Apr. 16, 1943, p. 246). Nevertheless, Keynes’s plan, like White’s, left countries free to choose their own monetary standard, but Keynes could not resist remarking that he saw no sense in countries maintaining two-way convertibility between their currencies and gold (Steil, 2013).

¹⁰Gardner (1969, chaps.5-7) and Van Dormael (1979) offered excellent discussions of the negotiations.

Table4: Common Considerations and contradictory views between Keynes and White

Nature of the plan	However,	Whereas
Both plans aimed at stability in exchange rates	Keynes’s plan set up a mechanistic approach for determining when and by how much a member state could, or would have to, devalue or revalue	White’s plan was less accommodative of exchange rate changes, requiring member states to secure fund approval for any change in its parities
Both plans envisioned a reduction in foreign exchange restrictions and controls	Keynes’s plan left the method and degree of such controls to the discretion of each member state	White’s plan committed members to eliminating them within a year of the fund’s creation.
Both plans reflected the view that capital flows could be destabilizing and could undermine the ability of governments to enforce their domestic taxation regimes	Keynes’s plan left the method and degree of capital flow control to each member state, and he had no doubt that Britain would impose such controls	White’s plan went even further, requiring member states to cooperate with each other by not accepting foreign deposits or investments without the permission of the sender’s government.
Both plans contained measures to keep members’ balance of payments in line	Keynes’s plan provided for penalties when deficit or surplus positions became excessive, but only allowed the ICB Board to recommend, and not dictate, curative measures.	White’s plan was more intrusive, allowing the fund to bar monetary or price policies that it deemed likely to encourage imbalances.
Both plans aimed unambiguously at establishing robust multilateral clearing arrangements, so that countries would forswear discriminatory, trade-depressing, bilateral barter practices	Keynes’s plan more directly encouraged “triangular trade” (that is, trade among three, or more, partners), as the borrowing country would borrow not from a particular nation but from all creditor nations as a whole. (White Archives September3,1942)	White’s in contrast, treated exemptions to multilateral clearing as matters that would require fund scrutiny and approval.

<p>Both plans also aimed at constraining the growth of such deficits</p>	<p>But Keynes's plan differed from White's in also imposing constraints on growing surplus positions.</p>	<p>White, given America's position as the dominant international creditor, was, not surprisingly, much less concerned with constraining surpluses. His plan would have allowed the fund to go to a country to change a policy that promoted excessive surpluses, as well as deficits, but it also gave the United States the voting power to block such actions.</p>
<p>Both plans were concerned with the immediate postwar challenges of rebalancing the global economy as well as stabilizing it thereafter</p>	<p>Keynes readily embraced the idea</p>	<p>Only White's plan included a scheme for allowed (most sterling) balances to be sold to fund and eliminated over time.</p>
<p>Both plans involved precautions against their respective central institutions generating losses, which their members would have to cover</p>	<p>Keynes's plan, however, allowed countries far greater borrowing power. This was consistent with Keynes's conviction that unemployment and insufficient demand were the root cause of global imbalances, and needed to be countered by easy credit terms. But his plan put the United States, as the world's dominant creditor, at much greater risk of loss.</p>	
<p>Both plans aimed at broad membership</p>	<p>However, Keynes's plan limited membership to countries conforming to certain general principles and standards of international economic conduct</p>	<p>White's plan explicitly forswore membership restrictions based on the particular economic structure of a country.</p>

Both plans envisioned the voting power of members being heavily weighted in favor of the more economically powerful states	whereas Keynes proposed that they be allocated in accordance with past contribution to world trade volume; his plan involved no subscription of capital.	White, however, proposed that quotas and voting power be allocated in accordance with the amount of cash, gold, and securities a member subscribed to the fund.
Both plans envisioned their new central institution operating in close cooperation with national governments. Finally, both plans envisioned a reduction of tariffs and trade barriers.	White's plan went much further in requiring specific commitments from member states	Keynes suggested only that members forswear adopting certain particularly egregious barriers or discriminatory policies

Source: (Steil, 1993 from 10-38% reading)

Should there be mentioned that under White's plan¹¹, the determination of how gold would or would not fit into member states' own national monetary standards would be reliant upon their free choice. In Benn Steil's words, White's only concern in this regard was to ensure that the paucity of monetary gold held outside the United States did not operate as an undue drag on the ability of the United States to export. Under Keynes's plan, however, the Currency Union would hold no gold except that which members chose to sell to it for bancor (Steil, 2013). Bancor would not be redeemable for gold, however, but only for the currencies of countries with debit balances (Steil, 2013).

¹⁰White proposed that the contribution of each country would consist of (1) 25 up-front in cash, at least half of which in the form of gold, (2) 25 up-front in interest-bearing government securities, and (3) 50 percent via subsequent instalments in a form to be determined by the fund (see Steil Benn, The Battle of Bretton Woods and the making of a new World order, foot note 63, 2013).

2.3.2. Origins of the Bretton Woods

The idea and planning that paved the way for the creation of a new world monetary order at Bretton Woods was dependent upon the belief that drawbacks issued by the mistakes of the interwar time were to be avoided. These mistakes included, first, wildly fluctuating exchange rates after World War I and the collapse of the short-lived gold exchange standard; thereafter, the international transmission of deflation and the resort to beggar-thy-neighbor devaluations; and, finally, trade and exchange restrictions and bilateralism (Bordo, 1993 p.28). In the words of Bordo again (1993), the goal was the negotiation of an international monetary constitution based on stable exchange rates, national full employment policies, and cooperation. As for unemployment in fact-the opposite of national full employment- Keynes had a very critical look. Keynes saw deflation and unemployment as wholly unnecessary evils that were perpetuated by human attachment to outworn or patently false economic doctrines (Keynes, 1924).

2.3.2.1. The Bretton Woods system (1944-1973)

The architects of the Bretton Woods system wanted a set of monetary arrangements that would combine the advantage of the classical gold standard with the advantage of floating rates. The first labelled as (Bordo, 1993) exchange rate stability and the other independence to pursue national full employment policies. The Bretton Woods system was a formal international monetary system based on very transparent and predictable rules as well as on a US dollar that was “as good as gold”. The system’s key feature was that currencies were pegged to the US dollar and the US dollar in turn represented a fixed amount of gold (Durrucci and McKay 2011). According to Michael B. Bordo adherents to the architecting effort of a new system sought to avoid the defects of floating rates i.e. destabilizing speculation and competitive beggar-thy-

neighbour devaluations and the defects of the fixed exchange rate gold standard i.e. subordination of national monetary policies to the dictates of external balance and subjection of the economy to the international transmission of the business cycle (1993). As a consequence, an adjustable peg system of fixed parities that could only be changed in the event of a fundamental disequilibrium was set up. The restriction to the supply of international liquidity, defined at that time as gold and reserve currencies, was closely connected to the link to gold. And external imbalances exactly adjusted because of this feature. Hence, an important feature was that adjustments took place through changes in quantities, namely a correction in domestic demand in both deficit and surplus countries. Adjustments through prices, i.e. exchange rate realignments, while possible, rarely happened (E.Durruci al.2011) (Bordo 1993). The architects derived their views of an ideal international monetary arrangement from their perception of the performance of the pre-World War I classical gold standard and of the sequence of floating rates and gold exchange standard that characterized the interwar period. The Bretton Woods period (1946-70) is divided into two subperiods: the pre-convertible phase (1946-58) and the convertible phase (1959-70)¹². The perennial debate over fixed versus flexible exchange rate induced by this comparison raises some theoretical issues. According to the traditional view, adherence to a (commodity-based) fixed exchange rate regime, such as the gold standard, ensured long-run price stability for the world as a whole because the fixed price of gold provided a nominal anchor to the world money supply (Michael 1993). Individual countries pegging their currencies to gold, had to fix their price levels to that of the world. The disadvantage of fixed rates is that individual nations were

¹² Michael has also examined the period 1946-73, which includes the three years of transition from the Bretton Woods adjustable peg to the present floating regime.

exposed to both monetary and real shocks transmitted from the rest of the world via the balance of payments and other channels of transmission (Bordo. and Schwartz 1989). Also, the common world price level under the gold standard exhibited secular periods of deflation and inflation reflecting shocks to the demand for and supply of gold (Bordo 1981; Rockoff, 1984).

However, the use of the exchange rate as a channel of adjustment was always a temptation. The system, faced with large shocks, offered a potentially more acceptable option than lengthy and costly internal adjustment. The end of the 1960s witnessed the largest of all shocks induced by the Vietnam War, which eventually led to the collapse of the system. The financing of the Vietnam War was associated with expansionary policies in the United States that in turn resulted in high inflationary pressures. In McKay's words, In the course of the 1960s, US dollar denominated reserve assets lost 40% of their purchasing power and it resulted from this fact that the creditors to the United States, mainly Germany and Japan, became increasingly reluctant to finance the war by accumulating reserves denominated in US dollars.

Eventually, the Bretton Woods system collapsed, in consequence, as the core country was no longer sufficiently committed to abiding by the rules of maintaining the value of the US dollar in terms of gold. Should there be remarked, however, that the composition and the magnitude of the US balance of payments imbalance was not intrinsically problematic. Hence, the early 1950s and the late 1970s witnessed the US current account remaining in healthy surplus. Rather, the imbalance consisted mainly of large long-term capital outflows from the United States, especially foreign direct investment by US multinationals, as the US acted as the "banker of the world" (McKay al.2011 p.15). It imported short-term capital in the form of bank deposits and Treasury bills and bonds, and exported longer-term capital.

The resultant accumulation of net long-term foreign assets by the United States reassured foreign investors, and hence the system did not collapse because of excessive US indebtedness (E.Durrucci al. 2011 p.15). Nevertheless, the Bretton Woods regime cannot be characterized as a fixed exchange rate regime throughout its history: the preconvertibility period was close to the adjustable peg envisioned by its architects; the convertible period was close to a de facto fixed dollar standard (Bordo, 1993 p.6). Though, a well-designed monetary rule could avoid the long-run swings that characterized the price level under the gold standard (Cagan 1984).

2.3.2.2. The post-Bretton Woods phase (1973-1998): the “Flexible system”

The collapse of the Bretton Woods system paved the way for an informal, a market-led G3 system, centred on three floating currencies, the US dollar, the Japanese yen and the Deutsche Mark. (Durruci al.2011 p.15) There was another new ingredient to it: a gradual liberalization of cross-border capital movements due to the growing recognition of markets’ positive role in the international allocation of savings. Owing to the floating currencies and freer movement of capital, it was expected that the financing and adjustment of external imbalances between the United States, Japan and Germany would happen quasi-automatically (Durruci al.2011 p.15). Hence, the forcing need to adopt adjustment measures by policy-makers was expected to exert through the necessary discipline induced by market forces on economies. (Bordo 1993 p.20-9) The advantage of floating exchange rates is to provide insulation from foreign shocks and; the disadvantage is the absence of the discipline of the fixed exchange rate rule leading to the possibility by monetary authorities to follow inflationary policies.

The expansion in recent years of the theoretical developments, however, have complicated the simple distinction between fixed and floating rates. In the presence of capital mobility- mentioned before- currency substitution, policy reactions, and policy interdependence, floating rates no longer necessarily provide insulation from either real or monetary shocks (Bordo and Schwartz 1989). According to recent real business cycle approaches, moreover, there may be no relation between the international monetary regime and the transmission of real shocks (Baxter and Stockman 1989). In fact an important caveat is that some theoretical literature do not offer clear examples of fixed and floating regimes. The comparison between regimes may shed light on these issues. Hence, the interwar period is composed of three regimes: general floating from 1919 to 1925, the gold exchange standard from 1926 to 1931, and a managed float to 1939 (Bordo, 1993 p.4-5).

Finally, with the benefit of hindsight, it can be cautiously said that the system worked to a certain extent. Though its basic features – free-floating currencies and free capital flows □ are still put in use today, the system did not always function smoothly. Although (Bordo 1993 p.26-30) the period since 1973 has been characterized as a floating exchange rate regime, at various times it has experienced varying degrees of management. There were several major episodes of excessive volatility among the three major currencies– and even episodes when these currencies were clearly misaligned, which prompted unilateral and/or concerted central bank intervention in the 1980s and 1990s(McKay al.2011 p. 16). Moreover, it became apparent that exchange rate adjustment, while necessary, did not by itself lead to the complete adjustment of global imbalances (McKay al.2011 p.16).

It should be emphasized that the flexibility of this system was simply at its centre inferring between the “G3” currencies and a few other advanced economies. Small open economies, advanced and emerging alike, at its circumference, often needed a strong nominal anchor. (Durruci al.2011) They opted for more or less heavily managed exchange rates vis-à-vis the US dollar or, in Europe, the Deutsche Mark. However, this very often produced (temporary) periods of calm interspersed by (sometimes severe) disruptions, as the many currency crises experienced in the 1980s and 1990s, notably in emerging market economies, confirm (Durruci al.2011 p.16-17).

3. Comparing the Current International Monetary System with the Past Systems

The current International monetary system was shaped by events prior to the years following the Asian crisis (1997-98) and the advent of the euro (1999). From the two previous systems, the Bretton Woods system of fixed exchange rates and the subsequent system centred on three major floating currencies such as the US dollar, Japanese yen and Deutsche Mark, the actual international monetary system can be seen as an evolution. The start of the international monetary system was marked by two major developments. Unlike in the previous phase, the first development was the materialisation of a revitalised US dollar area, encompassing the United States and a new group of key creditors which had become systemically important: namely, certain economies in emerging East Asia – especially China – and the Gulf oil exporters (McKay al.2011 p.11). Dooley, Folkerts-Landau and Garber (2003) labelled this arrangement the “revived Bretton Woods” or “Bretton Woods II”. In turn, the current IMS can be referred to as the “mixed” system as long as it highlights the assortment of floating and fixed currency regimes of its core actors. The second development was (E. Durrucci and J.

McKay 2011 p.11-2) the advent of a major monetary union with a new globally important floating currency, the euro, which – despite some weaknesses inherent in its status as a “currency without a state” – has rapidly become a credible alternative to the US dollar, though without undermining its central role in the international monetary system.

A core feature of the mixed system is that, in contrast to the Bretton Woods system, there are *no longer any rule-based restrictions* (e.g. a link to gold) *on the supply of international liquidity* (E. Durrucci and J. McKay 2011left sidep.11). Should there be noted that under the current IMS the supply of international liquidity, as predicted by the Triffin dilemma¹³, does not necessarily require the accumulation of current account imbalances. For instance, until 2006-07 the supply of US dollars was associated with US current account deficits that were high and rising. Owing to global financial markets, however, reserve-issuing countries should be able to provide the rest of the world with safe and liquid assets while investing in less liquid and longer-term assets abroad for similar amounts (E. Durrucci and J. McKay 2011right sidep.11). (*Mateosy Lago, Duttagupta and Goyal (2009)*) This would result in maturity transformation in the financial account of the balance of payments while maintaining a balanced current account or, at any rate, a sustainable current account deficit/surplus. There is also a possibility of gauging, considering *gross* in addition to *net* assets and liabilities, the importance of other actors in the current international monetary system such as the financially mature advanced economies, which are engaged in large-scale cross-border intermediation activity regardless of the sign of their net capital flows, i.e. their current account (Borio and Disyatat

¹³ The Triffin Dilemma arises anytime increasing demand for a reserve asset strains the ability of the issuer to supply sufficient amounts while still credibility guaranteeing or stabilizing the asset's value in terms of an acceptable numeraire. See Professor Robert Triffin November 1960

2010). This aspect is very important and often overlooked as external stability depends on the sustainability of both the current account (i.e. the savings/investment positions) and gross capital flow patterns together with the underlying asset/liability positions (see Broner, Didier and al. (2010)) for a curious deep analysis of the importance of gross flows from the 1970s until the present.

The stability of the IMS is more than ever today closely related to the stability of the international financial system through this tie; that many prefer to talk about an international monetary and financial system, given the fact that it is difficult to disentangle the two elements. If under the current international monetary system the accumulation of imbalances is not intrinsic to the supply of international liquidity, which other feature of this system has created them? In fact, unlike the Bretton Woods system, the mixed system is marked by insufficient embedment of effective policy-driven or market-driven disciplining devices to ensure external stability which is according to Ettore Durruci, the second public good that an international monetary system ought to deliver.

Table 5:A General Overview of the International Monetary System

	Classic Gold Standard(18 19-1914) Gold exchange Standard(19 25-31)	Bretton Woods System (1944- 73)	Post Bretton Woods Period (1973- onwards)	Some references (Non exhaustive)
System features	Parity between each country's currency and gold	USD pegged to gold and other currencies pegged to USD	Different exchange rate regimes;increased prevalence of both flexible exchange rate and currency union.	-Ettore Dorrucci and Julie McKay,2011
Rules		Exchange rates adjustable if "fundamental disequilibrium"		- Turan Gül Günver,1980
Exchange rate				- Hans Genberg,1995
				-Mundell, Robert, 1997
Capital controls	No capital account restrictions	Capital controls	Regulations on capital account openness differ across countries	
Trad	Liberal trade policies	Free trade promoted (e.g.GATT)	Mixed trade policies	
Reserve Asset	Gold as reserve asset	USD as reserve currency	Market determined,USD as predominant reserve currency	

Institutions	Bank of England under Classic Gold Standard; No central institution under Gold Exchange Standard	IMF as central institution	IMF remains as central institution Emergence of international fora(G7/G20) and regional financing arrangements Financial stability forum/ financial Board	- Obstfeld, Maurice. 2011a -International Monetary Fund (IMF). 2009a
Mechanisms	External and internal Policy Priorities	Domestic policy goals subordinated to external stability	More domestic policy autonomy but attempt to contain exchange rate volatility and to discipline monetary policy	-Cooper, Richard N.,1987 -Caruana, Jamie (2014) -Bruno, Valentina and Hyun Song Shin. 2014 -Ahmed, Swarnali, Maximiliano Appendino, and Michele Ruta,IMF working PaperNo.15/2 52
Liquidity	Global liquidity determined by stock of gold	Global liquidity determined by stock of gold and US BoP deficits SDRs created(1969);fi rst SDR allocation	Focus on domestic policy, with countries choosing their preferred monetary regime No regulation on supply of global liquidity SDR allocations in 1979-81 and 2009 Evolution of IMF lending instruments, periodic efforts to	-International Monetary Fund (IMF). 1987

Safety net	None	IMF support to bridge temporary BoP difficulties; self-insurance	boost Fund resources although not in line economic and financial developments Self-insurance; emergence of RFAs (e.g., ESM, CMIM)	
Structural shifts	Shifts of economic power to the US First wave of globalization Democratization; unionization; growing social spending	Rapid expansion of Europe, Japan and many developing countries leading to increased demand for reserves, surpluses against the US and overvalued USD (Triifin Dilemma) Trade liberalization/rapid growth of trade volumes Gradual relaxation of capital controls	Rise of Ems, including China Dissolution of the Soviet Union Globalization and financial integration Financial deregulation Dramatic escalation of economic and financial interconnectedness	-Zhou, Xiouchuan, 2009 -Ahmed, Swarnali, Maximiliano Appendino, and Michele Ruta, 2014
Cyclical stresses on the System	WWI spending and associated widespread inflation	US spending due to Vietnam war and President Johnson's "Great Society"	Global imbalances; volatility of capital flows	-International Monetary Fund (IMF). 2015c. - Benn Steil and Manuel Hinds, 2009

	<p>Beggar-thy-neighbor policies (trade barriers, competitive devaluations)</p> <p>Soaring interwar unemployment</p> <p>Great Depression</p>		<p>Competitive devaluation</p> <p>Increasingly financial crisis (EMEs, Global Financial crisis, Euro area crisis)</p>	
Breaking Points	<p>Confluence of structural and cyclical factors meant that in practice, domestic policy concerns took primacy over external stability, undermining the credibility of the Gold Standard</p>	<p>US expansionary fiscal and monetary policies undermined credibility of the system;</p> <p>US forced to terminate convertibility in 1971</p>		<p>-International Monetary Fund (IMF). 2010b</p> <p>-International Monetary Fund (IMF). 2012</p>

CONCLUSION

The definition of the International monetary system and its role which consists of the controlling of stock of international liquidity diverge authors of economics and international finance. On the one hand, some would see this control as the internationally available instrument by means of which governments, acting jointly in the international monetary fund, were to maximize some ambitious multi-country welfare function that involved at least the level of employment, inflation vs. deflation, exchange rate stability and the degree of freedom of international transactions. Others on the other hand, would criticize a such ban-based approach and eventually qualify the limitations of the international instrument to governments and/or official sector as a widespread bias. Private sector, according to these critics, should have been taken into account, because over the past 50 years the international monetary system in the broader sense, has undergone extremely rapid development in the private sector, in particular the extension of capital mobility from the national to the international scale. Something that the official sector has found it difficult to keep pace. Meaning that at the level of international liquidity, changes in the working of the private sector had two major effects on the functioning of the official monetary system. First, industrialized countries have been freed from the strict obligation issued by the international monetary fund thanks to the new velocity of available bank credits; and second, the need for an SDR scheme that had been constructed in the 1960's has been greatly reduced. The Bretton woods System was so successful despite the fact that it was not

so long lived and that it broke down shortly. It was so successful because of the assignment rules it embodied which were to use fiscal and monetary policy to maintain internal balance. The assignment rules had to use international reserves to finance temporary departures from external balances too. Nevertheless, the system was so short lived because of a series of coincidences such as equilibrium configuration of exchange rates, adequate reserves and worries due to lack of confidence not to topple the system because there was no adaptive mechanism to restore balance at the absence of coincidences.

