Identifying the Factors Influence Turkish Deposit Banks to Join Corporate Social Responsibility Activities by Using Panel Probit Method

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Abstract

This study aims to determine the influencing factors of the banks to join corporate social responsibility activities. Within this scope, annual data of 23 deposit banks in Turkey for the periods between 2005 and 2015 was taken into the consideration. In addition to this situation, panel probit model was used in the analysis so as to achieve this objective. According to the results of the analysis, it was determined that there is a negative relationship between CSR activities and nonperforming loans ratio. This situation shows that banks do not prefer to make social responsibility activities in case of higher financial losses. In addition to this situation, it was also identified that there is a positive relationship between return on asset and corporate social responsibility activities of the banks. In other words, it can be understood that Turkish deposit banks, which have higher profitability, joint more CSR activities in comparison with others.

Key Words: *Corporate Social Responsibility, Banks, Turkish Banking Sector, Panel Probit*

JEL classification: *C22, G21, M14*

Introduction

Social responsibility means making activities that is beneficial for the society (Esrock and Leichty, 1998). In other words, it makes a contribution to solve the problems of the society, such as unfair distribution of income, lack of trees in the country, violence against women and abuse of animals. People mostly join these kinds of activities because of two different reasons which are psychological and religious reasons. With respect to the psychological factor, people join these activities because they can feel better when other people in the society are happier. Additionally, religious rules may also lead the people to make these activities (Gunnøe et. al., 1999).

Corporate social responsibility (CSR) refers to the situation that a company makes some operations which are beneficial for the community and environment in which it operates (Lindgreen and Swaen, 2010). The main reason behind this situation is that company aims to increase its image in the eye of the society. CSR activities provide many benefits to the company. For example, owing to these activities, a company can easily attract the attention of the customers and investors. Therefore, this condition increases the competitive power of this company in the market.

CSR activities became very popular especially after globalization. Because the financial borders between the countries disappeared after globalization, big companies could have a chance to access many different trading partners all around the world (Harrington, 2011). That is to say, they could become selective for the companies which they make business. Within this context, most of these companies began to select the firms which give importance to CSR activities. As a result, owing to the globalization, the popularity of CSR activities went up among the companies.

In Turkey, companies started to CSR activities later than the companies in developed countries. These kinds of activities started to be popular in Turkey in last 15 years. The main reason why Turkey is very late in comparison with other countries is the financial instability in the country (Ararat, 2008). Turkey is a country which suffered from two important banking crisis in 1994 and 2001. Due to these crisis, many people lost their jobs and lots of the companies went bankruptcy. Hence, Turkish companies could not focus on CSR activities in the past. After Turkey had financial stability, the popularity of CSR activities started to go up. In this context, Turkish Social Responsibility Association was founded in 2005 and this association became a member of Europe in 2008 (Altuner et. al., 2015).

Banks are also the institutions which give very much importance in corporate social responsibility activities in Turkey (Kılıç, 2016). Almost all banks in Turkey carry out a CSR activity at the moment. These activities are beneficial for both customers and the banks. Because these activities are helpful to solve the problems in the society, they are very advantageous to the customers. In addition to this condition, banks increase their image on the eye the society with the help of CSR activities. This situation is also beneficial for the economy. When the image of the banks increase, people will trust more to the banks and they will put more money to the banks. As a result of this issue, the economy can be improved (Dinçer et. al., 2016).

While considering these aspects, it can be understood that studies that focus on CSR activities of the banks are very important. Within this context, the aim of this study is to determine the influencing factors of the banks in order to join CSR activities. Moreover, panel probit model was used so as to achieve this objective. The fact that this is the first study in Turkey which analyzes this relationship increases originality of the study. As a result of the analysis, it can be possible to make recommendations in order for the banks increase their CSR activities.

The paper is organized as follows: after introduction part, we explain the details of the similar studies in the literature. In addition to this situation, the third part gives information about the research and application to identify the influencing factors of the banks to join corporate social responsibility activities. In this part, we identify the data, methodology and details of panel probit analysis. Finally, the results of the analysis are underlined in the conclusion part.

Literature Review

There are lots of studies related to corporate social responsibility activities of the companies in the literature. Some of them was detailed on table 1.

