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The Relationship Between Conservatism and Firm Growth with an Emphasis on the Debt Maturity in Tehran Stock Exchange

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ABSTRACT

Objective: Conservatism is one of significant features of financial reporting. The supply of that conservative data increases trust of users of financial statements. **Methodology:** Increased convenience and reliability of the data affect financing in a company. In time and low rate financing results in optimal and appropriate growth of the company. The aim of this study was to investigate the relationship between conservatism and firm growth with an emphasis on the maturity of the debt in Tehran Stock Exchange. In order measure the growth we have used total asset proxy. Conservatism has also been measured based on Givoly and Hayn (2002) model. **Results:** The results of testing research hypotheses on 143 companies enlisted in Tehran Stock Exchange during the time period between 2005 and 2014 showed that conditional conservative calculated based on Givoly and Hayn did not have a positive relationship with the company's growth. Additionally, short term debt maturity, affected the relationship between conservatism and firm growth and long term debt maturity did not have any effects on this relationship. **Conclusion:** Finally, Findings showed that there has not been a positive relationship between conservatism and firm growth and long-term debt maturity does not affect this relationship either except short-term debt maturity and when it is assessed by using assets' growth criterion.

1. Introduction

Based on theoretical foundations of financial reporting in Iran (2005) and announcement number 1 of Financial Accounting Standards Bureau (FASB), the main goal of financial statements is to set the ground for investors, creditors, and other capital suppliers to make decisions. One of the main features of financial information is conservatism that has been mentioned as caution in accounting standards in Iran. Conservatism is an outstanding feature of financial reporting that has been noticed at least from the start of 20th century as an outstanding and prominent quality in accounting and financial reporting (Mehrani and Mohammadabad, 2009). It is long debate in accounting literature that whether conservatism is the desirable feature in financial statements or not. The supply of conservative information increases trust and reliance of users of financial statements like investors, creditors, and shareholders. Increasing reliability and trustworthy of the information affects the amount and type of financing in a firm. It is expected that in time and low rate financing results in optimal and appropriate growth of the firms and vice versa. The present study is going to investigate about the role of debt maturity on the relationship between conservatism and firm growth (Hosseini Motlagh and Ghadrdan, 2006).

1.1 Statement of the problem

Conservatism is an outstanding feature in financial reporting that has been combined with theory and practice of accountants from long ago. Conservatism has been posed in accounting theory from long ago and practically is considered as one of the means of supporting owners' rights when financial statements are supplied. The continuous and concurrent notice to this concept and validating it in devising accounting standards can show that by using and applying conservative approaches we can guarantee the benefits exceeding than the costs. Conservatism has always been emphasized by the devisers of accounting standards and based on the requirements enforced by these standards it has lots of practical functions. For example, we can mention the

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followings: utilizing least cost principle or net sales value in assessing inventories, considering research and development expenses as costs, recognition of expenses before the exploitation as cost and not as assets. The definition posed by Flatham and Olson (1995) is the definition of conservatism regarding balance sheet. According to this viewpoint, when there is a real doubt in selecting between two or more reporting methods, the one should be chosen that has the least desirable effect on equity. The third definition of conservatism (Givoly and Hayn, 2000), is based on the combined viewpoint of balance sheet and income statement. In third outlook, conservatism is an accounting concept that leads to the reduction of reported accumulated earnings through late recognition of earnings and earlier recognition of costs, low assessment of assets and high assessment of debts. There have been broad studies carried out regarding the role of accounting conservatism in financial reporting. In previous studies some evidences were supplied supporting the role and advantages of conservatism for the loan receivers and creditors in external financial contracts. More investigations on the issue is important to complete understanding whether conservative reporting method is related with financial contracts or not. Regarding effective contract outlook, if conservatism plays a supervising and controlling role and it helps capital suppliers through this, the access of firms to financial resources is increased and thus they would be able to act with more flexibility in encountering financial crises (Farsi, 2012). Niven, (2001) believes that as leverage increases, the demand for conservatism increases specifically within dividend policies. Besides the relationship between conservatism and financing and debt maturity, findings show that variables like conservatism have a positive relationship with growth through all debt classes such as short-term or long-term debts. Rajan and Zingals found evidences claiming that developed countries and those that have appropriate financial systems and active capital markets supply a better condition for financing and borrowing and have a higher firm growth. Also, in such countries financing cost is less and firms' growth increases in different industries. If conservatism is considered as a controlling mechanism, it may enable the firms to finance cheaply and conveniently through more conservatism and increase the possibility of their growth (Kang et al, 2015). Although previous researches have shown the relationship between conservatism and growth, the role of debts' maturity has been noticed trivially. In theory and practice firms having information asymmetry would have debts with short-term maturity because long-term debts would have higher costs for these firms.