REFERENCES

- Ahmed, Swarnali, Maximiliano Appendino, and Michele Ruta. “Global Value Chains and the Exchange Rate Elasticity of Exports,” IMF Working Paper No. 15/252
- Steil, Benn (2013) “The Battle of the Bretton Woods”, Chapter 6. The Best-Laid Plans of White and Keynes, p.125-155 at 29% of reading.
- Borio, C. and Disyatat, P. (2010), “Global imbalances and the financial crisis: Reassessing the role of international finance”, Asian Economic Policy Review.
- Bini Smaghi, L. (2008), “The financial crisis and global imbalances: two sides of the same coin”, speech delivered at the Asia Europe Economic Forum conference entitled “The Global Financial Crisis: Policy choices in Asia and Europe”, Beijing, 9 December
- Broner, F., Didier, T., Erce, A. and Schmukler, S.L. (2010), “Gross Capital Flows: Dynamics and Crises” Working Paper Series, Banco de España, forthcoming.
- Bordo, Michael D. 1981. The classical gold standard: Some lessons for today. Federal Reserve Bank of St. Louis Review 63(May):2-17.
- Bordo, Michael D., and Anna J. Schwartz. 1989. Transmission of real and monetary disturbances under fixed and floating rates. In Dollars, Dejkits and Trade, ed. James A. Dorn and William A. Niskanen, 237-58. Boston: Kluwer Academic.
- Baxter, Marianne, and Alan C. Stockman. 1989. Business cycles and the exchange- rate regime: Some

- international evidence. *Journal of Monetary Economics* 23(May):377-400
- Bruno, Valentina and Hyun Song Shin. 2014. "Cross-Border Banking and Global Liquidity" BIS Working Papers 458 (August).
- Camdessus, M. (1999), "International Financial and Monetary Stability: A Global Public Good?", remarks at the IMF/Research Conference entitled "Key Issues in Reform of the International Monetary and Financial System", Washington, D.C., 28 May
- Cooper, Richard N., "Economic Interdependence and Coordination of Economic Policies", in: R. Jones and P. Kenen, eds, *Handbook of International Economics*, vol 2, North Holland, Amsterdam 1985
- Cooper, Richard N. *The International Monetary System*, essays in World Economies, The MIT Press, 1987
- Cooper, Richard N. 1990a. The gold-exchange standard and the Great Depression. In *Elusive Stability: Essays in the History of International Finance, 1919-1939*, 239-70. New York: Cambridge University Press.
- Cooper, Richard N. 1990b. International monetary instability between the wars: Structural flaws or misguided policies. In *The Evolution of the International Monetary System*, ed. Y. Suzuki et al., 71-116. Tokyo: University of Tokyo Press.
- Cooper, Richard N. 1990c. Trends and cycles in foreign lending. Centre for Economic Policy Research Discussion Paper no. 451. September
- Cooper, Richard N. 1991. U.S. foreign relations in the 20th century. University of California, Berkeley, March. Mimeo.

- Cooper, Richard N. 1992. *Golden Fetters: The Gold Standard and the Great Depression, 1919- 1939*. New York: Oxford University Press
- Dooley, M.P., Folkerts-Landau, D. and Garber, P. (2003), “An essay on the revived Bretton Woods System”, NBER Working Papers, No 9971, National Bureau of Economic Research, September.
- Durruci, Ettore and Julie McKay (2011),” The International Monetary System after The Financial Crisis”, Occasional Paper Series, p. 9-11;p.15-26.
- Eichengreen, B. (1987), “Hegemonic Stability Theories of the International Monetary System”, NBER Working Papers, No 2193, National Bureau of Economic Research, March.
- Eichengreen, B. (1998),” *Globalizing Capital*”, New Jersey, Princeton University Press, p.24, p.43-44
- Jose Leal Henrique, Jereissati(1999),” *The IMF Role in Financial Crises*”, p.2
- Ian M, Drummond (1987), *The Gold Standard and the International Monetary System 1900-1939* p.8-26
- International Monetary Fund (IMF). 2009a. “Debt Bias and Other Distortions: Crisis-Related Issues in Tax Policy,” IMF.org. <http://www.imf.org/external/np/pp/eng/2009/061209.pdf>.
- International Monetary Fund (IMF). 1987. “The Role of the SDR in the International Monetary System,” IMF Occasional Papers 51, Washington DC.
- International Monetary Fund (IMF). 2015c. “Assessing Reserve Adequacy – Specific Proposals,” IMF.org. <http://www.imf.org/external/np/pp/eng/2014/121914.pdf>.

- International Monetary Fund (IMF). 2010b. “The Fund’s Mandate: The Legal Framework,” IMF.org. <http://www.imf.org/external/np/pp/eng/2010/022210.pdf>.
- International Monetary Fund (IMF). 2012a. “Modernizing the Legal Framework for Surveillance—Building Blocks Toward and Integrated Surveillance Decision”.IMF.org. <http://www.imf.org/external/np/pp/eng/2012/031612a.pdf>
- Keynes (1943).
- Keynes (1980) XXV, Apr. 25, 1941, pp. 16–19
- Keynes (1980) XXV, Apr. 25, 1941, pp. 16–19
- Keynes (1980) XXV, Jan. 22, 1942, pp. 106–107.
- Keynes (1983) XI, Oct. 13, 1936, p. 501.
- Muhammet AKDIŞ (kim 2011), « Para Teorisi ve Politikası » Gözden geçirilmiş 2. Baskı page 40-68.
- Mateos y Lago, I., Duttagupta, R. and Goyal, R. (2009), “The Debate on the International Monetary System”, Staff Position Note, No SPN/09/26, IMF, 11 November
- Mundell, Robert, (1997). The European Monetary System 50 Years after Bretton Woods: A Comparison Between Two Systems (November).
- Michael D.Bordo (1993), “A Retrospective on the Bretton Woods System: Lessons for International Monetary Reform” chapter title: The Bretton Woods International Monetary system. Volume Publisher: University of Chicago Press p.4-12
- Obstfeld, Maurice. 2011a. “The International Monetary System: Living with Asymmetry,” NBER Working Papers 17641 (December).

- Rockoff, Hugh. 1984. Some evidence on the real price of gold, its costs of production, and commodity prices. In *A Retrospective on the Classical Gold Standard, 1821- 1931*, ed. Michael D. Bordo and Anna J. Schwartz, 613-44. Chicago: University of Chicago Press. Rueff.
- Turan Gül Günver, *Uluslar arası Para Sistemi Dünü ve Bugünü*, Ankara, T.İş Bankası Kültür Yayınları, No:205, 1980
- White's Archives (Aug. 4, 1942), pp. 13–14 (note: the folder contains numerous duplicate page numbers).
- Zhou, Xiouchuan, 2009, —Reform of the International Monetary System, People's Bank of China, March.

CHAPTER 4:

**EVALUATION OF PERSPECTIVES ON
THE ACCOUNTING AND INDEPENDENT
AUDITOR'S PROFESSIONS OF
UNIVERSITY STUDENTS: AN
ECONOMETRIC ANALYSIS**

Öğr. Gör. Dr. Nigar ÖZÇETİN (1)

INTRODUCTION

An independent auditor is a person who investigates whether or not financial statements reflect the truth in the light of generally accepted accounting principles and fundamentals without depending on any person or institution. According to the Law No. 6102 on the Turkish Commercial Code (TTK), independent auditors may include independent auditing institutions, independent accountants and financial advisors (henceforth IAFA, SMMM in Turkish) and certified public accountants (CPA, YMM in Turkish). In general, in order to be able to choose the profession of IAFA, it is needed to graduate from the departments of Faculties of Economics and Administrative Sciences (henceforth FEAS, İİBF in Turkish) such as business management and economics. Therefore, determining the views of FEAS students towards the professions of IAFA and independent auditing is important in terms of their selection of the professions of IAFA and independent auditing which have become very prominent especially in recent years.

Since the early 1980s, the limited number of qualified university graduates that choose a career in the field of accounting has led to concerns. Paolillo and Estes (1982) found that this is caused mostly by three factors. These factors are: parent influence, job satisfaction and cost of education. After the Enron and WorldCom scandals, accounting and auditing failures reduced the confidence in the professions of accounting and independent auditing greatly for a long time. This decrease regarding the profession of accounting also arose in the USA. The reasons for the decrease in the USA are considered to include decrease in salaries, change in the workplace environment, desires of selecting more different career options and the misunderstandings and lack of knowledge about the profession of accounting. Looking at other countries, 2-4% of accounting graduates in Indonesia perform the profession of accounting. While there are about 8600 accountants in Indonesia, this number is far below those in the Philippines, Singapore, Malaysia and Thailand. The numbers of accountants in

these countries are at least 2.5 times higher than that in Indonesia.

Several studies have been conducted to determine the views of students towards accounting and professions related to accounting. One of these was conducted in Ireland in 2005. That study examined the perceptions of students of Vocational Schools of Higher Education in Ireland towards the profession of accounting. As a result of the study, it was revealed that students saw the profession as boring, based on rules and having fixed restrictions. Students believed that accounting is seen as a respectable profession by the society, but it is a less respectable profession in comparison to some others.

The study conducted by Odio and Ogiedu in 2013 in Nigeria revealed that selection of the profession of accounting by students depended on personal factors such as the interest of students, opportunities of high-salary employment and performance in high school education, as well as job-related factors.

The study by Myburgh conducted in 2005 at the University of Pretoria in South Africa determined that the

most important factors effective in first-year accounting students' preference of being an accountant were their talents towards accounting and the recommendations of their parents, relatives and teachers.

In the study by Bundy and Norris carried out in 1992, job security was found to be the top factor affecting job selection by accounting students enrolled at the Iowa State University in the USA.

Ibrahim Umar (2014) investigated the factors that were influential on the job selection of 88 students who were enrolled at the department of accounting at Yobe State University in Nigeria. These factors were found to be personal interests and the effects of parents, relatives and friends. There was a statistically significant relationship between choosing the profession of accounting and variables of future expectations, that it is a prestigious profession and that it pays a high salary.

Hoai et al.(2016) studied the factors that affected job selection in students who were enrolled in accounting departments and those who were enrolled in non-accounting departments. In their study, a survey was

applied with 430 students of Ton Duc Thang University in Vietnam. The factors that were effective in job selection were stated as having a stable job after graduation by 83% of the participants, opportunities of progress in the career by 78% and more opportunities of employment in the profession of accounting by 73%. Only 36% of the participants believed that the salary of the profession of accounting is attractive. While 71% of those who were studying accounting thought that accounting is not boring, 54% of those who were studying at non-accounting departments had the same opinion. 76% of those who were studying accounting thought that accounting is an exciting profession, while 67% of the remaining participants had the same opinion. While 69% of the students who were studying accounting stated that their acquaintances, friends, teachers and parents were influential in their preference of the profession of accounting, this ratio was 28% for those who were not studying accounting.

Dibabe et al. conducted a study in 2015 at Bahir Dar University in Ethiopia to investigate the factors that were

effective in job selection by 197 students of business management and economics. Among these factors, interest in the profession of accounting, talent, desire to have this profession in the future and their families had significant effects.

OBJECTIVE

Low numbers of students that are enrolled at departments of accounting and business management, especially in recent years, suggest that students do not want to choose these professions. However, selection of the professions of accounting and independent auditing by talented and qualified students would provide advantages in regaining the confidence in these professions. Financial scandals that were previously experienced in Turkey and the world reduced the confidence in especially the professions of accounting and independent auditing. In addition to the lack of confidence in the professions, requirement of a long process of examination and internships for entry creates the perception that students would have to spend long years in education. Nevertheless, due to the significance of the professions of

accounting and independent auditing, students who want to choose these professions should be qualified, talented, hardworking and honest, as well as doing their job lovingly. Therefore, there is a need for knowing how much students know about these professions and how they perceive them. This is why this study examined the views of university students of accounting and business management towards the professions of accounting and independent auditing.

METHODOLOGY

This study applied a questionnaire with last-year business management and economics students and last-year business management and accounting students who were enrolled at Yozgat Bozok University FEAS in Turkey. The questionnaire aimed to investigate whether or not the students had knowledge about the professions of accounting and independent auditing, whether or not they wanted to choose these professions and their reasons for wanting or not wanting to choose these professions. A total of 118 students were included. The results were analyzed using the SPSS 17 software. Descriptive

statistics of means, minimum and maximum values and standard deviations were utilized. The results were presented with frequency tables.

ANALYSIS RESULTS

The data obtained as a result of our study are given in the tables below.

Table 1. Separation of Students by Gender

Gender	Number Of Students	Percent
Female	67	57
Male	51	43
Total	118	100,0

As seen in Table 1, 67 (57%) of the 118 students were female, and 51 (43%) were male.

Table 2. The Distinction Of Students According To Their Age

Age	Number Of Students	Percent
19 age	1	1
20 age	16	14
21 age	25	21
22 age	31	26
23 age	25	21
24 or older	20	17
Total	118	100,0

Table 2 shows that distribution of the students based on their ages. 31 (26%) of the students were 22, 25 (21%) were 21, other 25 (21%) were 23, 20 (17%) were 24 or older, 16 (14%) were 20 and 1 (1%) was 19 years old.

Table 3. Educational Status of Students' Fathers

Education	Number Of Students	Percent
Primary School	46	39
Secondary	26	22
High School	29	25
Undergraduate Degrees	11	8
Graduate Degrees	3	3
Other	3	3
Total	118	100,0

Table 3 shows the educational levels of the fathers of the participants. 46 (39%) of the fathers of the students were primary school graduates, 29 (25%) were high school graduates, 26 (22%) were secondary school graduates, 11 (8%) had undergraduate degrees, 3 (3%) had graduate degrees, and 3 (3%) students reported 'other' as their fathers' educational status.

Table 4. Educational Status of Students' Mothers

Education	Number Of Students	Percent
Primary School	62	53
Secondary	29	25
High School	21	17
Undergraduate Degrees	1	1
Other	5	4
Total	118	100,0

Table 4 shows the educational levels of the mothers of the participants. 62 (53%) of the mothers of the students were primary school graduates, 29 (25%) were secondary school graduates, 21 (17%) were high school graduates, and 1 (1%) had a graduate degree. 5 (4%) students reported 'other' as their mothers' educational status.

Table 5. Income Status of Students' Families

	Number Of Students	Percent
Lower than 1500 TL	32	27
1501-2500 TL	38	32
2501-3500 TL	23	20
3501-4500 TL	14	13
4501-5500 TL	3	2
5501-6500 TL	5	4
6501 TL or higher	3	2
Total	118	100,0

Table 5 shows the income levels of the families of the participants. The monthly income levels of the families of 38 (32%) students were in the range of 1501-2500 TL, 32 (27%) had income levels of lower than 1500 TL, 23 (20%) had income levels of 2501-3500 TL, 14 (13%) had income levels of 3501-4500 TL, 5 (4%) had income levels of 5501-6500 TL, 3 (2%) had income levels of 4501-5500 TL, and 3 (2%) had income levels of 6501 TL or higher.

Table 6. Places Where Students Live

	Number Of Students	Percent
Büyükşehir	43	36
City	35	30
Districts	27	23
Villages	13	11
Total	118	100,0

As seen in Table 6, 43 (36%) of the participants lived in metropolitan areas, 35 (30%) lived in cities, 27 (23%) lived in districts, and 13 (11%) lived in villages.

Table 7. Exam Types of Students

	Number Of Students	Percent
Quantitative	25	21
Verbal	17	15
Equal Weight	52	44
Vocational Education	24	20
Toplam	118	100,0

Tables 7 and 8 shows the distribution of the students based on the division system they entered the university central placement examination with. The division of the students that they registered while entering the examination was Equal Weight (Verbal + Quantitative) for 52 (44%) students, Quantitative for 25 (21%) students, Vocational Education for 24 (20%) students and Verbal for 17 (15%) students.

Table 8. Forms of Students' Placement in Sections

	Number Of Students	Percent
Via Open Admission Examination	101	86
Vertical Transfer	3	2
Undergraduate Transfer	4	3
Total	118	100,0

101 (86%) students were admitted by examination, 10 (9%) were admitted via open admission, 4 (3%) were admitted by undergraduate transfer, and 3 (2%) were admitted by vertical transfer.

Table 9. Students Places

	Number Of Students	Percent
Dormitories	48	41
With Their Families	25	21
With Their Friends	27	23
Other	18	15
Total	118	100,0

As seen in Table 9, 48 (41%) stayed at dormitories, 27 (23%) stayed with their friends, and 25 (21%) stayed with their families. 18 (15%) responded to this question as ‘other’.

Table 10. Students' Information About the Profession of IAFA

	Number Of Students	Percent
Yes	87	74
No	31	26
Total	118	100,0

Table 10 shows that 87 (74%) students stated that they had knowledge about the profession of IAFA, while 31 (26%) said they did not.

Table 11. Those Who Want To Do Their Profession After Graduation

	Number of Students	Percent
Yes	69	59
No	49	41
Total	118	100,0

According to Table 11, 69 (59%) students reported that they wanted to take on the profession of IAFA after graduation, 49 (41%) said they did not.

Table 12. Descriptive Statistics Of Reasons For Selecting IAFA Property

	N	Minimum	Maximum	Medium	Standard Deviation
I Am Interested In The Profession Because The Earnings Are High	69	1	5	3,5362	1,13215
I Am Interested In The Profession	69	1	5	3,4783	1,07933
A Profession Where I Can Realize My Own Wishes And Idealizations	69	1	5	3,4203	1,11679
I Think I Have The Talent To The Profession	69	1	5	3,4783	1,03765
For My Parents Wanted	69	1	5	2,4928	1,32424
Upon The Recommendation Of My Friends	69	1	5	2,0580	1,19907
Upon The Recommendation Of My Teachers	69	1	5	2,1304	1,23566
Upon The Recommendation Of Professionals	69	1	5	2,5217	1,31293
For Being A Respected Profession In Society	69	1	5	3,1449	1,17917
Training Is Easy	69	1	5	2,3478	1,09580
Total	69	1	5		

Based on the descriptive statistics, when the reasons for choosing the profession of IAFA were examined, the item with the highest mean value was high income (mean: 3.53). This was followed by being interested in the profession and believing in own talent for the profession (mean: 3.47). Regarding the same parameter, the three lowest mean values were in the items: recommendations by friends (mean: 2.05), recommendations by teachers (mean: 2.13) and wishes of the family (mean: 2.49).

Tables 13 through 22 present the responses of the students about the questions related to their reasons for preference of the profession of IAFA.

Table 13. Those Who Want To Choose The Profession of IAFA Because Of Its High Salary

	Number of Students	Percent
I strongly disagree	4	6
I do not agree	11	16
Undecided	10	15
I agree	32	46
Absolutely I agree	12	17
Total	69	100,0

As seen in Table 13, for the statement about choosing the profession of IAFA because of its high salary, among 69 students, 32 (46%) responded as ‘agree’, and 12 (17%) as ‘absolutely agree’. While 11 (16%) responded as ‘disagree’ and 4 (6%) responded as ‘absolutely disagree’, 10 (15%) stated that they were undecided.

Table 14.Those Who Are Interested In IAFA

	Number of Students	Percent
I strongly disagree	6	9
I do not agree	3	4
Undecided	22	31
I agree	28	41
Absolutely I agree	10	15
Total	69	100,0

As seen in Table 14, for the statement about choosing the profession because of their interest in the profession, among 69 students, 28 (41%) responded as ‘agree’, and 10 (15%) as ‘absolutely agree’. While 6 (9%) responded as ‘absolutely disagree’ and 3 (4%) responded as ‘disagree’, 22 (31%) stated that they were undecided.

Table 15. Those Who Want To Choose IAFA Profession To Realize Their Wishes And Ideals

	Number of Students	Percent
I strongly disagree	7	10
I do not agree	2	3
Undecided	26	38
I agree	23	33
Absolutely I agree	11	16
Total	69	100,0

As seen in Table 15, for the statement about choosing the profession because they wanted to realize their own wishes and ideals, among 69 students, 26 (38%) were undecided. 23 (33%) responded as ‘agree’, and 11 (16%) responded as ‘absolutely agree’. Moreover, 7 (10%) responded as ‘absolutely disagree’ and 2 (3%) responded as ‘disagree’.

Table 16. Those Who Want To Choose IAFA Profession To For Ability

	Number of Students	Percent
I strongly disagree	5	7
I do not agree	5	7
Undecided	19	28
I agree	32	46
Absolutely I agree	8	12
Total	69	100,0

As seen in Table 16, for the statement about choosing the profession because they had talent for it, among 69 students, 32 (46%) responded as ‘agree’, and 8 (12%) responded as ‘absolutely agree’. 19 (28%) were undecided. Moreover, 5 (7%) students responded as ‘absolutely disagree’ and 5 (7%) others responded as ‘disagree’.