Table 1: Similar Studies in the Literature

Author	Scope	Method	Result
Abagail and Siegel (2000)	US	Regression	It was determined that CSR activities have a significant effect on financial performance.
Achua (2008)	Nigeria	Descriptive Statistics	It was concluded that stability in macroeconomic environment affects CSR activities of the banks.
Castelo Branco and Lima Rodrigues (2006)	Portugal	Descriptive Statistics	It was underlined that Portugal banks give very much importance to CSR in order to increase their image.
Dusuki and Dar (2007)	Malaysia	Survey	It was identified that Islamic banks give importance to CSR activities.
McDonald and Rundle-Thiele (2008)	Australia	Survey	It was determined that CSR activities lead to increase customer satisfaction for the banks.
Khan et. al. (2009)	Bangladesh	Survey	Banks in Bangladesh give importance to CSR activities.
Scholtens (2009)	15 different countries	Descriptive Statistics	CSR activities of the banks increased over the years.
Lin et. al. (2009)	Taiwan	Regression	It was defined that there is a direct relationship between CSR activities and financial performance.
Hinson et. al. (2010)	Ghana	Survey	Banks that had never won a CSR award previously seemed to have a better performance regarding CSR activities in Ghana.
Hassan and Syafri Harahap (2010)	7 Islamic banks	Descriptive Statistics	It was determined that Islamic banks not complying with AAOIFI standards tend to provide relatively more CSR activities.
Farook et. al. (2011)	14 different countries	Regression	It was identified that total deposit amount is an important determinant of CSR activities of Islamic banks.
Goss and Roberts (2011)	US	Logit	It was defined that banks, which have lower CSR value, pay 20 basis points more than the others.
Islam et. al. (2012)	Bangladesh	Descriptive Statistics	It was identified that banks, which have higher return on asset, join more CSR activities.
Wu and Shen (2013)	22 different countries	Logit	There is a negative relationship between nonperforming loans and CSR activities.
Ye et. al. (2015)	US	Survey	They concluded that CSR activities increase the competitive advantage of the companies.

Table 1 (Cont'd): Similar Studies in the Literature

Flammer (2015)	1500 different countries	Regression	It was defined that CSR improves employee and customer satisfaction.
Lins et. al. (2015)	US	Regression	It was determined that high-CSR firms experience higher profitability.
Rice and Peter (2015)	New Zealand	Survey	It was concluded that CSR activities of the banks are not important for most of the employees.
Di Bella and Al-Fayoumi (2016)	Jordan	Survey	CSR activities are important for stakeholders of Islamic banks.
Haldar and Rahman (2016)	Bangladesh	Regression	They reached a conclusion that banks, which have higher asset and financial performance, join more CSR activities.
Harjoto and Laksmana (2016)	US	Regression	It was concluded that CSR activities reduce excessive risk taking
Dyck et. al. (2015)	41 different countries	Regression	It was identified that institutional investors use their ownership stakes to promote good CSR practices around the world.
Cornett et. al. (2015)	136 different banks	Regression	It was determined that the biggest banks join CSR activities rather than smaller banks.
Pai et. al. (2015)	Taiwan	Survey	It was analyzed that CSR perceptions of industrial buyers are more positively related to brand advocacy.
Saeidi et. al. (2015)	Iran	Regression	It was identified that there is a relationship between CSR activities and financial performance.
Clarkson et. al. (2015)	26 different countries	Logit	It was concluded that there is not a relationship between CSR activities and the choice of an external third party
Ioannou and Serafeim (2015)	US	Regression	They determined that CSR activities have no effect on investment recommendation.

As it can be seen from table 1, many studies in the literature analyzed the effects of corporate social responsibility activities on the financial performance of the companies. Abigail and Siegel (2000) made a study for the companies in US. Furthermore, they used regression analysis in order to achieve this objective. As a result of this analysis, it was identified that CSR activities have a significant effect on financial performance. Similar to this study, Lin and others (2009), Saeidi and others (2015) and Lins and others (2015) also reached the same conclusion in their studies. Furthermore, Ye and others (2015) determined that CSR activities increase the competitive advantage of the companies.

Moreover, some studies in the literature focused on the relationship between corporate social responsibility activities and investors' decisions. Dyck and others (2015) evaluated this situation in 41 different countries. As a result of the regression analysis, it was determined that CSR activities are important for the investors. Additionally, Pai and others (2015) conducted a survey analysis in Taiwan and concluded that CSR activities are important in order to attract the attention of the investors. In spite of these studies, Ioannou and Serafeim (2015) reached a conclusion that CSR activities have no effect on investment recommendation.

