Relationship Between Firm Value
And Financial Structure:
A Study On Firms In ISE Industrial Index

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ABSTRACT

Maximization of firm value has become the basic objective of the firms. Short-term debt, long-term debt and equity used by firms may affect firm value. Objective of the study is to investigate the effect of financial structures of firms on their values. In the study 127 firms' data, that are indexed in ISE, are used. The data were analyzed using the SPSS 15.0 program. According to the results of the analysis the values of the firms were affected by financial structures of firms. For example; a 1% change in equity cause 1.183% change value of the firm, a 1% change in the short-term debt cause 0.362% change value of the firm, a 1% change in change long-term debt cause 0.163% change in the value of firm.

Keywords: Firm Value; Financial Structure

INTRODUCTION

*T*oday, there is a rapid development of capital markets. Having efficiency and credibility in capital markets is due to the correct determination of the firm value and whether this value reflects the reality. Therefore, firm value lies on focus of financial analysis and investment decisions (Yıldız, 2006:46).

A firm's value is the purchase and sale value of the firm estimated by volunteer buyers and sellers with full information about the firm without any pressure on them (Güleryüz, http://www.aso.org.tr, 29.01.2009). Firm value is determined by firm's assets, organization structure, technology and human resources with discounted future cash flows (Kayalı, et al., 2007: 68). Firm value is affected from the investment and financing decisions of an organization according to the finance theory while according to the management theory it is affected from the elements such as product quality, customer satisfaction, management understanding, technology usage (Düzer, 2008:26, Akgüç, 1998: 3). Modigliani and Miller assert that firm values are just influenced by investment decisions but not by financing decisions. In a study conducted by Konar et al. in 2001, it is determined that environmental performances of industrial organizations affect firm value (Konar, et al., 2001:281-289).

The composition of liabilities and equity which are used to finance assets of organizations constitutes the financial structure. In other words, a financial structure comprises of short term debt, long term debt and equity of an organization (Aydın, 2004: 51). Financial structure is a mix of sources used by firms. Financial structure decisions in firms are made in order to determine the resources and periods of the required funds to obtain the sum of assets and their components which are settled by the investment decisions (Bolak, 1998: 215-217). While determining the financial structure in the organizations, the most significant point is to obtain the optimum financial structure (Albez, 2003: 29). Moreover, some principles such that compliance, cost, risk, flexibility, share of management and timing should be taken into account during the resource selection (Özdemir, 1999: 315). The basic objective of financial structure decisions is to maximize the firm's market value through an appropriate combination of funds used by the firm (Akkaya, 2008:2, Berk, 2000:306).

Since the beginning of 1900s, maximization of firm profit has become the basic objective of the firms and this issue has been debated since the second half of this century. The following view is started to be accepted: profit alone does not have a significant meaning, profit that is tried to be maximized has a subjective meaning in most of the time and it is not a well defined firm objective, but increasing the firm value is the main objective of firms (Damodaran, 1994:5, Brealey, et al.; 1997:12). The main objective of organizations is transformed from profit maximization to the maximization of the stock market value. In this situation, not the organizations with more profits and more sales revenue but the organizations with the highest firm values will achieve to this objective (Belyalova, 2003: 77). In that regard, traditional finance understanding which is based on obtaining the suitable fund is defined to serve this objective (Okka, 2006:15).

There is a significant relationship among financial structure and value of firm is found in a study conducted by Akin (2004) in Turkey. According to the results of this study, debts lead to a decline in average capital cost and increase the firm's value. On the other hand, in a study conducted by Ozaltin (2006) a significant relationship among capital structures of firms indexed in ISE and their market values cannot be found. Furthermore, Yucel (2001) asserts that financial structure does not have an influence on stock price but profit per stock and dividend distribution policies in the organizations have a significant influence on stock prices. In Duzer's study (2008), it is found that firm value has a significant relationship between the liquidity condition of a firm and its financial structure.

In this study, it is investigated whether there is a relationship among the financial structures (short term debts, long term debts and equities) of firms indexed in ISE and their market values.

RESEARCH DESIGN

Sample Selection and Hypotheses

In this study, the relationship among financial structures of firms operated in the manufacturing industry with stocks indexed in ISE-XUSIN and their firm values are investigated. The data regarding to financial structure and firm values is collected through the correspondences with the Directorate of ISE Education and Publications. This quarterly data belongs to 127 firms indexed in ISE-XUSIN and operated in the manufacturing industry between 2004 and 2007.