Table 17. Those Who Want To Choose The Profession Because Their Families Wanted

	Number of Students	Percent
I strongly disagree	18	26
I do not agree	25	36
Undecided	7	10
I agree	12	18
Absolutely I agree	7	10
Total	69	100,0

As seen in Table 17, for the statement about choosing the profession because their families wanted so, among 69 students, 12 (18%) responded as ‘agree’, and 7 (10%) responded as ‘absolutely agree’. While 25 (36%) responded as ‘disagree’ and 18 (26%) responded as ‘absolutely disagree’, 7 (10%) were undecided.

Table 18. Those Who Want To Choose The Profession Because Of Friends' Recommendations

	Number of Students	Percent
I strongly disagree	27	39
I do not agree	26	38
Undecided	6	9
I agree	5	7
Absolutely I agree	5	7
Total	69	100,0

As seen in Table 18, for the statement about choosing the profession because of friends' recommendations, among 69 students, 5 (7%) responded as 'agree', and 5 (7%) others responded as 'absolutely agree'. While 27 (39%) responded as 'absolutely disagree' and 26 (39%) responded as 'disagree', 6 (9%) were undecided.

Table 19. Those Who Want To Choose The Profession Because Of Teachers' Recommendations

	Number of Students	Percent
I strongly disagree	26	38
I do not agree	25	36
Undecided	6	9
I agree	7	10
Absolutely I agree	5	7
Total	69	100,0

As seen in Table 19, for the statement about choosing the profession because of teachers' recommendations, among 69 students, 7 (10%) responded as 'agree', and 5 (7%) responded as 'absolutely agree'. While 26 (38%) responded as 'absolutely disagree' and 25 (36%) responded as 'disagree', 6 (9%) were undecided.

Table 20. Those Who Want To Choose The Profession Because Of The Recommendations Of Members Of The Profession

	Number of Students	Percent
I strongly disagree	19	28
I do not agree	20	29
Undecided	11	16
I agree	13	19
Absolutely I agree	6	8
Total	69	100,0

As seen in Table 20, for the statement about choosing the profession because of the recommendations of members of the profession, among 69 students, 13 (19%) responded as ‘agree’, and 6 (8%) responded as ‘absolutely agree’. While 20 (29%) responded as ‘disagree’ and 19 (28%) responded as ‘absolutely disagree’, 11 (16%) were undecided.

Table 21. Those Who Want To Choose The Profession Because It Is a Respectable Profession

	Number of Students	Percent
I strongly disagree	7	10
I do not agree	15	22
Undecided	15	22
I agree	25	36
Absolutely I agree	7	10
Total	69	100,0

As seen in Table 21, for the statement about choosing the profession because it is a respectable profession, among 69 students, 25 (36%) responded as ‘agree’, and 7 (10%) responded as ‘absolutely agree’. While 15 (22%) responded as ‘disagree’ and 7 (10%) responded as ‘absolutely disagree’, 15 (22%) were undecided.

Table 22. Those Who Want To Choose The Profession Because Training Of It Is Easy

	Number of Students	Percent
I strongly disagree	17	25
I do not agree	24	35
Undecided	18	26
I agree	7	10
Absolutely I agree	3	4
Total	69	100,0

As seen in Table 22, for the statement about choosing the profession because training of it is easy, among 69 students, 7 (10%) responded as 'agree', and 3 (4%) responded as 'absolutely agree'. While 24 (35%) responded as 'disagree' and 17 (25%) responded as 'absolutely disagree', 18 (26%) were undecided.

Table 23. The descriptive statistics of reasons for not wanting to choose the IAFAs profession

	N	Minimum	Maximum	Medium	Standard Deviation
Low Earnings	49	1,00	5,00	2,4490	1,13764
I Am Not Interested In The Profession	49	1,00	5,00	3,8367	1,12448
I Find The Profession Boring	49	1,00	5,00	3,5510	1,22579
I Think The Future Of The Profession Is Uncertain.	49	1,00	5,00	2,5306	1,11993
I Think It's A Long And Hard Examination And Internship Period	49	1,00	5,00	3,5714	1,36931
Total	49				

Table 23 shows the descriptive characteristics on the reasons for students to not want to choose the profession of IAFAs. Accordingly, the highest mean was found in the reason of being uninterested in the profession (mean: 3.83). This was followed by thinking that it has a long and difficult examination and internship period (mean: 3.57) and thinking that it is boring (mean: 3.55). The lowest mean values were found in the variables of low

income (mean: 2.44) and uncertainty of its future (mean: 2.53).

Tables 24 through 28 present the responses of the students about the questions related to their reasons for not preferring the profession of IAFA. There were 49 students who did not prefer this profession.

Table 24. Those Who Want To Choose The Profession Of IAFA Because It Has Low Income

	Number of Students	Percent
I strongly disagree	12	24
I do not agree	14	29
Undecided	14	29
I agree	7	14
Absolutely I agree	2	4
Total	49	100,0

As seen in Table 24, for the statement about not choosing the profession of IAFA because it has low income, among 49 students, 7 (14%) responded as ‘agree’, and 2 (4%) responded as ‘absolutely agree’. While 14 (29%)

responded as ‘disagree’ and 12 (24%) responded as ‘absolutely disagree’, 14 (29%) were undecided.

Table 25. Those Who Do Not Want To Choose The Profession Because They Were Not Interested In It

	Number of Students	Percent
I strongly disagree	2	4
I do not agree	5	10
Undecided	8	16
I agree	18	37
Absolutely I agree	16	33
Total	49	100,0

As seen in Table 25, for the statement about not choosing the profession because they were not interested in it, among 49 students, 18 (37%) responded as ‘agree’, and 16 (33%) responded as ‘absolutely agree’. While 5 (10%) responded as ‘disagree’ and 2 (4%) responded as ‘absolutely disagree’, 8 (16%) were undecided.

Table 26. Those Who Do Not Want To Choose The Profession Because They Found It Boring

	Number of Students	Percent
I strongly disagree	4	8
I do not agree	4	8
Undecided	16	33
I agree	11	22
Absolutely I agree	14	29
Total	49	100,0

As seen in Table 26, for the statement about not choosing the profession because they found it boring, among 49 students, 11 (22%) responded as ‘agree’, and 14 (29%) responded as ‘absolutely agree’. While 4 (8%) responded as ‘disagree’ and 4 (8%) others responded as ‘absolutely disagree’, 16 (33%) were undecided.

Table 27. Those Who Do Not Want To Choose The Profession Because The Uncertainty Of Its Future

	Number of Students	Percent
I strongly disagree	11	22
I do not agree	12	25
Undecided	17	35
I agree	7	14
Absolutely I agree	2	4
Total	49	100,0

As seen in Table 27, for the statement about not choosing the profession because the uncertainty of its future, among 49 students, 7 (14%) responded as ‘agree’, and 2 (4%) responded as ‘absolutely agree’. While 12 (25%) responded as ‘disagree’ and 11 (22%) responded as ‘absolutely disagree’, 17 (35%) were undecided.

Table 28. Those Who Do Not Want To Choose The Profession Because Of Thinking It Has A Long-Difficult Examination And Internship Period

	Number of Students	Percent
I strongly disagree	4	8
I do not agree	9	18
Undecided	9	18
I agree	9	18
Absolutely I agree	18	37
Total	49	100,0

As seen in Table 28, for the statement about not choosing the profession because of thinking it has a long-difficult examination and internship period, among 49 students, 9 (18%) responded as ‘agree’, and 18 (37%) responded as ‘absolutely agree’. While 9 (18%) responded as ‘disagree’ and 4 (8%) responded as ‘absolutely disagree’, 9 (18%) were undecided.

Table 29. Those Who Have Knowledge About The Concept Of Independent Audit

	Number of Students	Percent
Yes	35	30
No	83	70
Total	118	100,0

As Table 29 shows, among the 118 students in total, 70 (59%) stated that they had knowledge about the concept of independent auditing, while 35 (30%) stated that they did not.

Table 30. Information About Independent Auditor

	Number of Students	Percent
Yes	33	28
No	85	72
Toplam	118	100,0

Based on Table 30, 85 (72%) students among the 118 in total stated that they did not have knowledge about the concept of an independent auditor, while 33 (28%) stated that they did.

Table 31. Those Who Think Independent Auditing As Profession

	Number of Students	Percent
Yes	29	25
No	89	75
Toplam	118	100,0

As seen in Table 31, among the 118 students, those who thought of independent auditing as a profession were 29 (25%) students, while 89 (75%) did not think of it as a profession.

Table 32. Descriptive Statistics of Reasons for Selecting Independent Auditing Profession

	N	Minimum	Maximum	Medium	Standard Deviation
I Am Interested In The Profession Because The Earnings Are High	29	1,00	5,00	3,2069	1,14578
I Am Interested In The Profession	29	1,00	5,00	3,4828	1,15328
A Profession Where I Can Realize My Own Wishes And Idealizations	29	1,00	5,00	3,4483	1,24172
I Think I Have The Talent To The Profession	29	1,00	5,00	3,4828	,98636
For My Parents Wanted	29	1,00	5,00	3,4483	1,45372
Upon The Recommendation Of My Friends	29	1,00	5,00	2,0690	1,25160
Upon The Recommendation Of My Teachers	29	1,00	5,00	2,2414	1,29987
Upon The Recommendation Of Professionals	29	1,00	5,00	2,4138	1,45202
For Being A Respected Profession In Society	29	1,00	5,00	3,1034	1,23476
Training Is Easy	29	1,00	5,00	2,4828	1,29892
Total	29				

Table 32 shows that the reasons for wanting to choose this profession with the highest mean were being interested in the profession and thinking that they have talent for it (mean: 3.48), which was followed by the reason of wanting to realize their wishes and ideals (mean: 3.44). The least effective factors in choosing this profession were recommendations by friends (mean: 2.06), recommendations by teachers (mean: 2.24) and recommendations by members of the profession (mean: 2.41).

Tables 33 through 42 present the responses of the students about the questions related to their reasons for preference of the profession of independent auditing.

Table 33. Those Who Choose Independent Auditing

Profession

	Number of Students	Percent
I strongly disagree	2	7
I do not agree	7	24
Undecided	6	21
I agree	11	38
Absolutely I agree	3	10
Total	29	100,0

As seen in Table 33, for the statement about choosing the profession of independent auditing because of high salary, among 29 students, 11 (38%) responded as ‘agree’, and 3 (10%) responded as ‘absolutely agree’. While 7 (24%) responded as ‘disagree’ and 2 (7%) responded as ‘absolutely disagree’, 6 (21%) were undecided.

Table 34. Those Who Want To Choose Because They Are Interested In Independent Auditing Profession

	Number of Students	Percent
I strongly disagree	3	10
I do not agree	2	7
Undecided	6	21
I agree	14	48
Absolutely I agree	4	14
Total	29	100,0

As seen in Table 34, for the statement about choosing the profession because they were interested in it, among 29 students, 14 (48%) responded as ‘agree’, and 4 (14%) responded as ‘absolutely agree’. While 3 (10%) responded as ‘disagree’ and 2 (7%) responded as ‘absolutely disagree’, 6 (21%) were undecided.

Table 35. Those Who Want To Choose An Independent Auditing Profession To Realize Their Own Wishes And Ideals

	Number of Students	Percent
I strongly disagree	4	14
I do not agree	1	4
Undecided	7	24
I agree	12	41
Absolutely I agree	5	17
Total	29	100,0

As seen in Table 35, for the statement about choosing the profession because they wanted to realize their wishes and ideals, among 29 students, 12 (41%) responded as ‘agree’, and 5 (17%) responded as ‘absolutely agree’. While 1 (4%) responded as ‘disagree’ and 4 (14%) responded as ‘absolutely disagree’, 7 (24%) were undecided.

Table 36. Those Who Want To Choose An Independent Auditing Profession To They Have The Ability

	Number of Students	Percent
I strongly disagree	2	7
I do not agree	1	3
Undecided	10	35
I agree	13	45
Absolutely I agree	3	10
Total	29	100,0

As seen in Table 36, for the statement about choosing the profession because of thinking they had a talent for it, among 29 students, 13 (45%) responded as ‘agree’, and 3 (10%) responded as ‘absolutely agree’. While 1 (3%) responded as ‘disagree’ and 2 (7%) responded as ‘absolutely disagree’, 10 (35%) were undecided.

Table 37. Those Who Want To Choose An Independent Auditing Profession To Family Wanted

	Number of Students	Percent
I strongly disagree	9	31
I do not agree	10	35
Undecided	3	10
I agree	2	7
Absolutely I agree	5	17
Total	29	100,0

As seen in Table 37, for the statement about choosing the profession because their parents wanted it, among 29 students, 2 (7%) responded as 'agree', and 5 (17%) responded as 'absolutely agree'. While 10 (35%) responded as 'disagree' and 9 (31%) responded as 'absolutely disagree', 3 (10%) were undecided.

Table 38. Those Who Want To Choose The Profession Of Independent Auditing On The Proposal Of Their Friends

	Number of Students	Percent
I strongly disagree	12	41
I do not agree	10	35
Undecided	2	7
I agree	3	10
Absolutely I agree	2	7
Total	29	100,0

As seen in Table 38, for the statement about choosing the profession because of their friends' recommendations, among 29 students, 3 (10%) responded as 'agree', and 2 (7%) responded as 'absolutely agree'. While 10 (35%) responded as 'disagree' and 12 (41%) responded as 'absolutely disagree', 2 (7%) were undecided.

Table 39. Those Who Want To Choose The Profession Of Independent Auditing On The Recommendation Of Their Teachers

	Number of Students	Percent
I strongly disagree	10	35
I do not agree	10	35
Undecided	4	14
I agree	2	6
Absolutely I agree	3	10
Total	29	100,0

As seen in Table 39, for the statement about choosing the profession because of their teachers' recommendations, among 29 students, 2 (7%) responded as 'agree', and 3 (10%) responded as 'absolutely agree'. While 10 (35%) responded as 'disagree' and 10 (35%) others responded as 'absolutely disagree', 4 (14%) were undecided.

Table 40. Those Who Want To Choose The Profession Of Independent Auditing On The Proposal Of Professional Members

	Number of Students	Percent
I strongly disagree	9	31
I do not agree	11	38
Undecided	2	7
I agree	2	7
Absolutely I agree	5	17
Total	29	100,0

As seen in Table 40, for the statement about choosing the profession because of the recommendations of members of the profession, among 29 students, 2 (7%) responded as 'agree', and 5 (17%) responded as 'absolutely agree'. While 11 (38%) responded as 'disagree' and 9 (31%) responded as 'absolutely disagree', 2 (7%) were undecided.

Table 41. Those Who Want To Choose An Independent Auditing Profession Because It Is A Respectful Occupation In Society

	Number of Students	Percent
I strongly disagree	4	14
I do not agree	4	14
Undecided	10	35
I agree	7	24
Absolutely I agree	4	13
Total	29	100,0

As seen in Table 41, for the statement about choosing the profession because it is a respectable profession in the society, among 29 students, 7 (24%) responded as ‘agree’, and 4 (14%) responded as ‘absolutely agree’. While 4 (14%) responded as ‘disagree’ and 4 (14%) others responded as ‘absolutely disagree’, 10 (35%) were undecided.

Table 42. Those Who Want To Choose An Independent Auditing Profession Because Training is Easy

	Number of Students	Percent
I strongly disagree	7	24
I do not agree	11	38
Undecided	4	14
I agree	4	14
Absolutely I agree	3	10
Total	29	100,0

As seen in Table 42, for the statement about choosing the profession because of thinking training of it is easy, among 29 students, 4 (14%) responded as 'agree', and 3 (10%) responded as 'absolutely agree'. While 11 (38%) responded as 'disagree' and 7 (24%) responded as 'absolutely disagree', 4 (14%) were undecided.

Table 43. Descriptive Statistics Of Reasons For Not Wanting To Choose Independent Auditing Profession

	N	Minimum	Maximum	Median	Standard Deviation
Low Earnings	89	1,00	5,00	2,5730	,96398
I Am Not Interested In The Profession	89	1,00	5,00	3,3820	1,09239
I Find The Profession Boring	89	1,00	5,00	2,9775	,94120
I Think The Future Of The Profession Is Uncertain.	89	1,00	5,00	2,8539	,92381
I Think It's A Long And Hard Examination And Internship Period	89	1,00	5,00	3,1798	1,02870
Total	89				

Table 43 shows that the reason for not wanting to choose the profession of independent auditing with the highest mean was being uninterested in the profession (mean: 3.38), which was followed by its long and difficult examination and internship period (mean: 3.17) and finding the profession boring (mean: 2.97). Low income was the least effective factor on not wanting to choose this profession (mean: 2.57).

Tables 44 through 48 present the responses of the students about the questions related to their reasons for not wanting to choose the profession of independent auditing.

Table 44. Those Who Do Not Want To Choose The Profession Of Independent Auditing Because It Has Low Income

	Number of Students	Percent
I strongly disagree	13	15
I do not agree	25	28
Undecided	42	47
I agree	5	6
Absolutely I agree	4	4
Total	89	100,0

As seen in Table 44, for the statement about not choosing the profession of independent auditing because it has low income, among 89 students, 5 (6%) responded as ‘agree’, and 4 (4%) responded as ‘absolutely agree’. While 25 (28%) responded as ‘disagree’ and 13 (15%) responded as ‘absolutely disagree’, 42 (47%) were undecided.

Table 45. Those Who Do Not Want To Choose The Profession Of Independent Auditing Because They Are Not Interested In The Profession

	Number of Students	Percent
I strongly disagree	6	7
I do not agree	9	10
Undecided	34	38
I agree	25	28
Absolutely I agree	15	17
Total	89	100,0

As seen in Table 45, for the statement about not choosing the profession because they were uninterested in it, among 89 students, 25 (28%) responded as ‘agree’, and 15 (17%) responded as ‘absolutely agree’. While 9 (10%) responded as ‘disagree’ and 6 (7%) responded as ‘absolutely disagree’, 34 (38%) were undecided.

Table 46. Those Who Do Not Want To Choose The Profession Of Independent Auditing Because It Is Boring

	Number of Students	Percent
I strongly disagree	6	7
I do not agree	15	17
Undecided	50	56
I agree	11	12
Absolutely I agree	7	8
Total	89	100,0

As seen in Table 46, for the statement about not choosing the profession because they found it boring, among 89 students, 11 (12%) responded as ‘agree’, and 7 (8%) responded as ‘absolutely agree’. While 15 (17%) responded as ‘disagree’ and 6 (7%) responded as ‘absolutely disagree’, 50 (56%) were undecided.

Table 47. Those Who Do Not Want To Choose The Profession Of Independent Auditing Because The Future Is Uncertain

	Number of Students	Percent
I strongly disagree	7	8
I do not agree	19	21
Undecided	48	54
I agree	10	11
Absolutely I agree	5	6
Total	89	100,0

As seen in Table 47, for the statement about not choosing the profession because of the uncertainty of its future, among 89 students, 10 (11%) responded as ‘agree’, and 5 (6%) responded as ‘absolutely agree’. While 19 (21%) responded as ‘disagree’ and 7 (8%) responded as ‘absolutely disagree’, 48 (54%) were undecided.

Table 48. Those Who Do Not Want To Choose The Profession Of Independent Auditing for Being a Long and Difficult Exam and Internship

	Number of Students	Percent
I strongly disagree	5	6
I do not agree	14	16
Undecided	41	46
I agree	18	20
Absolutely I agree	11	12
Total	89	100,0

As seen in Table 48, for the statement about not choosing the profession because it has a long and difficult examination and internship period, among 89 students, 18 (20%) responded as ‘agree’, and 11 (12%) responded as ‘absolutely agree’. While 14 (16%) responded as ‘disagree’ and 5 (6%) responded as ‘absolutely disagree’, 41 (46%) were undecided.

CONCLUSION

In our study, we applied a questionnaire with 118 students who were enrolled at the departments of business management and economics at FEAS and accounting and business management departments at the Vocational School of Higher Education for Social Sciences at Bozok University. 57% of the participants were female, and 43% were male. The families of 59% of the students had a monthly income of lower than 2500 TL. 66% of the students lived in metropolitan cities and cities, while 34% lived in districts and villages. 74% of the students had knowledge about the profession of IAFA, while 59% among all students wanted to take it as a profession. The first three most frequently stated reasons of students for wanting to choose the profession of IAFA were high income, interest in the profession and thinking they had a talent for the profession. The first three most frequently stated ones about not wanting to choose the profession were lack of interest in the profession, long and difficult examination and internship periods and thinking that it is boring. 33% of the

participants had knowledge about the profession of independent auditing, while 29% wanted to take part in it. The first three most frequently stated reasons of students for wanting to choose the profession of independent auditing were interest in the profession, thinking that they had a talent for the profession and thinking that it is a profession where they can realize their wishes and ideals. The first three most frequently stated ones about not wanting to choose the profession were that same as those regarding the profession of IAFA; lack of interest in the profession, long and difficult examination and internship period and finding the profession boring. The least effective factors in choosing the professions of IAFA and independent auditing were the recommendations of friends, teachers, parents and members of the profession.