In addition to them, there are also lots of studies which analyzed the effects of CSR activities on banking sector. Dusuki and Dar (2007) conducted a survey analysis for the banks in Malaysia. They concluded that Islamic banks give importance to CSR activities. Additionally, Khan and others (2009), Castelo Branco and Lima Rodrigues (2006) and Di Bella and Al-Fayoumi (2016) reached the same conclusion in their studies. On the other hand, Rice and Peter (2015) also made a study so as to understand the effects on corporate social responsibility activities on the banks in New Zealand. They conducted a survey analysis and concluded that CSR activities of the banks are not important for most of the employees.

With respect to the studies related to banking sector, some of them aimed to determine the influencing factors of the banks to join CSR activities. Within this context, Farook and others (2011) emphasized that total deposit amount is an important determinant of CSR activities of Islamic banks. Additionally, Islam and others (2012) determined that banks, which have higher return on asset, join more CSR activities. Furthermore, Wu and Shen (2013) identified that there is a negative relationship between nonperforming loans and CSR activities. Moreover, Cornett and others (2015) and Haldar and Rahman (2016) defined that banks, which have higher asset and financial performance, join more CSR activities.

Research and Application

Data

In the analysis of the study, annual data for the periods between 2005 and 2015 was used in this study. The data was provided from the website of Turkish Banking Association and financial reports of the banks. Additionally, STATA 14 program was used in the analysis. Although we intended to analyze all 27 deposit banks of Turkey, we had to eliminate 4 of them due to the following reasons.

- Adabank is not an active deposit bank in Turkey due to the legal problems with its owners
- Bank of Tokyo-Mitsubishi UFJ Turkey, Odea Bank and Rabobank have been newly established.

As a result, 23 deposit banks of Turkey were taken into the consideration in this study. The names of these banks were given on table 2.

Table 2: Banks Used in the Study

Bank Name	Asset Size (% of deposit banks) in 2015
Türkiye Cumhuriyeti Ziraat Bankası A.Ş.	14.23
Türkiye İş Bankası A.Ş.	12.95
Türkiye Garanti Bankası A.Ş.	11.95
Akbank T.A.Ş.	11.03
Yapı ve Kredi Bankası A.Ş.	10.35
Türkiye Halk Bankası A.Ş.	8.82
Türkiye Vakıflar Bankası T.A.O.	8.59
Finans Bank A.Ş.	4.03
Denizbank A.Ş.	3.96
Türk Ekonomi Bankası A.Ş.	3.38
ING Bank A.Ş.	2.31
HSBC Bank A.Ş.	1.49
Şekerbank T.A.Ş.	1.15
Alternatifbank A.Ş.	0.62
Fibabanka A.Ş.	0.53
Anadolubank A.Ş.	0.52
Burgan Bank A.Ş.	0.50
Citibank A.Ş.	0.39
ICBC Turkey Bank A.Ş.	0.31
Turkland Bank A.Ş.	0.27
Arap Türk Bankası A.Ş.	0.19
Deutsche Bank A.Ş.	0.14
Turkish Bank A.Ş.	0.06
Total	97.76

Source: Turkish Banking Association

Variables Used in the Study

In this study, we aim to determine the factors that influence banks to join corporate social responsibility activities. Within this scope, we used donation amount of the banks which is similar in many studies (Haldar and Rahman, 2016), (Lin et. al., 2009), (Bhattacharya and Şen, 2003), (Siegel and Vitaliano, 2007). For this purpose, first of all, we calculated the average of the banks for each year. The banks, which have higher values than the average, take the value of “1” as a dependent variable whereas other banks have the value of “0”. In addition to this condition, we used 7 explanatory variables in order to reach this objective. The details of these variables were explained in table 3.