The hypotheses those will be tested in the research are stated as in the following:

I H_0 : Short term debt of firms do not have influence on firm value.

II H_0 : Long term debt of firms do not have influence on firm value.

III H_0 : Firm's equity does not have influence on firm value.

Model

The dependent variable of this study is value of the firms. The market value is calculated by multiplying the stock market price of the regarding share with the number of stocks. Market values of firms are collected from the data published in the web site of ISE in the end of each subject period. Independent variables of this study are short term debt (STD), long term debt (LTD) and equity (EQ) amounts of firms. The data is obtained through correspondences with ISE and it is organized accordingly.

In this study, the following multiple regression model is developed in order to determine whether there is a relationship among the values of firms and financial structures, in other words short term debts, long term debts and equities of firms.

$$FV_i = \beta_1 + \beta_2.STD_{i2} + \beta_3.LTD_{i3} + \beta_4.EQ_{i4}$$

Firm values and the sum of short term debt, long term debt and equities of firms included in the scope of this study, are organized in Microsoft Office Excel 2003 as appropriate for an analysis. The multiple regression analysis of this data is conducted in the SPSS program.

Results

Table 1: Model Summary

R	R^2	F	Sig. F	Durbin-Watson		
0.848	0.719	1732.6	0.000	2.03		
Hypotheses				β	t	Sig.	Result
I	H_0: Short term debt of firms do not have influence on firm value..(VIF:1.7)			0.362	9.263	0.000	Reject
II	H_0: Long term debt of firms do not have influence on firm value. VIF:1.8)			0.163	1.983	0.048	Reject
III	H_0: Firm's equity does not have influence on firm value.(VIF:2.4)			1.183	36.034	0.000	Reject
Constant				-2.546	-0.525	0.599	
(α =0,05)							

Multiple determination coefficient (R^2) shows impact levels of all variables included in the scope of the study on firm value and it is equal to 0,719. The determination coefficient is an index which shows whether the sample regression line fits the data or not (Gujarati, 2006, pp.74-77). $R^2=0.719$ shows that there is a significant linear relationship among the dependent variable (FV) and independent variables (STD, LTD,EQ), in other words almost 72% of changes in firm's value is explained by short term debt, long term debt and equity.

Calculated to test the significance of R^2 and the model, F statistics is found as equal to 1732,6 and its significance is calculated as 0,000. According to the F statistics, it is found that values of the model and R^2 are statistically significant at p<0,05 significance level.

When β coefficients of the regression equation are examined at p<0,05 significance level, it is observed that there is a significant relationship between firm value and short term debt, long term debt and equity and the regression constant is not statistically significant, in other words the regression constant does not have a significant influence on firm value.

According to β coefficients, a 1% increase (decrease) in short term debt leads to a 0,362% increase (decrease) in firm value, a 1% increase (decrease) in long term debt leads to a 0,3163% increase (decrease) in firm value and a 1% increase (decrease) in equity leads to a 1,183% increase (decrease) in firm value. By using the data shown on the Table, firm value (FV) may be formulated as in the following way:

FV= -2,546 + 0,362 STD + 0,163 LTD + 1,183EQ

According to this data, it is observed that equities (EQ) have the most influence on firm values (FV) whereas Long term debts (LTD) have the least influence on them. Furthermore, an autocorrelation and a multi-co linearity is not found among the independent variables (STD,LTD,EQ) according to the Durbin-Watson statistics (2,03) and to the VIF values, respectively.

CONCLUSION

In this study, the influence of short term debt, long term debt and equity on firm value is examined. For this purpose, a multiple regression model is performed. While firm value is defined as the dependent variable; short term debt, long term debt and equity are defined as independent variables of the model. In the study, the quarterly data of 127 firms indexed in ISE-XUSIN between 2004 and 2007 is used. The data is analyzed by using SPSS 15.0 program and following results are obtained.

There is a significant relationship between firm value and short term debt, long term debt and equity. While a 1% increase (decrease) in equity leads to a 1,183% increase (decrease) in firm value, a 1% increase (decrease) in short term debt almost leads to a 0,362% increase (decrease) whereas a 1% increase (decrease) in long term debt almost leads to a %0,163 increase (decrease) in firm value.

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