REFERENCES

1. Arnita, V. (2016); *Factors Influencing Accounting Undergraduate Students To Be Professional Accountants InIndonesia*, Yayınlanmamış Yüksek Lisans Tezi.
2. Byrne, M. ve P.Willis (2005); ‘Irish Secondary Students' Perceptions Of TheWork Of An Accountant And The Accounting Profession, Accounting Education’’, Vol:14, No: 4,ss: 367-381
3. Dibabe, T.M., A.W.Wubie ve G.A.Wondmagegn (2015); ‘Factorsthat Affect Students’ CareerChoice in Accounting:A Case of Bahir Dar University Students’’, Research Journal of Finance and Accounting, Vol:6, No:5, ss: 146-153.
4. Hoai, V.P., T.N.K.Thi ve H.C.T.Thanh (2016); ‘Factors Influence Students’ Choice Of Accounting As A Major’’, The 10th International Days of Statistics and Economics, Prague, ss: 8-10,
5. Myburgh, J. (2005); ‘An Empirical Analysis Of Career Choice Factors That Influence First-YearAccounting Students At The University Of

- Pretoria: A Cross-Racial Study”, *Meditari Accountancy Research*, Vol: 13, No:2 , ss: 35-48.
6. Odiya, J.O. ve Ogiedu, K.O. (2013); “Factors Affecting the Study of Accounting in Nigerian Universities”, *Journal of Educational and Social Research*, Vol:3, No:3, ss: 89- 96.
 7. Umar, I. (2014); “Factors Influencing Students’ Career Choice in Accounting: The Case of Yobe State University”, *Research Journal of Finance and Accounting*, Vol:5, No:17, ss: 59-62.
 8. Zyl, C. ve C.Villiers (2011); “Why Some Students Choose To Become Chartered Accountants (and others do not)”, *Meditari Accountancy Research*, Vol: 19 No: 1/2, ss: 56-74.

CHAPTER 5:

**SUKUK AND THE FIRST EXAMPLE OF
REAL ESTATE INVESTMENT TRUST
ISSUANCE**

Feyzullah YETGIN¹

¹Doç. Dr., Halk GYO A.Ş. Genel Müdürü, Telefon : +905545371807,
feyzullah.yetgin@halkgyo.com.tr

1. INTRODUCTION

Differing from the traditional borrowing instruments with its structure, sukuk grew in importance in the global financial markets from the 2000s. As can be seen in Graph-1, global sukuk issuances showed an uptrend from 2007-2016. Showing rapid increases especially from 2011 onwards, these issuances stood at \$88.2 billion in 2016. Although Sukuk issuances are still concentrated in Malaysia and Gulf countries, country composition becomes more diversified with new issuances in Africa, East Asia and Europe. Sukuks are generally issued in Malaysian Ringgit and US dollars. Since the demand for Sukuk is generally higher than supply, many issuances generate more demand than supply. Sukuk investors generally prefer “Buy and Hold” approach in their investment considerations and strategies until the maturity date.

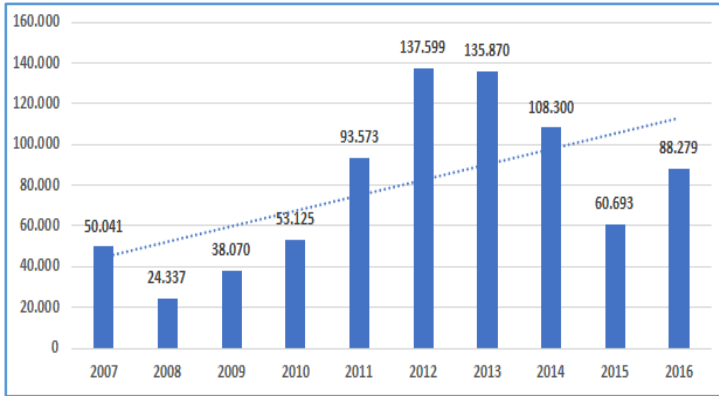


Chart-1 Sukuk Issuance at a Global Level from 2007-2016 (\$ million)

(Source: International Islamic Financial Market – 2017, p.2)

Despite being in early stages, Sukuk is predicted to serve as a potential financing instrument for infrastructure investments in both Muslim and Western countries in the coming years thanks to its increasing importance in global markets. Resolving countries' interpretation and implementation differences regarding sukuk and harmonizing differing approaches will support a more extensive use of sukuk at a global scale. Basically, sukuk is a financing instrument based on Islamic finance principles. However, depending on market conditions in economic life, sukuk can also be interpreted according to market dynamics under

precedent methods and without departing from the basic principles of Islamic finance. Having such an implementation flexibility will enable sukuk to have a potential which will support it to become a common financing instrument especially in a globalizing world.(Saeed A, Salah, O, 2013, pp.41-52)

The sukuk market can be used in public financing and debt management as well as meeting the financing need of the private sector and infrastructure investments. Sukuks provide issuers with medium- and long-term financing opportunities through asset diversification. Sukuks issued by states for various infrastructure and project financing needs (sovereign sukuks) both offer an instrument complying with the principles of Islamic funding in the capital markets and constitute a basis for reference prices for private sector issuances. This type of sukuks also provide central banks with an additional mechanism in liquidity management. Countries effectively using this liquidity option include Bahrain, Malaysia and Qatar. Sukuks are financial products that can be used intensively in the financing of infrastructure

projects. In contrast with the more restrictive nature of the banking industry sources, sukuk-based financing means have the potential to close this infrastructure gap. Malaysia benefits from sukuk issuances considerably in the financing of infrastructure investments such as airports, ports and roads. Gulf countries also try to follow this method. Sukuk offers a good guarantee structure also in the infrastructure projects carried out through public-private sector partnerships. Another important matter for banks operating in the interest-free financing field is that the money markets operating in accordance with Islamic finance principles have not yet reached the desired level of development. For instance, according to a study conducted by the Islamic Financial Services Board (IFSB) in 2014, only six of 24 countries have a Last Resort mechanism that is in line with the principles of interest-free financing. Two-thirds of global sukuk are currently issued in Malaysia and issuances in the country are made mostly in the local currency and local market. On the other hand, Gulf Cooperation Council (GCC) countries following Malaysia issue sukuk in USD dollar and with a focus on international markets.

Indonesia, Pakistan and Turkey are the other countries where sukuk began to develop as a finance instrument. Sukuk issuances have also started in the UK, Hong Kong, Luxembourg, South Africa and China where conventional financing methods are quite strong. In the separation of Public/Private sector sukuk, those issued by the states have a higher share in the short term, whereas those issued by private sector companies constitute 40% of the total market as of 2014. (Kasımoğlu, Yetgin and Küçükçolak, 2018)

The most common capital market instruments in Turkey are interest paying debt instruments such as bonds and bills. Despite the common use of these borrowing instruments in the capital market, Turkey also has financial instruments offered with interest-free principles. For example, profit and loss sharing certificates are interest-free capital markets instruments in Turkey and they are the most similar instruments to sukuk perhaps because their returns depend on profits or losses. The most important characteristic separating profit and loss sharing certificates from sukuk is that they

do not give their holders the right of ownership. One of the most fundamental principles of Sukuk is that it is an asset-backed financing instrument. (Alpaslan, 2014) Due to this asset-related principle, an enterprise issuing sukuk may consider a transaction in terms of partnership capital rather than debt. Granting the right to receive a share only according to financial performance in accordance with the relevant partnership share has a positive effect on the profitability of an organization issuing sukuk. Thus, an enterprise issuing sukuk can see improvements in its indebtedness and profitability ratios compared to another enterprise benefiting from financial leverage by issuing financing bills. (Shahdila, Shahzinda, Nurauliaani, 2014). In addition to its positive impact on business profitability and indebtedness rates, sukuk issuance has a positive effect on enterprises' income quality because it ensures a balance between the operating profit and the cash flow generated as a result of it. (İçten, 2013) Although Sukuk's asset-backed nature does cause any difference in accounting, measurement and disclosure procedures compared to interest-paying instruments in International Financial Reporting

standards, explaining the interest-free income principle behind such Islamic financial instruments will benefit financial statement users and investors will be able to analyze the benefit of this instrument to their organizations. (Hanefah, Noguchi and Muda, 2013) Despite such benefits of Sukuk issuance to a business, it should be noted that instruments it uses with decisions based on their capital structures are directly related to the structure of the financial market where they operate. Therefore, whether businesses will prefer to issue Sukuk should not be considered independent of the market effects outside them. (Haron and Ibrahim, 2012)

Although Turkey met with interest-free capital market products with a delay, its share of global sukuk markets has increased to 5.2% in recent years which is expected to rise further in the coming years. Turkey's share of the global sukuk market is expected to continue its increase with the introduction of especially innovative and qualified products to its capital markets. For example, the first REIT sukuk issued by Halk GYO, a strong member of the Halkbank family, is a noteworthy

result of innovative product projects in capital markets. Turkey's first REIT sukuk issuance was completed through sales to qualified investors with the cooperation between Halk GYO and Halk Yatırım. The issuance whereby Halk GYO became the fund user took place as the first transaction where Halk Varlık Kiralama, a new player in the lease certificate market, appeared as the issuing asset leasing company. This lease certificate had a nominal value of TL 100 million and a simple return rate of 13.25%.

Significant contributions will be made for the supply of low-cost capital to investors in Turkey thanks with the spread of sukuk in the country and especially the introduction of unused funds to capital markets with a focus on their sensitivity to interest-bearing financial instruments. Because small and medium-sized enterprises heavily operate in Turkey, it is expected that allowing the purchase and sales of properties they pledge as collateral for financing and making them subject to sukuk transactions will ensure the extension of the real estate basis needed for the spread of sukuk transactions.(Özeroğlu, A.İ, 2014, pp.751-752)

2. Conceptual Framework and Operation

2.1. Securitization in Interest-free Banking: Lease Certificates

Derived essentially from the word root “Sak” in Arabic, the concept of sukuk basically refers to documents or certificates showing ownership rights in an asset. These documents and certificates also refer to investors’ ownership of risks and returns from related assets in proportion to their shares.(Yean, 2012) Today sukuk refers to Islamic financing bonds. Having a broad number of types, sukuk is a financing method becoming more common in all global markets especially in the financing of newly developed projects although it is still used more intensively in the Arab markets and other Islamic countries. It continues to develop (Zin et al., 2011).

In addition to drawing interest around the world, the sukuk method has also some technical characteristics that prevent it from becoming widespread as fast as traditional finance instruments. Technical characteristics that prevent sukuk from becoming as common as

traditional debt instruments include, for example, the fact that companies wishing to make sukuk issuance lack assets that comply with the Islamic rules, that they do not have adequate information on legal, accounting and Islamic principles and that sukuk has higher issuance costs and issuance period than the traditional debt instruments (Lackman, 2015)

Sukuk generally functions on the basis of leasing. Accordingly, such certificates, which have a similar nature to asset-backed securities (ABS), are generally referred to as “lease certificates,” which are issued on the basis of a commercial relationship or a material investment. Different from asset-backed securitization as it is based on savings/loans, the system involves taking a portfolio from the company raising funds and its sale to a special purpose vehicle (SPV) which is not based on deposits-loans. As mentioned above, securities issued are generally sold to investors on the basis of cash inflows originating from the financing of a tangible investment project. Legislation implemented in Turkey has made Lease certificate issuance possible. According to this legislation, “asset leasing companies” that are designated

as special purpose vehicles, are capable of issuing lease certificates based on ownership, management, purchase-sale, partnership and similarly work contracts.(Yetgin and Okay, 2016)

2.2. *Operation of Lease Certificates*

There are significant differences in the operation of lease certificates compared to interest-bearing bonds. First, while classic bonds have only interest-based cash flows, lease certificates also include the right of ownership for the asset that is subject to the securitization. Accordingly, an investor enjoys the right to benefit from both the remaining balance and other proceeds of the asset with its sale obtaining a completely interest-free return. In this respect, lease certificates have the characteristic of a hybrid financial instrument that offers both a debt instrument and capital investment. (Zolfaghari, 2017) Stages of securitization based on lease certificates include the following successive steps. As the first step, the institution raising funds sells an asset to an asset leasing company on the condition that it will take back it at a later date. Then, the asset leasing company

purchasing the asset begins to issue securities based on this asset as valuable papers. The funds obtained from the lease certificates sold over time are transferred to the source institution by the asset leasing company. In the meantime, the asset subject to securitization is leased to the source institution and a rental fee is collected from it due to this leasing transaction. The asset leasing company pays the portions of such lease proceeds to lease certificate investors and takes back its principal by selling the asset back to the source institution on the maturity date. Thus, while the source company meets the financing needs without having to bear the interest cost, the asset leasing company generates income in return for its services. On the other hand, lease certificate investors are entitled to regular rental income. (Yetgin and Okay, 2016)

2.3. Lease Certificate Structures under Turkey's Capital Market Regulations

2.3.1. What is a Lease Certificate?

Communiqué on Lease Certificates (III-61.1) defines lease certificates as follows: “securities that are issued in compliance with interest-free principles by the

asset leasing company in order to finance all kinds of assets and rights and enable owners to benefit from such assets or rights in proportion to their shares.”

2.3.2. Types of Lease Certificates

The Communiqué on Lease Certificates (III-61.1), classify the types of lease certificates as follows.

2.3.2.1. Ownership-based Lease Certificate (Ijara)

These leasing certificates are issued to finance assets and rights to be taken over from a source institution by the asset leasing company to lease to companies (source institution) or third parties or manage on its behalf.

2.3.2.2. Management Contract-based Lease Certificate (Wakala)

These lease certificates are issued to transfer to asset leasing company returns related to the management of assets and rights of the source institution without their transfer for the asset leasing company including their rental in accordance with the provisions of the contract.

2.3.2.3. Purchase and Sale-based Lease Certificate (Murabaha)

These lease certificates are issued to finance the acquisition of an asset or right in the sale of the asset or right to the fund user companies after its purchase by an asset leasing company.

2.3.2.4. Partnership-based Lease Certificate (Mudaraba-Musharaka)

These are lease certificates issued by an asset leasing company to become a member of a joint partnership.

2.3.2.5. Work Contract-based Lease Certificate (Istisna)

These lease certificates are issued to ensure the creation of a work under a work contract to be signed by the asset leasing company itself as the business owner or on behalf of lease certificate holders.

2.3.2.6. Hybrid Lease Certificates

These are hybrid lease certificates that can be issued by asset leasing companies with the combined use of the above upon the CMB's approval and acceptance.

3. Real Estate Investment Trust System (REIT), Its Operation and Conceptual Framework

REITs are joint stock companies with a legal entity providing financing to all kinds of real estates or bringing many investors' capitals together for a real estate to be obtained. This investment instrument combines the best characteristics of real estate and securities investments providing investors with an efficient and reliable instrument whereby real estate is managed professionally in an investment portfolio.

3.1. Operation of REITs

REITs are financial funds that invest in real estates and mortgages. The use of REIT as an investment tool dates back to the 1880s. When they were first established, the revenues of REITs were not taxed if they were distributed to the beneficiaries. There was a need for stocks and funds largely based on real estates

especially after World War II and the REIT system started to be used widely after the completion of relevant legislation.

REITs are divided into two as Finite Life Real Estate Investment Trust and Perpetual Real Estate Investment Trust in addition to being grouped as Public Real Estate Investment Trust and Private Real Estate Investment Trust. Although many REITs are traded in securities markets, they are not obliged to go public. In contrast, REITs in Turkey are obliged to offer a minimum 25% of their shares to the public.

REITs which are neither included in BIST nor traded in over-the-counter markets are called private real estate investment trust. These REITs are typically divided into three types. (A) A special REIT targeting institutional investors who invest with large amounts, (b) REIT as an investor representative as part of the service package offered by a financial consultant and (c) Incubator Real Estate Investment Trust sold by venture capitalists with the expectation that it will be publicly listed in the future.

Another classification of REITs is based on whether they have ownership of the real estates seen in their assets. Accordingly, REITs are grouped into three categories as equity trusts, mortgage trusts and hybrid trusts.

The difference between assets held by equity trusts and mortgage trusts is quite clear. Whereas mortgage trusts have a lender position with mortgage liens given to those holding private equity by purchasing mortgage obligations, equity-based partnerships acquire the shares of such real estates. The implementation methods began to change over time and the advantages of both types (private equity and mortgage-based trusts) were combined in line with the type of investment objectives to create mixed trusts. This type of trusts is called hybrid trust.

3.2. *The Emergence of REITs*

In 1960, REITs emerged as a financial investment instrument with to the decisions taken by the US Congress. In the 1970s, they attracted demand as a new investment instrument in the US capital markets by offering significant advantages.

An analysis of the twenty-year performance records of REIT companies shows that they provided a 13.32% return to their partners between August 1975 and August 1995. Throughout this period, the REIT index achieved very high performance compared to S&P 500, Dow Jones, Frank Russel indexes. The REIT industry achieved this success as a result of certain legal and administrative regulations before 1970. In 1981, the Congress's regulations related to the tax shield led to a transformation in the structure of the real estate market from simple supply and demand rules to the changing supply of commercial real estates.

The American Congress made quick and strict amendments to basic laws with the 1986 tax reform regulation. These laws led to a radical change in the development and acquisition of commercial real estate

investments in the US. After 1986, the investors determined the performance of real estate investments based on current income and long-term growth as a criterion leading the REIT index to be based on such growth and return objectives. Having a small size with a total asset size of \$16.6 billion and market capitalization of \$7.71 billion by 1985, REITs were estimated to reach a more effective and sufficient size as a result of legal amendments. In the 1980s, the withdrawal of private capital from the markets led to a capital crisis. Investors started to turn to businesses which conducted valuations based on corporate governance and regular and reliable appraisals and whose senior management consisted of trusted, professional and risk-sharing persons. Collecting all these factors within a system, the real estate investment trusts see an increasing interest from investors. Since 1991, the REIT sector has started to make an effective progress. Real estate markets, capital markets and general economic conditions have a completely cyclical nature. REITs have become preferable as a reliable and stable investment instrument

within the general economic conjuncture and investment alternatives. REIT is a special type of portfolio management company that invests in various real estates (shopping centers, offices, hotels, warehouses) and operates by investing in real estate-based projects and capital market instruments. Various tax incentives granted by the state due to their operation in an organized manner and publicly have a great supportive effect on the establishment of such trusts.(Yetgin, 2006)

3.3. Importance of Sukuk Issuance in terms of REITs

REITs play an important role in creating a connection between real estate activities and financing. REITs are publicly listed portfolio management companies. Their portfolio includes real estates, real estate-based projects, rights and capital market instruments. As seen in Table-1, a significant portion of the portfolio sizes of REITs in Turkey consisted of real estates as well as projects and rights based on real estates from 2007-2016. REITs may have different financial performance levels depending on their portfolio composition. As a matter of fact, the study conducted to

measure the cash-based financial performance of REITs operating in Turkey between 2007-2016 indicated that there was a significant linear relationship between their financial performance and the change in weights of the real estate assets in their portfolios. (Yılmaz and İçten, 2018) Similarly, the study on the REITs' financial performance measurement in Turkey based on their balance sheets and income statements between 2007 and 2016 showed that there was a strong linear relationship between the financial performance of REITs and the proportional change in the real estate assets in their portfolios. In this context, the financial performance of REITs in Turkey will have a positive course if they increase the proportion of real estate assets; i.e. real estates, real estate-based projects and rights in their portfolios.

Increasing the level of real estate asset investments in their portfolios would require REITs, above all, to have a strong capital accumulation and sources of funds. When we consider the capital accumulation problem in Turkey, barriers that prevent REITs from increasing their

investment levels in real estate assets can be understood more clearly. Implementing new financial products that will increase capital accumulation and help to set in motion unused funds in Turkey will support REITs to reach new sources of funds at much more convenient costs. From this point of view, as asset-based financing instruments that provide interest-free returns sukuk appear as important financing instruments for REITs especially in the transfer of unused funds in Turkey which are sensitive about interest-bearing returns to the capital market.

Table 1: Portfolio Information of REITs Traded in Borsa Istanbul (2007-2016)

Years	Portfolio Information	
	Ratio of Real Estate, Projects and Rights Based on Real Estate in the Portfolio (%)	The Ratio of Money and Capital Market Instruments, Subsidiaries and Other Items in the Portfolio (%)
2016	77,30	22,70
2015	72,92	27,08
2014	70,67	29,33
2013	59,31	40,69
2012	66,00	34,00
2011	62,88	37,12
2010	82,40	17,60
2009	86,98	13,02
2008	90,18	09,82
2007	82,32	17,68

(Source: CMB Monthly Statistics Bulletins)

4. Sukuk Issuance of Real Estate Investment Trusts: First Example, Halk GYO Sukuk Issuance

Although the certificate of approval is regulated as optional under the regulations of the CMB, these sukuk products that are defined as Islamic debt instruments in

the international market should be structured according to the generally accepted Islamic Finance Principles (AAOIFI's Sharia Standards). Accordingly, two methods are crucial for the healthy completion of a sukuk cycle. They are determined according to their compliance with the following principles:

- The collection method for returns from the issuance
- Compliance of issuance returns with the principles of Islamic finance

Based on this approach, it is considered that Halk GYO can take debts from Turkey and abroad with the lease certificate issuance method through Halk Varlık Kiralama A.Ş. which is established as one of its subsidiaries. The applicable structures following preparatory works on Halk GYO's balance sheet and real estate portfolio include Ownership-based Lease Certificate (Ijara), Management Contract-based Lease Certificate (Wakala), and Work Contract-based Lease Certificate (Istisna) defined in accordance with CMB regulation.