Table 3: Details of Independent Variables

Variable	Calculation	References
Total Asset	Log Value of Total Assets	Clarkson et. al. (2015), Cornett et. al. (2015), Dyck et. al. (2015), Flammer (2015), Haldar and Rahman (2016), Saeidi et. al. (2015), Abagail and Siegel (2000), Goss and Roberts (2011), Farook et. al. (2011), Wu and Shen (2013), Islam et. al. (2012)
Return on Asset	Net Profit/Total Assets	Clarkson et. al. (2015), Dyck et. al. (2015), Flammer (2015), Haldar and Rahman (2016), Harjoto and Laksmana (2016), Ioannou and Serafeim (2015), Lins et. al. (2015), Pai et. al. (2015), Saeidi et. al. (2015), Abagail and Siegel (2000), Goss and Roberts (2011), Wu and Shen (2013), Islam et. al. (2012), Lin et. al. (2009)
Return on Equity	Net Profit/Total Equity	Cornett et. al. (2015), Flammer (2015), Haldar and Rahman (2016), Harjoto and Laksmana (2016), Lins et. al. (2015), Pai et. al. (2015), Saeidi et. al. (2015), Abagail and Siegel (2000), Goss and Roberts (2011), Wu and Shen (2013), Islam et. al. (2012)
Capital Adequacy Ratio	Capital/Risk Weighted Assets	Cornett et. al. (2015), Flammer (2015), Ioannou and Serafeim (2015), Wu and Shen (2013), Islam et. al. (2012)
Leverage Ratio	Total Deposits/Total Assets	Dyck et. al. (2015), Flammer (2015), Haldar and Rahman (2016), Harjoto and Laksmana (2016), Lins et. al. (2015), Abagail and Siegel (2000), Goss and Roberts (2011), Wu and Shen (2013), Hassan and Syafri Harahap (2010), Islam et. al. (2012)
Nonperforming Loans	Nonperforming Loans/Total Loans	Wu and Shen (2013), Hassan and Syafri Harahap (2010)
GDP Growth	$(GDP_t - GDP_{t-1}) / GDP_{t-1}$	Harjoto and Laksmana (2016), Wu and Shen (2013)

The amount of total assets is the first variables which was used in this study. We expect that the banks, which have higher size, join more corporate social responsibility activities. In other words, there should be positive relationship between total assets and CSR (Abagail and Siegel, 2000), (Goss and Roberts, 2011), (Farook et. al., 2011), (Wu and Shen, 2013). Similar to this situation, it was also expected that there is a direct relationship between CSR activities with return on equity and return on assets (Flammer, 2015), (Haldar and Rahman, 2016), (Harjoto and Laksmana, 2016), (Lins et. al., 2015), (Pai et. al., 2015), (Saeidi et. al., 2015).

In addition to those variables, because higher capital adequacy ratio decreases the risk for the banks, there should be positive relationship between this variable and CSR activities (Islam et. al., 2012), (Ioannou and Serafeim, 2015). On the other hand, since leverage ratio represents the risk position of the banks, the relationship between this variable and CSR should be negative (Hassan and Syafri Harahap, 2010), (Dyck et. al., 2015). Owing to the same reason, the variable of nonperforming loans is expected to decrease CSR activities of the banks (Wu and Shen, 2013). Finally, because higher GDP growth represents stability in the economy, there should be positive relationship between this variable and CSR activities (Harjoto and Laksmana, 2016), (Wu and Shen, 2013).

Probit Method

There are three different methods in which dependent variable in the analysis takes only two different values, such as “yes-no”, which are linear probability method, probit and logit (Yüksel et. al., 2015). In order to satisfy this requirement, the values that are greater than “1” are accepted as “1” in linear probability method. In addition to this situation, negative values of the dependent variables are considered as “0”. This condition is the main weakness of linear probability method. So as to solve this problem, probit and logit methods were improved. The main difference between logit and probit is that in logit method, logistic distribution method is used. On the other hand, in probit analysis, the values of the dependent variable can be between “0” and “1” by using normal distribution function. The main requirement so as to make the analysis by using probit method is that independent variables should be stationary (Gujarati, 1988).

Probit method was used in many different studies in the literature. Esquivel and Larrain (1998) tried to make an analysis by using probit method in order to determine the leading indicators of the economic crisis occurred in 30 different countries. Similar to this study, Frankel and Rose (1996), Oktar and Dalyancı (2010), Oktar and Yüksel (2015), Singh (2010) and Miyakoshi (2000) made a study by using this method so as to identify early warning signals of the financial crisis. In addition to those studies, Fahlenbrach and others (2011), Kilby (2000) and Adeyeye and Migirp (2015) also evaluated the performance of the banks with the help of probit method.

Analysis Results

In order to identify the influencing factors of the banks to prefer making corporate social responsibility activities, first of all, we made an analysis in order to understand whether independent variables are stationary or not. Within this context, we made Levin, Lin and Chu (LLC) panel unit root test. The details of this test were given on table 4.