All issuances will be made through Halk VKŞ in Turkey or abroad. All sukuk issuances will require the opinion of the approving institution. Based on the appraisal, the total size of eligible underlying assets is calculated as TL 330-350 million in the issuance to be conducted for Halk GYO through Ownership-Based Leasing Certificate issuances where assets on the balance sheet can serve as underlying assets. Issuances in Ownership-based Lease Certificates are limited to 90% of the underlying asset's appraisal value. Accordingly, it is revealed based on the existing underlying asset pool that a total of TL 300 million worth of lease certificates can be issued through this method within the CMB's limits for debt instruments.

4.1. Alternative Product Structures of Lease Certificates for Halk GYO

4.1.1. Ownership-based Lease Certificate (Ijara)

It seems possible to issue Ownership-based Leasing Certificates by using real estates that are on the REIT's balance sheet/portfolio as the underlying asset. However, if there are tenants in these properties, it will be essential that the weighted portion of the income of such tenants/main revenue item is not derived from an activity that will be contrary to the principles of Islamic finance. On the other hand, the use of returns from such issuance in accordance with the principles of Islamic finance will be decisive for the completion of the sukuk cycle and approval necessity.

Following an examination of 27 real estate properties provided and owned by Halk GYO with available rental incomes, an opinion was reached that 18 tenants in these real estates gained income from an activity that would be contrary to principles of Islamic finance. When these real estates are excluded from calculations, the appraisal value of the real estates that will form a basis for the issuance of Ownership-Based

Lease Certificate to be realized by Halk GYO is estimated to be TL 330-350 million in total. Issuances in Ownership-based Lease Certificates are limited to 90% of the underlying asset's appraisal value. Accordingly, it is revealed based on the existing underlying asset pool that a total of TL 300 million worth of lease certificates can be issued through this method within the CMB's limits for debt instruments. For this reason, an entrance can made to the market with issuance tranches worth TL 75-100 million in first transactions. (Halk Yatırım A.Ş. Investor Information Presentation)

Underlying assets:

Real estates owned by Halk GYO from which rental incomes may be generated, rentals and rental-like revenues it obtains from tenants performing activities in accordance with Islamic principles.

Process:

- Issuance of sukuk by Halk VKŞ.
- Payment of the issuance amount by sukuk investors to Halk VKŞ as the issuing institution.
- Transfer of the funds obtained through the issuance to the source institution by Halk VKŞ.
- The payment of proceeds by the source institution for the assets subject to issuance (asset portfolio) to Halk VKŞ to be later paid to sukuk investors as a portion of the profits.
- Source institution takes back the asset portfolio from Halk VKŞ on the repayment date by paying the amount to Halk VKŞ.
- Principal payment by Halk VKŞ to sukuk investors (repayment) from the asset portfolio amount collected from the source institution on the repayment date.

4.1.2. Work Contract-based Lease Certificate (Istisna)

Real Estate Investment Trusts can subject their development projects to the issuance of leases through “Work Contract-based Leasing Certificate” (istisna)

structure by using forward leasing contracts as their underlying asset. Accordingly, Halk GYO will be able to subject the ongoing IFM project to one or more lease certificates with an istisna structure that will serve as the basis of a forward leasing contract where the parties would be the asset leasing company and Halk GYO, respectively. In order for the sukuk cycle to be completed in a healthy manner, it is essential that the collection method of the issuance return and the method of using the issuance proceeds comply with the Islamic principles.

Accordingly, Halk GYO can be part of the IFC project whose construction started. For a calculation of the total size of the Work-based Lease Certificate structure under the IFM project, it was considered that an appraisal work was needed for the relevant project and expected rental income.

Underlying assets

- Rental incomes to be obtained from the project to be constructed with the issuance income through a forward leasing contract as part of the projects developed by Halk GYO

Process

- Funds from Halk VKŞ's issuance can be used in the financing of the building construction. Halk VKŞ becomes the building's owner until the repayment date.
- Halk VKŞ signs a work contract with the contractor company and demands the completion of the construction on a predetermined date. Contractor's progress payments are linked to a calendar.
- When the construction is built, VKŞ starts to "forward lease" assets subject to the work contract to Halk GYO. As their last owner, Halk GYO makes monthly rent payments to the Halk VKŞ. These rental incomes return to sukuk investors in the interim periods as coupon payments.
- On the repayment date, the completed building is sold to Halk GYO. Sales revenues are transferred to Halk VKŞ to be paid to the investors on the repayment date.
- Accordingly, Halk GYO will be able to subject the ongoing IFM project to one or more lease

certificates with an istisna structure that will serve as the basis of a forward leasing contract where the parties would be the asset leasing company and Halk GYO, respectively.

4.1.3. Management Contract-based Lease Certificate (Wakala)

It is possible also for the Real Estate Investment Trusts to issue a lease certificate based on the “management and investment power” (wakala) contract without using any underlying asset. In this lease certificate structure, sources are collected from investors in accordance with Islamic principles with a commitment that the issuance returns will be used in compliance with Islamic principles. It is essential to use the source in such issuance in accordance with Islamic principles. This product structure stands out with its relatively simple and brief application structure compared to other methods. (Halk Yatırım A.Ş. Investor Information Presentation)

The transaction contracts to be arranged for the Management Contract-based Leasing Certificate (Wakala) were made. (Table 2)

Underlying assets:

It is an issuance structure to obtain capital from investors. Therefore, the structure initially does not require a tangible/physical asset portfolio. The purpose is to pay the future income obtained from the use/investment of the fund to be collected through the issuance to sukuk investors as profits. When the contract term (itfa) arrives, the amount of funds collected in the issuance is repaid to the asset leasing company as principal repayment. (Figure 1)

Process:

- Issuance of sukuk by Halk VKŞ.
- Payment of the issuance amount by sukuk investors to Halk VKŞ as the issuing institution.
- Halk VKŞ's transfer of the fund created through the issuance to the fund user appointed by it as a proxy to manage and evaluate the entire fund in accordance with the Islamic principles.
- The Fund User shall pay the income from its use of the fund periodically and/or on maturity date to Halk VKŞ to be paid as a lease certificate income to sukuk investors.

- On the maturity date, the Fund User shall pay back to Halk VKŞ the issuance amount initially transferred to it. On payback date, Halk VKŞ shall pay the amount coming from the fund user to sukuk investors as principal.

Wakala Sukuk

Fund User

Halk GYO

Underlying Asset

The power of attorney whereby fund collected through issuance will be evaluated/used according to Islamic principles

(Tangible assets are not required before issuance.)

SPV (Special Purpose Vehicle): Halk VKŞ

Intermediary: Halk Yatırım

Figure-1: Halk GYO Wakala Sukuk Issuance Process and Transactions

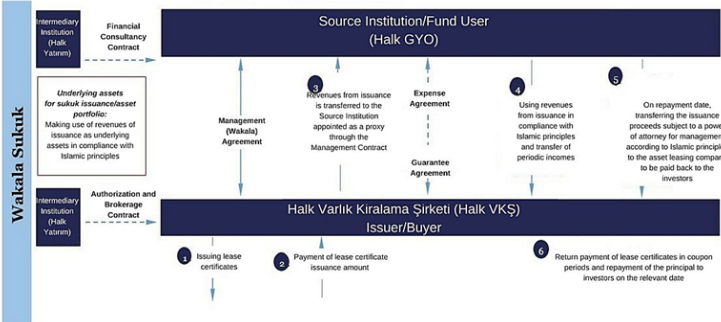


Table 2: Management Contract-based Lease Certificate (Wakala) | Transaction Contract Table

No.	Contract	Parties	Content
	Financial Consultancy Contract	Intermediary Institution (Halk Yatırım) & Source Institution (Halk GYO)	Authorization of Halk Yatırım as exclusive and fully authorized financial consultant and intermediary and the regulation of mutual rights and obligations under this authorization for country-wide sale of the lease certificates to be issued under an issuance program to be proposed by Halk Yatırım and approved by the Source Institution/Fund User. Their sale may take place through a public offering or in a private manner without such offering or in the form of sales to qualified investors.
2	Authorization and Brokerage Contract	Intermediary Institution (Halk Yatırım) & Halk Varlık Kiralama A.Ş. (Halk VKŞ)	Authorization of Halk Yatırım for the issuance of lease certificates through the asset leasing company with the use of the source institution's asset portfolio.
3	Management (Wakala) Contract	Source Institution (Halk GYO) & Halk Varlık Kiralama A.Ş. (Halk VKŞ)	Contract determining the conditions under which an asset portfolio is to be managed by the issuer which takes over the asset portfolio and source institution which is the proxy of the issuer.
4	Expense Contract	Source Institution (Halk GYO) & Halk Varlık Kiralama A.Ş. (Halk VKŞ)	The contract between the source institution (proxy) and the client (Halk VKŞ) on how to cover the expenses to be made for the management of the fund in question.
5	Guarantee Agreement	Source Institution (Halk GYO) & Halk Varlık Kiralama A.Ş. (Halk VKŞ)	Separate from the Management Contract (Wakala) between the source institution and issuing institution, the contract expressing a guarantee to the issuing institution regarding the timely and full collection of the receivables (arising) to be collected from customers that are borrowers due to the use of the fund generated through issuance.
6	Basic Terms and Conditions of the Lease Certificate Issuance Program	Source Institution (Halk GYO) & Halk Varlık Kiralama A.Ş. (Halk VKŞ)	The contract covering basic terms and conditions of the issuance program ("Issuance Program") to be created for the lease certificates that will be issued by asset leasing company with various types, terms and conditions according to an approved issuance document and with the limits of an Issuance Cap under the CMB's Communiqué on Lease Certificates (Series: III-61.1) ("Communiqué") which refers to the source institution as fund user.

4.1.4. Halk GYO - Risk Management and Credit Rating

4.1.4.1. Operational Risk

It refers to the risk of direct and indirect damages resulting from a wide range of reasons including a company's processes, employees, technology and infrastructure used. Operational risks may arise from all activities of a company. The company's aim is to avoid financial damages and damage to the company's reputation and to manage the operational risk by supporting entrepreneurship and creativity.

4.1.4.2. Market Risk

The market risk of money and capital market instruments are regularly measured, monitored within the limits set by the legislation and reported to the senior management.

4.1.4.3. Credit Risk

As part of the main company activities, the biggest source of probable receivables consists of rental incomes and receivables arising from the sales of the units in project developments. The credit risk is minimized

through qualified tenant portfolio and guaranteeing receivables pursuant to the standards determined by the management.

4.1.4.4. Liquidity Risk

The company evaluates the cash sources it does not direct to projects within money and capital market instruments to meet the cash outflows in full and on time paying attention to the consistency between the amount and maturity.

4.1.4.5. Compliance Risk

The Company complies with the portfolio limits set forth in the Communiqué on Real Estate Investment Trusts (Serial: No: 48.1) issued by the CMB as well as the legal limits that should be observed in asset distribution.

4.1.5. Credit Rating Report

The credit ratings for the Company and description of these ratings are summarized below in accordance with the credit rating report prepared by Saha Rating for Halk Gayrimenkul Yatırım Ortaklığı A.Ş. on July 21, 2017.

- Halk GYO's long-term national rating, short-term national rating, and outlook were evaluated as TR AA-, TR A1 + and Stable, respectively.
- According to the company's evaluation, these ratings have the highest credit level. In addition, the Company has a high capability to meet its financial obligations. On the other hand, security can be interpreted as having a slightly higher risk than risk-free government bonds. Accordingly, the lease certificate to be issued by the company can be considered as investible.

4.1.6. Approval

Halk Gayrimenkul Yatırım Ortaklığı A.Ş. | Approval Certificate The issuance structure and the Approval Certificate from the Isfa Academy Advisory Board are available.

4.1.7. Halk Gayrimenkul Yatırım Ortaklığı A.Ş. Summary of Issuance

Halk GYO, which will act as the Fund User and Asset Portfolio Manager, issued Management Contract-based (Investment Wakala) sukuk under the leadership of Halk Yatırım Menkul Değerler A.Ş. through Halk Varlık Kiralama A.Ş. (Table 3)

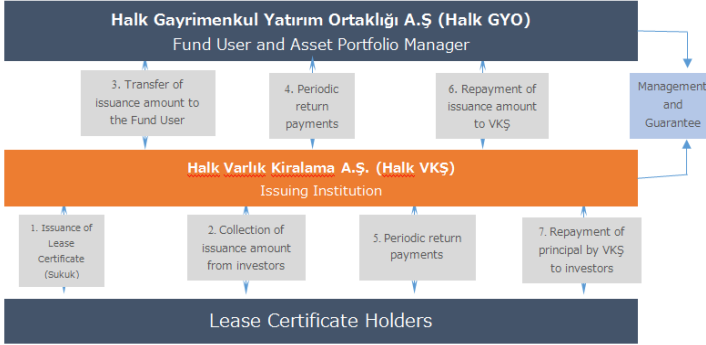
According to the Management Contract (Investment Wakala) drawn up between Halk GYO and Halk VKŞ, Halk GYO, which is designated as the deputy of the Halk VKŞ, guaranteed that it could use the issuance amount transferred in investment activities such as real estate production, sale of real estate projects, purchase/sale and leasing of real estates or real estate-based rights in accordance with the principles of Islamic finance and that it would perform transactions lower than a rate of return demanded by Halk VKŞ. The Issuance Structure of Halk Gayrimenkul Yatırım Ortaklığı A.Ş. was formed in the form of processes (Figure 2). Also, it was planned as a sukuk issuance calendar (Figure 3).

Table 3: Summary of the Issuance of Lease Certificates with 87-day Maturity

Source Institution	Halk Gayrimenkul Yatırım Ortaklığı A.Ş.
Asset Leasing Company (Issuing Institution)	Halk Varlık Kiralama A.Ş.
Leading Intermediary Institution	Halk Yatırım Menkul Değerler A.Ş.
Assets to be Taken from the Source Institution	Real Estates or Real Estate-based Rights
Security Type	Management Contract-based Lease Certificate
Issuance Amount (nominal)	Nominal issuance amount excluding lease certificates with an 87-day maturity is worth TL100,000,000.
Sales Method	Sales to Qualified Investors without Public Offering
Demand Collection	December 18, 2017
ISIN	It will be indicated separately.
Maturity of Security	87 days
Distribution Results and Pricing	December 18, 2017

Swap Date	December 19, 2017
Maturity Start Date	December 19, 2017
End of Maturity (Payback Date)	March 16, 2018
Pricing	Lease certificates with a maturity date of 87 days will be issued with simple and compound return rates of 13.25% and 13.93%, respectively, and a nominal value of TL 1.
Quotation - Market	BIST Debt Instruments Market Outright Purchases and Sales Market
Institution to Monitor Registered Lease Certificates	Central Securities Depository of Turkey
Payback Method	The principal and return payment will be made on the maturity date.
Estimated Transaction Date - Market	Thursday, December 21, 2017

**Figure -2: Halk Gayrimenkul Yatırım Ortaklığı A.Ş.
Issuance Structure**



- As an issuer, Halk VKŞ issues a lease certificate (sukuk).
- Halk VKŞ collects the amount to be obtained through issuance from lease certificate investors.
- Halk VKŞ transfers the issuance amount obtained from investors to Halk GYO, the Fund User designated by Halk VKŞ as a proxy in accordance with the Islamic finance principles. This transferred amount means that the lease certificate (sukuk) investors participate in Halk GYO's investment activities such as the production of real estates, the sale of real estate projects,

purchase/sale and leasing of real estates in proportion to their certificate share purchases.

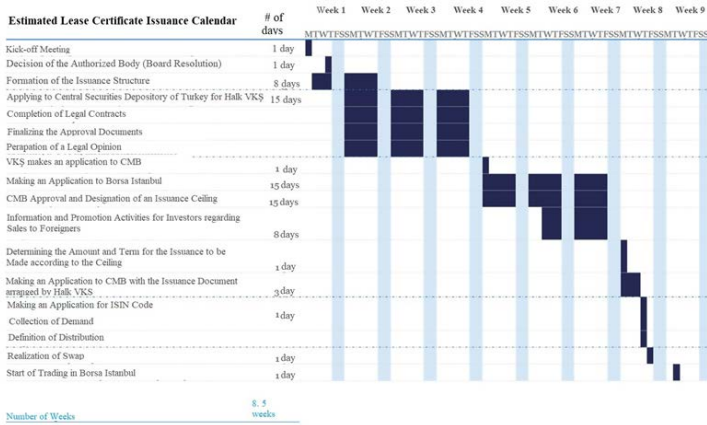
- Under the Management Agreement between the Fund User and Halk VKŞ, Halkj GYO gives a guarantee to Halk VKŞ that it will not perform any transactions lower than a certain return rate demanded by Halk VKŞ.

- Under the Management Agreement between the Fund User and Halk VKŞ, Halk GYO is authorized as an agent by Halk VKŞ on the condition that it will not perform any transactions lower than a certain rate of return demanded by Halk VKŞ.

- The Fund User makes payment to Halk VKŞ in specified periods from real estate production, real estate project sale, purchase/sale and leasing activities regarding real estates by taking into account the amount of the participation rate of the issuance amount in investment activities and the specified return amount. Halk VKŞ pays lease certificate investors periodic proceeds according to the lease certificate shares they hold.

- If the income provided from the fund user after it uses issuance amount in the investment activities is higher than the expected return, such surplus shall belong to the fund user as the Management Fee under the relationship of the Management Agreement and Investment Proxy.
- The Fund User makes a commitment to Halk VKŞ that it will pay receivables from the investment activities in full and without delay in accordance with the Guarantee Agreement.
- On the maturity date, the Fund User shall return to Halk VKŞ the issuance amount initially transferred to it.
- Halk VKŞ pays the amount returned by the Fund user to the owners of the lease certificate as a principal repayment (itfa) in proportion to their shares.

Figure -3: Sukuk Calendar Prediction



5. Conclusion and Evaluation

Despite being in the early stages, Sukuk is predicted to serve as a potential financing instrument for infrastructure investments in both Muslim and Western countries in the coming years thanks to its increasing importance in global markets. Resolving countries' interpretation and implementation differences regarding sukuk and harmonizing differing approaches will support a more extensive use of sukuk at a global scale. Basically, sukuk is a financing instrument based on Islamic finance principles. However, depending on market conditions in economic life, sukuk can also be interpreted according to market dynamics under precedent methods and without departing from the basic principles of Islamic finance. Having such an implementation flexibility will enable sukuk to have a potential which will support it to become a common financing instrument especially in a globalizing world.

There are significant differences in the operation of lease certificates compared to interest-bearing bonds. First, while classic bonds have only interest-based cash flows, lease certificates also include the right of

ownership for the asset that is subject to the securitization. Accordingly, an investor enjoys the right to benefit from both the remaining balance and other proceeds of the asset with its sale obtaining a completely interest-free return. In this respect, lease certificates have the characteristic of a hybrid financial instrument that offers both a debt instrument and capital investment.

REITs are joint stock companies with a legal entity providing financing to all kinds of real estates or bringing many investors' capitals together for a real estate to be obtained. This investment instrument combines the best characteristics of real estate and securities investments providing investors with an efficient and reliable instrument whereby real estate is managed professionally in an investment portfolio.

It was considered that Halk GYO could borrow debt from inside and outside Turkey with the lease certificate issuance method through Halk Varlık Kiralama A.Ş., which is established as one of its subsidiaries. The applicable structures following preparatory works on Halk GYO's balance sheet and real

estate portfolio include Ownership-based Lease Certificate (Ijara), Management Contract-based Lease Certificate (Wakala), and Work Contract-based Lease Certificate (Istisna) defined in accordance with CMB regulation.

All issuances will be made through Halk VKŞ in Turkey or abroad. All sukuk issuances will require the opinion of the approving institution. Based on the appraisal, the total size of eligible underlying assets is calculated as TL 330-350 million in the issuance to be conducted for Halk GYO through Ownership-Based Leasing Certificate issuances where assets on the balance sheet can serve as underlying assets. Issuances in Ownership-based Lease Certificates are limited to 90% of the underlying asset's appraisal value. Accordingly, it is revealed based on the existing underlying asset pool that a total of TL 300 million worth of lease certificates can be issued through this method within the CMB's limits for debt instruments. Halk GYO, which will act as the Fund User and Asset Portfolio Manager, issued Management Contract-based (Investment Wakala) sukuk

under the leadership of Halk Yatırım Menkul Değerler A.Ş. through Halk Varlık Kiralama A.Ş.