Table 4: LLC Panel Unit Root Test Results

Variable	LLC Panel Unit Root Test Results (p Value)
Total Asset*	1.0000
Return on Asset*	0.9876
Return on Equity*	0.9570
Capital Adequacy Ratio	0.0000
Leverage Ratio*	0.5016
Nonperforming Loans	0.0000
GDP Growth	0.0000

*The first differences of these variables were used in the analysis.

As it can be seen from table 4, probability values of 3 independent variables (capital adequacy ratio, nonperforming loans and GDP growth) are less than 0.05. This situation means that they are stationary on their level values. On the other hand, probability values of other 4 variables (total assets, return on asset, return on equity and leverage ratio) are more than 0.05. This issue demonstrates that these variables are not stationary, so the first differences of these variables were used in the analysis. After unit root test, we made an analysis by using panel probit method. The results of this analysis were given on table 5.

Table 5: Panel Probit Results

Variable	Coefficient	Sig. Value
Nonperforming Loans**	-0.2892	0.006
Total Asset	0.0001	0.453
Economic Growth	-0.0139	0.698
Return on Asset ⁺	0.2221	0.066
** p<0.01, * p<0.05, + p<0.1 Prob (F Test) = 0.0366		

In the analysis, the variables of return on equity, capital adequacy ratio and leverage ratio had to be eliminated due to the multicollinearity problem. As it can be seen from table 5, probability value of F test is less than 0.05. This issue demonstrates that the model is significant. Furthermore, it was defined that significance values of nonperforming loans is less than 0.01. This situation shows that this variable is statistically significant at 1% level. Moreover, it was also understood that nonperforming loan ratio negatively influences the banks to join corporate social responsibility activities because the coefficient of this variable is -0.2892. It shows that when credit risk of the banks goes up, banks will subject to higher financial losses. Owing to this aspect, they do not prefer to make social responsibility activities. Wu and Shen (2013) and Hassan and Syafri Harahap (2010) also reached the similar conclusion in their studies.

In addition to this variable, it was also understood from table 5 that the significance value of return on asset is 0.066. This condition demonstrates that this condition is statistically significant at 10% level. Furthermore, it was also identified that higher return on asset ratio positively affects Turkish deposit banks for corporate social responsibility activities since the coefficient of this variable is 0.2221. It was understood from this result that Turkish deposit banks, which have higher profitability, joint more CSR activities in

comparison with other banks. It was also seen that this result is similar in many different studies in the literature (Harjoto and Laksmana, 2016), (Haldar and Rahman, 2016), (Saeidi et. al., 2015), (Abagail and Siegel, 2000), (Goss and Roberts, 2011), (Wu and Shen, 2013), (Islam et. al., 2012).

Conclusions

In this study, we aimed to analyze the factors that influence the banks to make corporate social responsibility activities. Within this context, 23 deposit banks in Turkey were taken into the consideration. In addition to this situation, annual data of these banks for the periods between 2005 and 2015 was analyzed. Moreover, we used donation amount of the banks as dependent variable and determined 7 independent variables which may affect CSR activities of the banks. On the other side, panel probit method was used so as to achieve this objective.

In the analysis process, first of all, we tried to understand whether independent variables are stationary or not. Within this scope we made Levin, Lin and Chu panel unit root test. As a result of this analysis, it was defined that 3 independent variables (capital adequacy ratio, nonperforming loans and GDP growth) are stationary on their level values. On the other side, it was also identified that other 4 variables (total assets, return on asset, return on equity and leverage ratio) are not stationary. Because of this situation, the first differences of these variables were used in the analysis.

According to the results of the probit analysis, it was identified that there is a negative relationship between CSR activities and nonperforming loans ratio. The main reason for this issue is that when credit risk of the banks increases, these banks will have higher financial losses. Because of this situation, they do not prefer to make social responsibility activities. In addition to this situation, it was also determined that there is a positive relationship between return on asset and corporate social responsibility activities of the banks. In other words, it can be said that Turkish deposit banks, which have higher profitability, joint more CSR activities in comparison with others.

Corporate social responsibility activities of the banks have a lot of advantages to many different parties. First of all, they are very beneficial for the customers since these activities aim to solve the problems in the society. On the other side, CSR activities are also beneficial for the economies of the countries. The main reason behind this situation is that when there is an increase in the image of the banks on the eye of the society, people prefer to give more deposit to the banks. This condition will increase the liquidity in the market. Owing to these aspects, Turkish deposit banks should firstly focus on decreasing nonperforming loans ratio and increasing the profitability in order to benefit from these issues.

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