According to the Management Contract (Investment Wakala) drawn up between Halk GYO and Halk VKŞ, Halk GYO, which is designated as the deputy of the Halk VKŞ, guaranteed that it could use the issuance amount transferred in investment activities such as real estate production, sale of real estate projects, purchase/sale and leasing of real estates or real estate-based rights in accordance with the principles of Islamic finance and that it would perform transactions lower than a rate of return demanded by Halk VKŞ. Source provided thanks to sukuk issuance shall be used for the financing of the source investments.

Increasing the level of real estate asset investments in their portfolios would require REITs, above all, to have a strong capital accumulation and sources of funds. When we consider the capital accumulation problem in Turkey, barriers that prevent REITs from increasing their investment levels in real estate assets can be understood more clearly. Implementing new financial products that

will increase capital accumulation and help to set in motion unused funds in Turkey will support REITs to reach new sources of funds at much more convenient costs. From this point of view, as asset-based financing instruments that provide interest-free returns sukuk appear as important financing instruments for REITs especially in the transfer of unused funds in Turkey that are sensitive about interest-bearing returns to the capital market. In this respect, Halk GYO A.Ş.'s sukuk issuance set an example as the first such issuance among REITs. It enabled providing the financing needed by REITs for new projects through a different instrument. The number of such practices should increase for the growth and development of the REIT industry.

REFERENCES

Alpaslan H. İ., (2014), “*Yeni Bir Finansman Aracı Olarak Sukuk (Kira Sözleşmesi) ve Muhasebeleştirilmesi*”, Finansal Araştırmalar ve Çalışmalar Dergisi • Vol: 6 • Issue: 11 • July 2014, pp. 20-21, <http://dergipark.gov.tr/download/article-file/3995>, Access Date: 01.08.2018

Halk Yatırım A.Ş. Investor Information Presentation

Hanefah M.M, Noguchi, A ve Muda M, (2013), “*Sukuk: Global Issues and Challenges*”, Journal of Legal, Ethical and Regulatory Issues, Volume 16, pp.107-119, <http://ddms.usim.edu.my/bitstream/123456789/12102/1/SUKUK%20%3B%20GLOBAL%20ISSUES%20AND%20CHALLENGES.pdf> Access Date: 01.08.2018

Haron, R., ve İbrahim, K., (2012), “*The Impact of Sukuk on Corporate Financing: Malaysia Evidence*”,

Journal of Islamic Finance, Vol. 1 No. 1, pp.1-12,
http://irep.iium.edu.my/26251/1/The_Impact_of_Sukuk.pdf Access Date: 01.08.2018

International Islamic Finance Market (2017), “*Sukuk Report*”, Bahrain, p.2,
http://www.iifm.net/system/files/private/en/IIFM%20Sukuk%20Report%20%286th%20Edition%29_2.pdf, Access Date: 01.08.2018

İçten, O., (2013) “*Hisse Başı Kazanç Kalitesinin Hisse Başı İşletme Faaliyetlerinden Net Nakit Akışı İle Test Edilmesi ve İMKB Ticaret Endeksi Hisse Senetleri Örneği*”, Maliye Finans Yazıları Dergisi, Issue: 98, pp.49-65

Kasımoğlu, M. Yetgin, F and Küçükçolak, A. (2018) “*Kira Sertifikaları, Türkiye Tecrübesi ve Bir Vaka Çalışması*”, İstanbul Journal of Economics, 68, pp.5-6.

Lackman, B. G., (2015) “*Types of Sukuk (Islamic Bonds) and History of Japanese Company Issuance*”
Nomura Journal of Capital Markets Vol. 6. No.3,
p.19,
<http://www.nicmr.com/nicmr/english/report/repo/2015/2015win02.pdf>

Özeroğlu, A. İ, (2014), “*Sukuk ve Türkiye’de Sukukun Uygulanabilirliğinin Değerlendirilmesi*”, Tarih Okulu Dergisi, Issue: 19, pp.751-752,
http://www.johschool.com/Makaleler/330935375_a_ihsan.pdf Access Date: 01.08.2018

Shahdila, W., Shahzinda, W ve Nurauliant, (2014) “*Islamic Investment: Critics on Sukuk and Bond*”,
Proceeding of the 1st International Conference on Management and Muamalah 2014, pp.139-150,
<http://www.kuis.edu.my/icomm/1st/e-proceedings/IC011.pdf> Access Date: 01.08.2018

Saeed, A. & Salah, O., (2013) “*Development of Sukuk: Pragmatic and Idealist Approaches to*

Sukuk Structures’, J.I.B.L.R., Issue 1 Thomson Reuters (Professional) UK Limited and Contributors, pp. 41-52,
<https://www.debrauw.com/wp-content/uploads/NEWS%20-%20PUBLICATIONS/Development-Sukuk-Pragmatic-and-Idealist-Approaches-to-20-Sukuk-20Structures.pdf> ,Access Date: 01.08.2018

Capital Markets Board, Communiqué on Lease Certificates (III-61.1)

Capital Markets Board, Monthly Statistics Bulletins

Yean T.W., (2012) “Sukuk: Issues and the Way Forward”, International Lawyers Network, p.2,
http://www.iln.com/articles/pub_1674.pdf Access Date: 01.08.2018

Zin M.Z.M., Sakat A.A., Ahmad N.Z., Mohd Nor M.R.M., Ishak, A.B.S, Jamain, M.S. (2011) “*The Effectiveness of Sukuk in Islamic Finance Market*”,

Australian Journal of Basic and Applied S. 5(12),
pp. 1-7,
https://umexpert.um.edu.my/file/publication/00009616_76193.pdf

Zolfaghari, P., ''*An Introduction to Islamic Securities*''
Uppsala University Faculty of Law Working Paper,
2017, p.27,
http://www.jur.uu.se/digitalAssets/563/c_563862-1_3-k_wps2017-2.pdf

Yetgin, F., Okay, G.,(2016) ''*Housing Finance Based On Lease Certificates And The Case of Turkey*'', The Journal Of American Academy Of Business, Cambridge* Vol. 22, No.1, p.87.

Yetgin, F., (2006), ''*Gayrimenkul Yatırım Ortaklıklarının Performans Değerlemesi ve Türkiye Uygulaması*'', İMKB, pp. 6-9

Yetgin F., İçten, O., (2018), ''*TOPSIS Yöntemi ile Borsa İstanbul'da İşlem Gören Gayrimenkul Yatırım Ortaklıklarının 2007-2016 Yılları Arası Finansal*

Performans Analizi’, İstanbul Gelişim Üniversitesi
Sosyal Bilimler Dergisi, 5(1), pp.40-42

Yılmaz M.K., İçten O., (2018), “*Borsa İstanbul’da İşlem
Gören Gayrimenkul Yatırım Ortaklıklarının Nakit
Akımı Odaklı Finansal Performans Analizi (2007-
2016)*”, Finans, Politik ve Ekonomik Yorumlar
Dergisi, Vol.: 55, Issue: 635, pp.84-86

CHAPTER 6:
**THE DEGREE TO WHICH
PARTICIPATION AND TRADITIONAL
BANKS HAVE BEEN AFFECTED BY THE
GLOBAL CRISIS: A COMPARATIVE
ANALYSIS**

Dr. Erkan ALSU

Gaziantep University Faculty of Economics and Administrative Sciences,
Department of Business
alsu@gantep.edu.tr

INTRODUCTION

Participation banking refers to banks in Islamic countries which position themselves outside the interest system, operating through the dividend distribution system instead. Established as an alternative banking system to appeal to customers who do not wish to hold their deposits in the commercial banking system due to their aversion to interest, participation banking is becoming more visible across the Turkish financial landscape. In recent years, state banks have been providing participation banking services besides commercial banking. Although there are fewer participation banks in Turkey than there are commercial banks, it is expected that their numbers will increase in the future.

As the dominant component of the Islamic financial sector, the Islamic banking sector has grown exponentially over the past two decades and has spread to over 50 Muslim and non-Muslim countries around the globe, with an asset value of around 1.9 trillion (Global Report, 2018).

The following sets out the timeline for the development of participation banks in Turkey (Participation Banks Association of Turkey, 2018).

- *In 1983, in accordance with Decree Law No. 83/7506, Private Finance Institutions were granted permission to operate within the country. In the following year, the Albaraka Türk Private Finance Corporation was granted an operating license.*

- *In 1985, the Albaraka Türk Private Finance Corporation and Faisal Finance Institution started their operations.*
- *In 1989, the Kuveyt Türk Private Finance Institution was established.*
- *The Anadolu Private Finance Institution was established in 1991 and the İhlas Finance Institution was established in 1995. In the same years, the Foundation for Private Finance Institutions Association was established.*
- *In 1999, private finance institutions were included within the scope of Banking Law No. 4389.*
- *In 2000, the Banking Regulation and Supervision Agency was established.*
- *In 2001, the operations of the İhlas Finance Institution were stopped by the Banking Regulation and Supervision Agency and its banking license was revoked. The Faisal Finance Institution became Family Finance. The Private Finance Institutions Association was established.*
- *In 2002, Kuveyt Türk opened its first overseas branch in Bahrain.*
- *In 2003, the Foundation for Private Finance Institutions Association was dissolved and all its assets were transferred to the Private Finance Institutions Association. The Private Finance Institutions Association launched its website.*
- *In 2005, with Banking Law No. 5411, the institutions in the sector were no longer referred to as “private finance institutions”, but as “participation banks”. The title of the Private*

Finance Institutions Association was changed to the “Participation Banks Association of Turkey”. Anadolu Finance and Family Finance merged to become Turkey Finance. Quarterly bank and sector balance sheets began to be published on the website.

●**In 2006**, the Statute of the Participation Banks Association of Turkey Statute was published in the Official Gazette.

●**In 2007**, Albaraka Türk’s initial public offering was made. The Individual Customer Arbitration Committee started its activities.

●**In 2008**, 60% of Turkey Finance Participation Bank’s shares were purchased by the Saudi Arabian-based The National Commercial Bank (NCB). A regulatory decree came into force to regulate banks’ TV commercials. The Banking Code of Ethics was published. A regulatory decree was enacted to determine the minimum requirements for credit card contracts, bank statements, and notifications to customers.

●**In 2011**, Kuveyt Türk issued its first private lease certificate. The Participation Index was established for trading on the Istanbul Stock Exchange.

●**In 2012**, the Undersecretariat of Treasury issued its first public lease certificate. The timeout query portal became operational. Albaraka Türk opened its first overseas branch in Erbil, Iraq. The Participation Banks Association of Turkey and the

Malaysian Islamic Banks Association signed a cooperation agreement.

● **In 2013**, the Participation Private Pension Scheme was established.

● **In 2014**, the Participation Index Based Exchange Traded Fund was established. The Participation Banks Association of Turkey and the Islamic Research and Education Institute signed a cooperation agreement.

● **KT Portföy** was established **in 2015**. Ziraat Participation Bank was the first public participation bank to be established. The 2015-2025 Strategy Document of the Participation Banks Association of Turkey was published. Kuveyt Türk established KT Bank AG in Germany in accordance with Islamic banking principles. The Interest Finance Coordination Board was established within the ministry with which the Undersecretariat of Treasury is affiliated. Albaraka Portföy was established.

● **In 2016**, Vakıf Participation Bank was founded as the second public participation bank. The Individual Customer Arbitration Committee was established. The “Participation Banking and Development of Interest-Free Financing” component was added within the scope of the 10th Development Plan Istanbul Finance Center Program.

● **In 2017**, the Participation Banks Association of Turkey and the Islamic Development Bank signed a cooperation agreement. The first issue of

Participation Finance Magazine was published. Participation Banking Awards started to be given out and an Article Competition was opened. The headquarters of the association was moved from Altunizade, Istanbul to Ümraniye, Istanbul. Efforts to establish a Central Billing Registration Platform were started. Istanbul University Islamic Economics and Finance Application and Research Center and the Participation Banks Association of Turkey signed an agreement for the translation of publications. In cooperation with the AAOIFI (Accounting and Auditing Organization for Islamic Financial Institutions), a project to translate the Shari'ah Standards into Turkish was begun.

There are five participation banks in Turkey: Albaraka Turk Participation Bank, Kuveyt Türk Participation Bank, Turkey Finans Participation Bank, Vakıf Participation Bank and Ziraat Participation Bank.

It is possible to summarize the (general) working principles of these institutions, which are classified as interest-free banks, as follows (Özulucan, 2009):

- Firstly, there is absolute risk. For this reason, the funds collected should be put to use in a commercial area or for a lucrative enterprise. In other words, the fact that in Islam, the interest is haram and the trade is halal pushes participation banks to do business together with their customers.
- A major part of the funds finance enterprises with social efficiency.

- The financial risk belongs to those who lend the capital. That is, the risk does not belong to the manager or agent who manages the capital.
- The most distinguishing feature of such banks is that interest payments have no place in their operations. In other words, they do not pay interest for the resources they provide and they do not collect interest from customers for the resources they make available.
- It is all centered around the capital. It is generally accepted that Islamic banking includes profit-loss partnerships (mudaraba) or capital subsidiaries (musaraka). In Islam, the owner of a stock can share the profits generated with an entrepreneur as recompense for their expertise and efforts. It is set out in advance at what rates the profits yielded by the capital will be shared, but the profit amount is indeed unclear.

This study intends to provide a comparative analysis of the performance of participation banks and traditional banks in Turkey, whose shares are traded on the Istanbul Stock Exchange (BIST), before, during and after the global crisis of 2008 in the light of certain variables and examine the impact of the same crisis on the banks. Besides this, both types of banks were compared in terms of their pre-crisis and post-crisis conditions with their strengths and weaknesses explained. For this purpose, both Turkish, but especially foreign sources in the literature were reviewed and hypotheses were developed for both banks. In addition, the variables related to the concepts of efficiency, liquidity, capital

structure, deposits and performance in the banking sector were collected and analyzed.

2. Literature Review

In recent years, participation banks have become the subject of academic research in many respects due to their rapidly increasing importance. When the current literature is reviewed, it is seen that in addition to studies comparing participation banks with traditional banks, there are also studies solely focusing on participation banks, dwelling on the challenges they face both at home and abroad and trying to address those challenges.

In their research, Özulucan and Deran (2009) provided an overview of participation banks whilst also comparing them with traditional banks. The study emphasizes that participation banks fulfill all the functions of traditional banks, while adhering to their core operation principles. The study also states that while traditional banks carry out transactions involving interest, participation banks have adopted an interest-free banking model by developing a concept based on profit-loss partnership. The study makes a comparison between participation banks and traditional banks using many criteria in terms of both banking activities and accounting procedures.

Aras and Öztürk (2011) examined the contributions of the funds made available by participation banks to the real economy and found that although these banks have been performing well since 2002, participation banks lack seriously in terms of making a direct contribution to the real economy, not delivering what is expected of them in that regard.

In a study examining whether there was a difference between Islamic banks and traditional banks in terms of performance before and after the 2008 financial crisis, Rashwan (2012) found that there was a significant difference between the two sectors in 2007 and 2009, but that the same difference was not there in 2008, i.e. both sectors were equally impacted by the crisis. The findings of the study show that the Islamic Banks performed much better in 2007 with the pendulum of performance swinging towards traditional banks in 2009.

In a study examining the relationship between the development of Islamic banks in Indonesia and the economic growth in the short and long term, Abduh and Omar (2012) found that long-term Islamic financial development was positively and significantly associated with economic growth and capital accumulation, and that internal financing provided by the Islamic banking sector contributed to the growth of the country.

In a comparative study including nine traditional and five Islamic banks in Malaysia, Wasiuzzaman and Gunasegavan (2013) found that the average return-on-assets of traditional banks was higher than that of Islamic banks and that Islamic banks performed better in terms of other variables (activity efficiency, asset quality, liquidity, and capital adequacy).

In a study covering the period between 2006-2009 where the performance of 65 traditional banks and 27 Islamic banks was examined during and in the aftermath of the financial crisis, Amba and Almukharreq (2013) found that financial crises had a negative impact on the profitability of both Islamic and traditional banks but that during the financial crisis, the Islamic banks had a more

profitable outlook than traditional banks. However, this was not statistically significant.

In a study comparing the performance of Islamic banks in Qatar to that of conventional banks using their 2006-2010 financial ratios, Elsiefy (2013) found that Islamic banks were more resilient in terms of total assets, loans and growth rates, both before and after the crisis, but that these banks had less sustainable profitability rates.

In a study examining the determinants of the efficiency of traditional and Islamic banks in Malaysia on the basis of 19 traditional and 16 Islamic banks, Rozzani and Rahman (2013) found that the profit efficiency levels were quite similar for both traditional and Islamic banks.

Ayrıçay et al. (2013) used a field survey to present the hurdles barring the development of participation banking. The study argues that participation banks have been operating since the 1980s in order to diversify financial institutions and instruments and to add more depth to the system. The study also states that participation banks are valued not only in Islamic countries but also in the US and EU countries. Due to this degree of importance attached to participation banks, the study examines the challenges facing participation and deposit banks from the perspective of 324 bank employees from the cities of Izmir, Istanbul, Kahramanmaraş and Gaziantep. It was concluded that different answers were given to proposals regarding the barriers facing participation banks on the basis of the gender, age, and educational status of the respondents.

In a study analyzing the short and long-term assets, unfunded liabilities (deficit) and the determinants of the

net interest/profit margins during the 1997-2010 period, Sun et al. (2014) found that traditional and Islamic banks had short-term deficits and positive long-term deficits and that they used long-term loans, short-term deposits and funds by taking into account the risks of re-investment in financing these deficits. Another important conclusion they reached was that the quality of the assets and liabilities of traditional banks was better.

Moborek and Kalonov (2014) used the two dominant boundary approaches, which are common in the banking literature, in their study of the impact of the recent financial crisis on the Islamic banks and traditional banks in 18 countries that are members of the Islamic Conference Organization. They also estimated efficiency and financial stability using the Z-score method as the coefficient of validity. The results based on data envelopment analysis and stochastic boundary analysis showed that traditional banks were more efficient than Islamic banks. In contrast to this analysis, the Z-score showed that Islamic banks were more financially stable than traditional banks.

3. Materials and Methods

Information on the collection of data, which is an important part of the research, and how this data is processed, is presented in this section. In this section, first of all, the relationship between sample size and study population is discussed and then information is given on data collection, coding of data, analysis preferences, validity of the scales, and the hypotheses.

3.1. Identifying the Study Population and Sample

This study provides a comparison between participation banks and traditional banks before, during and after the 2008 global crisis. While participation and conventional banks in Turkey make up the study population, the sample comprises of four participation banks and 14 conventional banks in Turkey whose shares are traded on the Istanbul Stock Exchange.

3.2. Data Collection

For this purpose, we analyzed the disclosed financial statements and footnotes of participation banks and traditional banks that are listed on the Istanbul Stock Exchange and collected the data in accordance with the defined variables.

We tried to handle the variables in accordance with the banking sector. In this context, the ratios appropriate for the banking sector were initially evaluated in five groups: liquidity, profitability, capital structure, deposits, and performance ratios. Meanwhile, the subgroups of the main groups were identified and coded as follows:

Table – 1: Variables used in the research

Efficiency Rates	Active Profitability
	Equity Profitability
	Income Expense Ratio
	Operating Expenses Ratio
	Net Interest Margin
Liquidity Ratios	Non-Performing Loans / Total Loans
	Loans / Total Assets
	Special Provisions / Loans
	Liquid Assets / Current Debt
Capital Structure Ratios	Equity / Loans
	Equity / Total Assets
Deposit Rates	Deposits / Total Assets
	Loans / Deposits
	Equity / Deposit
Performance Rates	Increase in Deposits
	Net Profit Growth
	Equity Growth
	Growth in Loans

The data collection process was begun after defining the variables. At this stage, following a review of the companies listed on the Istanbul Stock Exchange, we accessed the details of two participation banks and 14 traditional banks found on the official website of the Public Disclosure Platform. As it is known that there are currently four participation banks in Turkey, the data of the two other banks was accessed through the activity

reports they have disclosed over the years. Finally, the data of 18 banks, including four participation banks and 14 traditional banks, was obtained from their financial statements between 2005 and 2013 in line with the ratios mentioned above. In summary, the data and stock exchange codes of the 18 banks that make up the research sampling are as follows:

Table – 2: Research Sample Banks and their Stock Exchange Codes

SN	STOCK EXCHANGE CODE	NAME OF BANK
1	AKBNK	AKBANK
2	ALBRK	ALBARAKA TÜRK
3	ALNTF	ALTERNATİF BANK
4	ASYAB	ASYA PARTICIPATION BANK
5	DENİZ	DENİZBANK
6	FINBN	FİNANSBANK
7	GARAN	GARANTİ BANKASI
8	HALKB	HALK BANKASI
9	ISCTR	İŞ BANKASI
10	KLNMA	DEVELOPMENT BANK OF TURKEY
11	SKBNK	ŞEKERBANK
12	TEBNK	TURKISH ECONOMY BANK
13	TEKST	TEKSTİL BANK
14	TSKB	TSKB
15	VAKBN	VAKIFLAR BANKASI
16	YKBNK	YAPI VE KREDİ BANKASI
17	-	TURKEY FINANCE
18	-	KUVEYT TÜRK

Source: <http://www.kap.gov.tr>

The raw data obtained was processed into the SPSS 21.0 package program and made ready for analysis. We conducted research to select a statistical technique appropriate for the data collected both during the literature review and the data collection stage.

3.3. The Analysis Method Used

As one purpose of the study was to ascertain whether there is a difference between participation banks and traditional banks, while the other important objective was to determine whether there is a difference between the banks' situation before, during and after the crisis, the independent samples T-test was chosen as the method of analysis.

The T-test can be performed to see if there is a significant difference between the averages of the measured numerical values of two different groups or to determine whether the average of a group number is different from a certain number. There are three types of T-tests: the single sample T-test, independent samples T-test, and paired samples T-test. The single sample T-test is performed to see if the average of a group of data is different from a certain value. The independent samples T-test is carried out to determine whether there is a significant difference between the two groups in terms of a dependent variable, while the paired samples T-test is carried out to determine whether there is a significant difference between the averages of these two measurements. We decided to use the independent sample T-test for this study. We chose this method due to the fact that it allows hypothesis tests for the parameter

difference of two samples or study populations to be conducted. In addition, the assumptions of this method apply to normal study populations or $n_1 + n_2 > 40$, independent observations $\sigma_1 = \sigma_2$, and σ_1 unknown σ_2 values. The T-statistic of the model is calculated as follows:

$$t = \frac{(\bar{x}_1 - \bar{x}_2) - (\mu_1 - \mu_2)}{S_p \sqrt{\frac{1}{n_1} + \frac{1}{n_2}}}$$

While the calculation of the variance of the sample is as follows:

$$S_p^2 = \frac{(n_1 - 1)S_1^2 + (n_2 - 1)S_2^2}{n_1 + n_2 - 2}$$

The degree of independence of the model, on the other hand, is calculated with the help of formula $df = n_1 + n_2 - 2$. The parameter definitions of the model are as follows: n = sample size, \bar{x} = sample average, μ_0 = mean of the study population, σ = standard deviation of the study population, T = T-statistic, sd = degree of independence, n_1 = sample 1 size, n_2 = sample 2 size, S_1 = sample 1 standard deviation, S_2 = sample 2 standard deviation, μ_1 = mean of study population 1, μ_2 = mean of study population 2.

3.4. Hypotheses Developed During the Research

After determining the problem of the study and the data collection and analysis technique, the hypotheses of the research, which offer insights into the research result and are also the proposed answer to the research problem, were determined as follows in light of the literature review and the determination of the variables:

3.4.1. Hypotheses Regarding the Efficiency of the Banks

H_(1a): The extent to which the participation banks were affected by the crisis in terms of efficiency differed from the degree to which traditional banks were affected by the crisis in terms of efficiency before and during the crisis.

H_(1b): The efficiency of the participation banks differed from that of the traditional banks before the crisis.

H_(2a): The extent to which the participation banks were affected by the crisis in terms of efficiency differed from the degree to which traditional banks were affected by the crisis in terms of efficiency before and after the crisis.

H_(2b): The efficiency of the participation banks differed from that of the traditional banks during the crisis.

H_(3a): The extent to which the participation banks were affected by the crisis in terms of efficiency differed from the degree to which traditional banks were affected by the crisis in terms of efficiency during and after the crisis.

H_(3b): The efficiency of the participation banks differed from that of the traditional banks after the crisis.

3.4.2. Hypotheses Regarding the Liquidity of the Banks

H_(4a): The extent to which the participation banks were affected by the crisis in terms of liquidity differed from the degree to which traditional banks were affected by the crisis in terms of liquidity before and during the crisis.

H_(4b): The liquidity of the participation banks differed from that of the traditional banks before the crisis.

H_(5a): The extent to which the participation banks were affected by the crisis in terms of liquidity differed from the degree to which traditional banks were affected by the crisis in terms of liquidity before and after the crisis.

H_(5b): The liquidity of the participation banks differed from that of the traditional banks during the crisis.

H_(6a): The extent to which the participation banks were affected by the crisis in terms of liquidity differed from the degree to which traditional banks were affected by the crisis in terms of liquidity during and after the crisis.

H_(6b): The liquidity of the participation banks differed from that of the traditional banks after the crisis.

3.4.3. Hypotheses Regarding the Capital Structure of the Banks

H_(7a): The extent to which the participation banks were affected by the crisis in terms of their capital structure differed from the degree to which traditional banks were affected by the crisis in terms of their capital structure before and during the crisis.

H_(7b): The capital structure of the participation banks differed from that of the traditional banks before the crisis.

H_(8a): The extent to which the participation banks were affected by the crisis in terms of their capital structure differed from the degree to which traditional banks were affected by the crisis in terms of their capital structure before and during the crisis.

H_(8b): The capital structure of the participation banks differed from that of the traditional banks during the crisis.

H_(9a): The extent to which the participation banks were affected by the crisis in terms of their capital structure differed from the degree to which traditional banks were affected by the crisis in terms of their capital structure during and after the crisis.

H_(9b): The capital structure of the participation banks differed from that of the traditional banks after the crisis.

3.4.4. Hypotheses Regarding the Deposit Scores of the Banks

$H_{(10a)}$: The extent to which the participation banks were affected by the crisis in terms of their deposit scores differed from the degree to which traditional banks were affected by the crisis in terms of their deposit scores before and during the crisis.

$H_{(10b)}$: The deposit scores of the participation banks differed from those of the traditional banks before the crisis.

$H_{(11a)}$: The extent to which the participation banks were affected by the crisis in terms of their deposit scores differed from the degree to which traditional banks were affected by the crisis in terms of their deposit scores before and after the crisis.

$H_{(11b)}$: The deposit scores of the participation banks differed from those of the traditional banks during the crisis.

$H_{(12a)}$: The extent to which the participation banks were affected by the crisis in terms of their deposit scores differed from the degree to which traditional banks were affected by the crisis in terms of their deposit scores during and after the crisis.

$H_{(12b)}$: The deposit scores of the participation banks differed from those of the traditional banks after the crisis.

3.4.5. Hypotheses Regarding the Performance Scores of the Banks

H_(13a): The extent to which the participation banks were affected by the crisis in terms of their performance scores differed from the degree to which traditional banks were affected by the crisis in terms of their performance scores before and during the crisis.

H_(13b): The performance scores of the participation banks differed from those of the traditional banks before the crisis.

H_(14a): The extent to which the participation banks were affected by the crisis in terms of their performance scores differed from the degree to which traditional banks were affected by the crisis in terms of their performance scores before and after the crisis.

H_(14b): The performance scores of the participation banks differed from those of the traditional banks during the crisis.

H_(15a): The extent to which the participation banks were affected by the crisis in terms of their performance scores differed from the degree to which traditional banks were affected by the crisis in terms of their performance scores during and after the crisis.

H_(15b): The performance scores of the participation banks differed from those of the traditional banks after the crisis.

4. Data Analysis and Results

Participation banks and traditional banks operating in Turkey were subjected to analyses both in their own right to determine their condition before and after the crisis. They were then compared to each other and certain findings were gathered.

4.1. Descriptive Statistics

The descriptive statistics of variables analyzed before the findings and the hypothesis tests relating to participation banks and traditional banks before and after the crisis are as follows:

Table – 3: Descriptive Statistics of Independent Variables for Participation Banks

Participation Banks									
Variables	Before the Crisis			During the Crisis			After the Crisis		
	N	Mean	Standard Deviation	N	Mean	Standard Deviation	N	Mean	Standard Deviation
Active Profitability (%)	4	2.58	0.04	4	2.40	0.22	4	1.55	0.03
Loans / Total Assets (%)	4	70.86	0.02	4	73.17	0.01	4	72.75	0.01
Deposits / Total Assets (%)	4	81.08	0.05	4	67.68	0.12	4	73.04	0.13
Non-Performing Loans / Total Loans	4	4.28	0.02	4	5.02	0.01	4	3.48	0.01
Net Interest Margin (%)	4	5.70	0.06	4	6.09	0.08	4	4.73	0.03
Increase in Deposits(%)	4	46.52	0.01	4	14.70	0.01	4	20.98	0.00
Growth in Loans (%)	4	53.91	0.06	4	35.04	0.02	4	26.90	0.03
Net Profit Growth (%)	4	82.10	0.03	4	18.58	0.03	4	12.44	0.02
Equity / Loans (%)	4	15.48	0.02	4	18.87	0.02	4	15.60	0.01
Equity / Deposits (%)	4	13.56	0.03	4	15.19	0.02	4	15.62	0.02
Equity / Total Assets (%)	4	10.89	0.33	4	13.56	0.35	4	11.37	0.09
Equity Growth (%)	4	67.57	0.31	4	37.99	0.10	4	20.22	0.19
Equity Profitability (%)	4	23.70	0.30	4	16.84	0.15	4	13.74	0.08
Liquid Assets / Current Debt (%)	4	18.38	0.37	4	15.09	0.10	4	20.89	0.06
Loans / Deposits (%)	4	87.52	0.04	4	94.71	0.09	4	99.96	0.05
Expense / Income ratio (%)	4	54.42	0.04	4	51.37	0.01	4	47.45	0.03
Operating Expenses ratio (%)	4	5.37	0.01	4	4.27	0.01	4	3.48	0.01
Special Provisions / Loans (%)	4	2.36	0.01	4	3.05	0.00	4	2.52	0.00

Table – 1 and Table – 2 contain variable averages and standard deviations for each bank before and after the crisis. These tables can be beneficial in terms of being

able to see some differences in variables for banks before and after the crisis prior to the statistical tests.

Table – 4: Descriptive Statistics of Independent Variables for Conventional Banks

Conventional Banks									
Variables	Before the Crisis			During the Crisis			After the Crisis		
	N	Mean (%)	Standard Deviation	N	Mean	Standard Deviation	N	Mean	Standard Deviation
Active Profitability (%)	14	3.47	0.18	14	3.68	0.18	14	3.83	0.18
Loans / Total Assets	14	50.69	0.02	14	54.46	0.02	14	56.68	0.01
Deposits / Total Assets	14	57.90	0.08	14	58.31	0.08	14	56.40	0.05
Non-Performing Loans / Total Loans	14	3.99	0.13	14	5.30	0.15	14	3.65	0.16
Net Interest Margin	14	8.96	0.16	14	10.02	0.17	14	10.49	0.17
Increase in Deposits	14	26.48	0.04	14	11.90	0.05	14	21.93	0.05
Growth in Loans	14	36.67	0.13	14	17.40	0.22	14	25.29	0.26
Net Profit Growth	14	29.15	0.05	14	32.47	0.05	14	19.75	0.04
Equity / Loans	14	19.97	0.02	14	20.92	0.03	14	19.17	0.02
Equity / Deposits	14	17.37	0.04	14	19.73	0.04	14	18.95	0.03
Equity / Total Assets	14	10.74	0.14	14	12.23	0.10	14	11.53	0.13
Equity Growth	14	27.19	0.19	14	20.67	0.26	14	19.54	0.19
Equity Profitability	14	22.33	0.15	14	23.24	0.10	14	24.51	0.16
Liquid Assets / Current Debt	14	15.07	0.15	14	14.18	0.11	14	8.63	0.12
Loans / Deposits	14	83.92	0.21	14	89.43	0.15	14	100.73	0.11
Expense / Income ratio	14	56.91	0.12	14	45.83	0.08	14	49.46	0.08
Operating Expenses ratio	14	3.83	0.01	14	3.36	0.01	14	2.71	0.01
Special Provisions / Loans	14	3.96	0.04	14	4.01	0.02	14	2.42	0.01

4.2. Hypothesis Tests

H_(1a): The extent to which the participation banks were affected by the crisis in terms of efficiency differed from the degree to which traditional banks were affected by the crisis in terms of efficiency before and during the crisis.

H_(1b): The efficiency of the participation banks differed from that of the traditional banks before the crisis.

H_(2a): The extent to which the participation banks were affected by the crisis in terms of efficiency differed from the degree to which traditional banks were affected by the crisis in terms of efficiency before and after the crisis.

H_(2b): The efficiency of the participation banks differed from that of the traditional banks during the crisis.

H_(3a): The extent to which the participation banks were affected by the crisis in terms of efficiency differed from the degree to which traditional banks were affected by the crisis in terms of efficiency during and after the crisis.

H_(3b): The efficiency of the participation banks differed from that of the traditional banks after the crisis.

Table – 5: Test Results Showing the Degree to which Participation Banks and Traditional Banks Were Affected by the Crisis in Terms of Productivity

Impact of the Financial Crisis		Before and During the Crisis		Before and After the Crisis		During and After the Crisis	
		T- Test	Pt< t	T- Test	Pt< t	T- Test	Pt< t
Participation Banks	AK	0.56	0.62	2.26	0.11	3.08	0.05
	Equity Profitability	2.24	0.11	2.85	0.06	2.39	0.10
	Income Expense Ratio	1.31	0.28	2.53	0.09	3.65	0.04
	Operating Expenses ratio	4.51	0.02	5.69	0.01	2.47	0.09
	Net Interest Margin	-0.94	0.42	1.24	0.30	3.12	0.05
Conventional Banks	AK	0.46	0.66	0.83	0.42	2.93	0.01
	Equity Profitability	-0.11	0.91	1.01	0.33	3.23	0.01
	Income Expense Ratio	6.18	0.00	3.35	0.01	-2.50	0.03
	Operating Expenses ratio	1.98	0.07	3.84	0.00	4.47	0.00
	Net Interest Margin	-1.98	0.07	-0.42	0.68	1.74	0.11

Table 5 shows the degree to which participation banks and traditional banks were affected by the crisis in terms of productivity. In terms of participation banks, only the FGO variable $Pt < |t|$ values were significant, being less than 0.05. In other words, there was a difference in terms of only the FGO variable before and during the crisis, while no change occurred in the other variables. In terms of traditional banks, the Income Expense Ratio variable $Pt < |t|$ values were significant, being less than 0.05, with a difference occurring before and during the crisis, while no changes occurred with other variables.

In terms of participation banks, only the FGO variable was found to be significant before and after the crisis. While in traditional banks, the Operating Expenses Ratio and Income Expense Ratio variables differed before and after the crisis. Moreover, it was found that the change in participation banks during and after the crisis was significant for the Active Profitability, Income Expense Ratio and Net Interest Margin variables. Meanwhile, the Active Profitability, Equity Profitability, Income Expense Ratio, Operating Expenses Ratio variables were significant for traditional banks. On the basis of these data, the $H(1a)$, $H(2a)$, and $H(3a)$ hypotheses were accepted.

Table – 6: Comparative Test Results of Participation Banks and Traditional Banks in Terms of Productivity Before, During and After the Crisis

Comparison	AK	Equity Profitability	Income Expense Ratio	Operating Expenses ratio	Net Interest Margin	
Before the Crisis (2005-2007)	PBA*	0.03	0.24	0.54	0.05	0.06
	TBA**	0.03	0.22	0.57	0.04	0.09
	T-Test	-0.40	0.21	-0.39	2.02	-0.49
	Pt < t	0.70	0.84	0.70	0.06	0.63
During the Crisis (2008-2009)	PBA	0.02	0.17	0.51	0.04	0.06
	TBA	0.04	0.23	0.46	0.03	0.10
	T-Test	-0.55	-0.57	1.31	1.52	-0.52
	Pt < t	0.59	0.57	0.21	0.15	0.61
After the Crisis (2010-2012)	PBA	0.02	0.14	0.47	0.03	0.05
	TBA	0.04	0.25	0.49	0.03	0.10
	T-Test	-0.91	-0.81	0.46	1.67	-0.70
	Pt < t	0.11	0.43	0.65	0.11	0.49

* Participation Bank Averages

** Traditional Bank Averages

According to Table – 6, there was no significant difference between the participation banks and traditional banks in terms of productivity rates before, during and after the crisis. Due to the fact that the $Pt < |t|$ values for the variables Active Profitability, Equity Profitability, Income Expense ratio, Operating Expenses Ratio, and Net Interest Margin were greater than 0.05, it can be said that both types of banks had the same productivity rates before, during and after the crisis. The $H_{(1b)}$, $H_{(2b)}$ and $H_{(3b)}$ hypotheses were rejected on the basis of this data.

H_(4a): The extent to which the participation banks were affected by the crisis in terms of liquidity differed from the degree to which traditional banks were affected by the crisis in terms of liquidity before and during the crisis.

H_(4b): The liquidity of the participation banks differed from that of the traditional banks before the crisis.

H_(5a): The extent to which the participation banks were affected by the crisis in terms of liquidity differed from the degree to which traditional banks were affected by the crisis in terms of liquidity before and after the crisis.

H_(5b): The liquidity of the participation banks differed from that of the traditional banks during the crisis.

H_(6a): The extent to which the participation banks were affected by the crisis in terms of liquidity differed from the degree to which traditional banks were affected by the crisis in terms of liquidity during and after the crisis.

H_(6b): The liquidity of the participation banks differed from that of the traditional banks after the crisis.

Table – 7: Test Results Showing the Degree to which Participation Banks and Traditional Banks Were Affected by the Crisis in Terms of Liquidity

Impact of the Financial Crisis		Before and During the crisis		Before and After the Crisis		During and After the Crisis	
		T-Test	Pt < t	T-Test	Pt < t	T-Test	Pt < t
Participation Banks	Non-Performing Loans / Total Loans	-2.40	0.10	1.16	0.33	3.28	0.05
	Loans / Total Assets	-1.00	0.39	-0.71	0.53	0.14	0.89
	Liquid Assets / Current Debt	0.79	0.49	-0.61	0.58	-1.31	0.28
	Special Provisions / Loans	-2.34	0.10	-0.36	0.74	3.12	0.05
Conventional Banks	Non-Performing Loans / Total Loans	-2.47	0.03	0.36	0.73	5.48	0.00
	Loans / Total Assets	-2.67	0.02	-4.30	0.00	-1.51	0.16
	Liquid Assets / Current Debt	0.46	0.66	4.02	0.00	3.65	0.00
	Special Provisions / Loans	-0.07	0.94	1.58	0.14	5.74	0.00

Table 7 shows the degree to which participation banks and traditional banks were affected by the crisis in terms of liquidity. Due to the fact that the $Pt < |t|$ values for the variables Non-Performing Loans / Total Loans, Loans / Total Assets, Liquid Assets / Current Debt, Special Provisions / Loans were greater than 0.05 for participation banks before and during the crisis, there is no significant difference in terms of liquidity rates. The $Pt < |t|$ values for the variables Non-Performing Loans / Total Loans, Loans / Total Assets are smaller than 0.05

for traditional banks before and during the crisis in terms of the liquidity rates, and therefore there is a significant difference in terms of these variables.

As the $Pt < |t|$ values for the variables Non-Performing Loans / Total Loans, Loans / Total Assets, Liquid Assets / Current Debt, Special Provisions / Loans were greater than 0.05 for participation banks before and after the crisis, there is no significant difference in terms of liquidity rates. However, because the $Pt < |t|$ values for the variables Liquid Assets / Current Debt, Loans / Total Assets are smaller than 0.05 for traditional banks before and after the crisis in terms of the liquidity rates, there is a significant difference in terms of these variables.

In terms of the outlook before and after the crisis, as the $Pt < |t|$ values for the variables Non-Performing Loans / Total Loans, Special Provisions / Loans are smaller than 0.05 for participation banks during and after the crisis in terms of the liquidity rates, there is a significant difference in terms of these variables. As for traditional banks, because the $Pt < |t|$ values for the variables Non-Performing Loans / Total Loans, Liquid Assets / Current Debt, Special Provisions / Loans are smaller than 0.05, they were affected in terms of these variables during and after the crisis. And therefore the hypotheses $H_{(4a)}$, $H_{(5a)}$, $H_{(6a)}$ were accepted.

Table – 8: Comparative Test Results of Participation Banks and Traditional Banks in Terms of Liquidity Before, During and After the Crisis

Comparison		Non-Performing Loans / Total Loans	Loans / Total Assets	Liquid Assets / Current Debt	Special Provisions / Loans
Before the Crisis (2005-2007)	PBA*	0.04	0.71	0.18	0.02
	TBA**	0.04	0.51	0.15	0.04
	T-Test	0.25	2.47	0.77	-0.85
	Pt< t	0.80	0.03	0.46	0.41
During the Crisis (2008-2009)	PBA	0.05	0.73	0.15	0.03
	TBA	0.05	0.54	0.14	0.04
	T-Test	-0.26	2.07	0.18	-1.10
	Pt< t	0.80	0.06	0.86	0.29
After the Crisis (2010-2012)	PBA	0.03	0.73	0.21	0.03
	TBA	0.04	0.57	0.09	0.02
	T-Test	-0.25	1.87	2.98	0.17
	Pt< t	0.81	0.08	0.15	0.87

* Participation Bank Averages

** Traditional Bank Averages

According to Table 8, because the Pt< |t| value for the Loans / Total Assets variable was smaller than 0.05 for traditional and participation banks before the crisis, we found a significant difference between these two types of banks in terms of this variable before the crisis. During and after the crisis, no liquidity variable was found to be significant. Due to the fact that in both cases the Pt< |t| values for the variables Non-Performing Loans / Total Loans, Loans / Total Assets, Liquid Assets / Current Debt, Special Provisions / Loans were greater

than 0.05, it can be said that there was no difference between the two types of banks in terms of these variables. On the basis of the results in Table 8, the $H_{(4b)}$ hypothesis was accepted and the $H_{(5b)}$ and $H_{(6b)}$ hypotheses were rejected.

$H_{(7a)}$: The extent to which the participation banks were affected by the crisis in terms of their capital structure differed from the degree to which traditional banks were affected by the crisis in terms of their capital structure before and during the crisis.

$H_{(7b)}$: The capital structure of the participation banks differed from that of the traditional banks before the crisis.

$H_{(8a)}$: The extent to which the participation banks were affected by the crisis in terms of their capital structure differed from the degree to which traditional banks were affected by the crisis in terms of their capital structure before and during the crisis.

$H_{(8b)}$: The capital structure of the participation banks differed from that of the traditional banks during the crisis.

$H_{(9a)}$: The extent to which the participation banks were affected by the crisis in terms of their capital structure differed from the degree to which traditional banks were affected by the crisis in terms of their capital structure during and after the crisis.

$H_{(9b)}$: The capital structure of the participation banks differed from that of the traditional banks after the crisis.

Table – 9: Test Results Showing the Degree to which Participation Banks and Traditional Banks were Affected by the Crisis in Terms of Capital Structure

Impact of the Financial Crisis		Before and During the crisis		Before and After the Crisis		During and After the Crisis	
		T-Test	Pt< t	T-Test	Pt< t	T-Test	Pt< t
Participation Banks	Equity	-4.13	0.03	-0.09	0.94	3.23	0.05
	Equity / Total Assets	-4.15	0.03	-0.54	0.63	4.15	0.03
Conventional Banks	Equity	-1.08	0.30	1.06	0.31	2.73	0.02
	Equity / Total Assets	-2.80	0.02	-1.64	0.13	1.62	0.13

Table – 9 shows the extent to which participation banks and traditional banks were impacted by the crisis on the basis of their capital structures. As the $Pt < |t|$ values for the Equity and Equity / Total Assets variables are smaller than 0.05 for participation banks before and after the crisis, they demonstrate a significant difference. Concerning traditional banks, since the $Pt < |t|$ value for the Equity / Total Assets variable is smaller than 0.05, it demonstrates a significant difference.

Since the $Pt < |t|$ values for neither the Equity nor the Equity / Total Assets variable is greater than 0.05 for participation banks and traditional banks before and after the crisis, no significant difference was found. However, this changed for the period during and after the crisis. A significant difference was found in the case of participation banks, as the $Pt < |t|$ values for the variables Equity and Equity / Total Assets were smaller than 0.05 for participation banks during and after the crisis, while in the case of traditional banks a significant difference

was found as the $Pt < |t|$ value for only the Equity variable was smaller than 0.05. Therefore the hypotheses $H(7a)$, $H(8a)$, and $H(9a)$ were accepted.

Table – 10: Comparative Test Results of Participation Banks and Traditional Banks in Terms of Capital Structure Before, During and After the Crisis

Comparison		Equity	Equity / Total Assets
Before the Crisis (2005-2007)	PBA*	0.15	0.11
	TBA**	0.20	0.11
	T-Test	-1.76	0.15
	$Pt < t $	0.10	0.88
During the Crisis (2008-2009)	PBA	0.19	0.14
	TBA	0.21	0.12
	T-Test	-0.82	0.89
	$Pt < t $	0.43	0.39
After the Crisis (2010-2012)	PBA	0.16	0.11
	TBA	0.19	0.12
	T-Test	-1.71	-0.16
	$Pt < t $	0.11	0.88

* Participation Bank Averages

** Traditional Bank Averages

According to Table – 10, there is no significant difference between the participation banks and traditional banks in terms of capital structure rates before, during and after the crisis. As the $Pt < |t|$ values for the variables Equity and Equity / Total Assets were greater than 0.05, both types of banks were found to be similar in terms of their capital structures rates before, during, and after the

crisis. The $H_{(7b)}$, $H_{(8b)}$, $H_{(9b)}$ hypotheses were rejected on the basis of these data.

$H_{(10a)}$: The extent to which the participation banks were affected by the crisis in terms of their deposit scores differed from the degree to which traditional banks were affected by the crisis in terms of their deposit scores before and during the crisis.

$H_{(10b)}$: The deposit scores of the participation banks differed from those of the traditional banks before the crisis.

$H_{(11a)}$: The extent to which the participation banks were affected by the crisis in terms of their deposit scores differed from the degree to which traditional banks were affected by the crisis in terms of their deposit scores before and after the crisis.

$H_{(11b)}$: The deposit scores of the participation banks differed from those of the traditional banks during the crisis.

$H_{(12a)}$: The extent to which the participation banks were affected by the crisis in terms of their deposit scores differed from the degree to which traditional banks were affected by the crisis in terms of their deposit scores during and after the crisis.

$H_{(12b)}$: The deposit scores of the participation banks differed from those of the traditional banks after the crisis.

Table – 11: Test Results Showing the Degree to which Participation Banks and Traditional Banks Were Affected by the Crisis in Terms of Deposit Scores

Impact of the Financial Crisis		Before and During the crisis		Before and After the Crisis		During and After the Crisis	
		T-Test	Pt< t	T-Test	Pt< t	T-Test	Pt< t
Participation Banks	Deposits / Total Assets	1.43	0.24	4.60	0.01	-0.50	0.65
	Loans / Deposits	-1.67	0.19	-3.62	0.03	-1.65	0.19
	Equity / Deposit	-0.64	0.56	0.56	0.56	0.56	0.56
Conventional Banks	Deposits / Total Assets	-0.33	0.74	0.80	0.43	1.91	0.08
	Loans / Deposits	-0.92	0.37	-3.84	0.00	-3.57	0.00
	Equity / Deposit	-4.03	0.00	-1.85	0.09	0.83	0.42

Table – 11 supports the monitoring of the degree to which deposit scores of participation banks and traditional banks have been affected by the crisis. There is no significant difference in terms of the deposit scores of participation banks before and during the crisis. As the $Pt < |t|$ values for the Deposits / Total Assets, Loans / Deposits and Equity / Deposit variables are greater than 0.05, the deposit scores are the same for both periods. There is a significant difference in terms of the deposit scores of traditional banks as regards the Equity / Deposit variable before and during the crisis. As the $Pt < |t|$ value for the Equity / Deposit variable is smaller than 0.05, this variable shows variations in traditional banks for these two periods.

Due to the fact that the $Pt < |t|$ values for the Deposits / Total Assets and Loans / Deposits variables are smaller than 0.05 for participation banks before and after the crisis, it shows a variation for these two periods. And because the $Pt <$

$|t|$ values for the Loans / Deposits and Equity / Deposit variables are smaller than 0.05 for traditional banks, it shows a significant variation for these two periods.

It can be said that participation banks were not affected by the crisis in terms of deposit scores during and after the crisis. As the $Pt < |t|$ values for the Deposits / Total Assets, Loans / Deposits and Equity / Deposit variables are greater than 0.05, it can be said that there is no significant difference for these two periods. However, because the $Pt < |t|$ values for the Deposits / Total Assets, Loans / Deposits variables are smaller than 0.05 for traditional banks, they exhibit significant variation during and after the crisis. Therefore the hypotheses $H_{(10a)}$, $H_{(11a)}$ and $H_{(12a)}$ were accepted.

Table – 12: Comparative Test Results of Participation Banks and Traditional Banks in Terms of Deposit Scores Before, During, and After the Crisis

Comparison		Deposits / Total Assets	Loans / Deposits	Equity / Deposit
Before the Crisis (2005-2007)	PBA*	0.81	0.88	0.14
	TBA**	0.58	0.84	0.17
	T-Test	2.47	0.33	-1.91
	$Pt < t $	0.03	0.75	0.08
During the Crisis (2008-2009)	PBA	0.68	0.95	0.15
	TBA	0.58	0.89	0.20
	T-Test	0.87	0.67	-2.14
	$Pt < t $	0.40	0.51	0.05
After the Crisis (2010-2012)	PBA	0.73	1.00	0.16
	TBA	0.56	1.01	0.19
	T-Test	1.79	-0.14	-1.77
	$Pt < t $	0.09	0.89	0.10

* Participation Bank Averages

** Traditional Bank Averages

Table 12 was examined and as the $Pt < |t|$ value for the Deposits / Total Assets variable was smaller than 0.05 before the crisis and the $Pt < |t|$ value for the Equity / Deposit variable was smaller than 0.05 during the crisis, it was established that there was a significant difference between these two types of banks in terms of deposit scores with regards to these variables before and after the crisis. But, as the $Pt < |t|$ values for all the variables were greater than 0.05 after the crisis, it was found that there was no significant difference between the two types of banks. On the basis of these statistical tests, the $H_{(10b)}$ and $H_{(11b)}$ hypotheses were accepted and the $H_{(12b)}$ hypothesis was rejected.

$H_{(13a)}$: The extent to which the participation banks were affected by the crisis in terms of their performance scores differed from the degree to which traditional banks were affected by the crisis in terms of their performance scores before and during the crisis.

$H_{(13b)}$: The performance scores of the participation banks differed from those of the traditional banks before the crisis.

$H_{(14a)}$: The extent to which the participation banks were affected by the crisis in terms of their performance scores differed from the degree to which traditional banks were affected by the crisis in terms of their performance scores before and after the crisis.

$H_{(14b)}$: The performance scores of the participation banks differed from those of the traditional banks during the crisis.

$H_{(15a)}$: The extent to which the participation banks were affected by the crisis in terms of their performance

scores differed from the degree to which traditional banks were affected by the crisis in terms of their performance scores during and after the crisis.

$H_{(15b)}$: The performance scores of the participation banks differed from those of the traditional banks after the crisis.

Table – 13: Test Results Showing the Degree to which Participation Banks and Traditional Banks Were Affected by the Crisis in Terms of Performance Scores

Impact of the Financial Crisis		Before and During the crisis		Before and After the Crisis		During and After the Crisis	
		T-Test	Pt< t	T-Test	Pt< t	T-Test	Pt< t
Participation Banks	Increase in Deposits	1.27	0.29	1.32	0.27	-0.41	0.70
	Net Profit Growth	4.45	0.02	3.70	0.03	0.65	0.55
	Equity Growth	1.85	0.16	2.67	0.07	2.21	0.11
	Growth in Loans	0.83	0.46	1.28	0.29	3.15	0.05
Conventional Banks	Increase in Deposits	2.73	0.01	1.14	0.27	-2.20	0.04
	Net Profit Growth	-0.23	0.81	1.76	0.10	1.32	0.20
	Equity Growth	1.68	0.11	1.50	0.15	-0.11	0.91
	Growth in Loans	5.20	0.00	2.24	0.04	-1.90	0.08

Table – 13 supports the monitoring of the degree to which performance scores of participation banks and traditional banks have been affected by the crisis. As the Pt< |t| value for the Net Profit Growth variable was smaller than 0.05 for participation banks before and during the crisis, a significant difference was found in terms of this variable. And as the Pt< |t| values for the

Increase in Deposits and Growth in Loans variables were smaller than 0.05 for traditional banks, they show significant variations for the two periods.

The performance variables of the participation banks did not change before or after the crisis, as the $Pt < |t|$ values for the Increase in Deposits, Net Profit Growth, Equity Growth, and Growth in Loans variables were greater than 0.05. As for traditional banks, the only change was observed in the Growth in Loans ratio for these two periods and the $Pt < |t|$ value of this variable was found to be smaller than 0.05.

The Growth in Loans variable is the only variable that changed during and after the crisis for the participation banks, as the $Pt < |t|$ value for this variable was smaller than 0.05 showing variations for these two periods. As for traditional banks, due to the fact that the $Pt < |t|$ value for the Increase in Deposits variable was smaller than 0.05, it was found that there were variations during and after the crisis. Accordingly, the $H_{(13a)}$, $H_{(14a)}$, $H_{(15a)}$ hypotheses were accepted.

Table – 14: Comparative Test Results of Participation Banks and Traditional Banks in Terms of Performance Scores Before, During, and After the Crisis

Comparison		Increase in Deposits	Net Profit Growth	Equity Growth	Growth in Loans
Before the Crisis (2005-2007)	PBA*	0.47	0.82	0.68	0.54
	TBA**	0.26	0.29	0.27	0.37
	T-Test	1.83	4.37	3.81	1.41
	Pt< t	0.09	0.00	0.00	0.18
During the Crisis (2008-2009)	PBA	0.15	0.19	0.38	0.35
	TBA	0.12	0.32	0.21	0.17
	T-Test	0.27	-1.02	2.72	2.79
	Pt< t	0.88	0.32	0.01	0.01
After the Crisis (2010-2012)	PBA	0.21	0.12	0.20	0.27
	TBA	0.22	0.20	0.20	0.25
	T-Test	-0.14	-0.68	0.08	0.25
	Pt< t	0.89	0.51	0.94	0.81

* Participation Bank Averages

** Traditional Bank Averages

As the $Pt < |t|$ values for only the Net Profit Growth and Equity Growth variables were smaller than 0.05 on the basis of Table 14, a significant difference was found between the two types of banks in terms of these variables. Meanwhile, there appears to be a difference between the two types of banks during the crisis, in terms of the Equity Growth and Growth in Loans variables. Concerning the post-crisis period, there were no differences between the two types of banks in terms of any of the variables as the $Pt < |t|$ values for the Increase in Deposits, Net Profit Growth, Equity Growth, and Growth in Loans variables were greater than 0.05. In that

respect, the H(13b) and H(14b) hypotheses were accepted and the H(15b) hypothesis was rejected.

Table – 15: A Summary Table for Hypotheses Accepted and Rejected on the Basis of the Research Findings

	H(1a)	H(2a)	H(3a)	H(4a)	H(5a)
<i>Accepted Hypotheses</i>	H(6a)	H(4b)	H(7a)	H(8a)	H(9a)
	H(10a)	H(11a)	H(12a)	H(10b)	H(11b)
	H(13a)	H(14a)	H(15a)	H(13b)	H(14b)
	H(1b)	H(2b)	H(3b)	H(5b)	H(6b)
<i>Rejected Hypotheses</i>	H(7b)	H(8b)	H(9b)	H(12b)	H(15b)

Looking at Table 15, it can be seen that 20 out of 30 hypotheses were accepted and 10 were statistically rejected.

5. Conclusion and Evaluation

Participation banks, which have become more popular over recent years, constitute the main source of this study. In this study, the condition of participation banks and traditional banks was examined in terms of their reactions before the global crisis in 2008, during the years of the crisis, and in the two years after the crisis. These banks were analyzed in terms of productivity, liquidity, capital structures, deposit scores, and performance scores, and the ensuing results were presented.

The extent to which the two different types of banks were affected by the crisis differs. For example, in terms of productivity, participation banks were affected in terms of operating expenses ratio in the transition from the pre-crisis period to the crisis period and the pre-crisis period to the post-crisis period, while in the transition from the crisis period to the post-crisis period changes occurred in the active profitability, income/expense ratio, and net interest margin of

these banks. As for traditional banks, changes occurred in the income/expense ratios in the transition from the pre-crisis to the crisis period; in the operating expenses ratio and the income/expense ratio in the transition from the pre-crisis to the post-crisis period; and in the active profitability, income/expense ratio, operating expenses ratio, and equity profitability in the transition from the crisis to the post-crisis period.

Based on these findings, it can be argued that participation banks are more resilient and active than traditional banks. This judgment is derived from the acceptance of certain hypotheses and the results of these hypothesis tests can be interpreted and broken down into the following points:

- i. The liquidity of the participation banks differed and was better than that of the traditional banks before the crisis. The reason for this is that participation banks performed better than the traditional banks on the Loans / Total Assets variable, the only variable out of four variables measuring liquidity.
- ii. There was a difference between participation banks and traditional banks before the crisis in terms of the Deposits / Total Assets variable that designates the deposit score, and the participation banks performed much better on this variable.
- iii. There was a difference between participation banks and traditional banks during the crisis in terms of the Equity / Deposit variable that designates the deposit score, and the traditional banks performed much better on this variable during the crisis.
- iv. The performance of participation banks was better than that of traditional banks before the crisis. This can

be said because participation banks performed much better by a large margin on the Equity Growth and Net Profit Growth variables that determine the performance scores.

- v. We have also established that the performance of participation banks was better than that of traditional banks during the crisis. In comparison to traditional banks, participation banks performed much better on the Equity Growth and the Growth in Loans variables, which show variations between the two types of banks. The fact that the participation banks increased their equities and loans during the crisis is another important factor.

In general terms, it is seen that points i, ii, iv and v speak in favor of participation banks. It can be said that they were in a much better shape compared to traditional banks before the crisis in terms of the share of loans in total assets as regards liquidity, the share of deposits in total assets with regards to deposit scores, and equity and loan growth. Only point iii seems to speak in favor of traditional banks. Even though the equity/deposit ratios of traditional banks were higher than that of participation banks during the crisis, the equity and loan growth achieved by participation banks during the crisis makes a significant difference. From this point of view, it can be said that the participation banks were more resilient and active in the face of crisis than the traditional banks before and during the crisis.

REFERENCES

- Abduh, M., & Omar, M. A. (2012). Islamic Banking and Economic Growth: The Indonesian Experience. *International Journal of Islamic and Middle Eastern Finance and Management*, 35-47.
- Abu-Alkheil, A. M., Burghof, H.-P., & Khan, W. A. (2012). Comparison of Efficiency and Productivity Changes of Islamic and Conventional Banks: Evidence From Europe and Muslim-Majority Countries. *The Journal of Applied Business Research*, 1385-1402.
- Amba, M. S., & Almukharreq, F. (2013). Impact of the Financial Crisis on Profitability of the Islamic Banks vs Conventional Banks - Evidence from GCC. *International Journal of Financial Research*, 83-93.
- Aras, O. N., & Öztürk, M. (2011). Reel Ekonomiye Katkıları Bakımından Katılım Bankalarının Kullandırıldığı Fonların Analizi. *Ekonomi Bilimleri Dergisi*, 167-179.
- Ayrıçay, Y., Ada, Ş., & Kaya, A. (2013). Katılım Bankacılığının Gelişiminin Öngündeki Engeller: Bir Alan Araştırması. *KSU İİBF Dergisi*, 119-137.
- Elsiefy, E. (2013). Comparative Analysis of Qatari Islamic Banks Performance versus Conventional Banks Before, During and After the Financial Crisis.

International Journal of Business and Commerce, 11-41.

Ftiti, Z., Nafti, O., & Sreiri, S. (2013). Efficiency of Islamic Banks During Subprime Crisis: Evidence of GCC Countries. *The Journal of Applied Business Research* , 285-304.

Khan, M. M., & Bhatti, M. I. (2008). Islamic Banking and Finance: On its Way To Globalization. *Managerial Finance*, 708-725.

Mobarek, A., & Kalonov, A. (2014). Comparative Performance Analysis Between Conventional and Islamic Banks: Emprical Evidence From OIC Countries. *Applied Economics*, 253-270.

Özsoy, İ., Görmez, B., & Mekik, S. (2013). Türkiye'de Katılım Bankalarının Tercih Edilme Sebepleri: Ampirik Bir Çalışma. *Yönetim ve Ekonomi*, 186-206.

Özulucan, A., & Ali, D. (2009). Katılım Bankacılığı İle Geleneksel Bankaların Bankacılık Hizmetleri ve Muhasebe Uygulamaları Açısından Karşılaştırılması. *MKÜ Journal of Social Sciences Institute*, 85-108.

Rashwan, M. H. (2012). How Did Listed Islamic and Traditional Banks Performed: Pre and Post the 2008 Financial Crisis? *Journal Of Applied Finance & Banking*, 149-175.

Rozzani, N., & Rahman, R. A. (2013). Determinants of Bank Efficiency: Conventional versus Islamic. *International Journal of Business and Management*, 98-108.

Sun, P. H., Hassan, M. K., Hassan, T., & Ramadilli, S. M. (2014). The Assets and Liabilities Gap Management of Conventional and Islamic Banks in the Organization of Islamic Cooperation(OIC) Countries. *Applied Financial Economics*, 333-346.

TKBB, “Başlıca Finansal Veriler ve Mali Tablolar”, Katılım Bankaları 2010, İstanbul: Türkiye Katılım Bankalar Birliği, 2011a, p.72-87.

Wasiuzzaman, S. (2013). Comparative Study of the Performance of Islamic and Conventional Banks. *Humanomics*, 43-60.

Internet Sources

Global Report, 2018. <http://www.tkbb.org.tr/-arastirma-ve-raporlar>