Custodio et al (2013) showed that firms with such features have more tendencies to use short-term debts. On the whole, many firms in which potential conservatism has affected their agency problems tend to have short-term debts. Meanwhile, if conservatism is considered as a controlling mechanism, we can consider long-term maturity debts to affect their relationship either (Kang et al, 2015). Specifically lack of conservatism leads to lack of trust regarding the future presuppositions in firms and it may lead to firms' inability in cheap financing and with low costs. Lack of ability in achieving cheap financing can reduce investments, capital costs, and specifically firm's growth and vice versa. Regarding what was pointed above, it can be asked whether there is a positive and meaningful relationship between conservatism and firm's growth or not? And whether debt maturity can affect the relationship between conservatism and firm's growth or not?

1.2 Research literature

Mehrani et al (2010) investigated about the relationship between debt contracts and firm size and conservatism in firms enlisted in Tehran Stock Exchange during the time period between 2003 and 2006. Their findings showed that there has been a positive and meaningful relationship between debt and conservatism regarding two criteria of accruals based and market value based. Also the negative relationship between firm size and conservatism was approved regarding only the criterion based on market value. Thus, on the whole it can be inferred that there has been a negative and meaningful relationship between firm size and conservatism. (Maditinos et al., 2010).

Farsi (2012) studied on the relationship between financial leverage, firm growth, and profitability in firms enlisted in Tehran Stock Exchange. His research investigated about the relationship between firm growth including assets growth, sales growth, and earnings growth and leverage. He used the financial information of firms during the time period between 2007 and 2011 and utilized a regression model and correlation method to test his research hypotheses. Findings by using the data of 75 firms enlisted in Tehran Stock Exchange showed that assets growth has had a positive relationship with leverage but sales growth and profitability have had a negative relationship with leverage (Khurana and Wang, 2015).

Moridi, (2014) investigated about the effect of leverage on growth of firms enlisted in Tehran Stock Exchange. He claimed that the main goal of the research is to investigate the effect of leverage on growth of drug firms enlisted in bourse. Findings showed that there has been a negative and meaningful relationship between leverage and firms' growth and the more increases in leverage in a firm (i.e. the increase of debts to assets ratio), the growth of the firm will decrease.

Khurana and Wang (2015) studied the relationship between debt maturity structure and conservatism. They believed that short-term debt maturity can reduce agency costs resulting from information asymmetry. Additionally, firms that have shorter maturity would be expected to have less conservatism. Their research findings showed that accounting conservatism affected debt contracts and debt maturity.

Li, (2015) carried out a research on the relationship between accounting conservatism and capital cost in international settings. The main research goal was to study about the role of conservatism in reducing debt costs and equity costs. Findings showed that in countries where firms encounter more conservatism, capital owners' cost and debt's cost are lower. The evidences showed that there has been a negative relationship between conditional conservatism and equity costs and debt costs in countries where there are more and complete legislation requirements.

Kang et al (2015) investigated about the relationship between accounting conservatism and growth related with firm's financing by studying the role of debt maturity. They believed that conservatism fosters financing. Thus, they studied the effect of conservatism in appropriate financing and achieving certain growth levels. Their findings by using the data of firms during the years between 1987 and 2008 in the United States showed that there has been a positive and meaningful relationship between conservatism and debt maturity and conservatism and firm growth.

1.3 Research hypotheses

First hypothesis : There is a positive and meaningful relationship between conservatism and firm growth.

Second hypothesis: Short-term debt maturity affects the relationship between conservatism and growth rate.
Third hypothesis: Long-term debt maturity affects the relationship between conservatism and growth rate.

2. Materials and methods

2.1 Research procedure

2.1.1 Research method:

The present research is applied through which the historical data of firms and statistical methods are used to approve or reject the hypotheses. Also this research is among correlation researches of cause and effect types and multiple-regression models are used to measure the effect of variables on each other. To collect data of the firms we have used databases and tested them after being extracted. Also library study was used to study about the variables. In the present study the statistical population included all firms enlisted in Tehran Stock Exchange. The research period was between 2005 and 2014 for 10 years.

The statistical sample in this research included those firms enlisted in Stock Exchange by considering the following conditions:

Firms should have been enlisted in Tehran Stock Exchange up to the end of Esfand 1383 (21st March 2004).

The required data should be accessible.

The research was carried out regarding non-financial firms, thus banks and all investment firms, leasing, and financial forms were omitted from the sample.

Firms should not have changed their fiscal year during the research period.

Firms should not have exchange stops for more than 6 consecutive months.

Firms should have the same fiscal years (ended on 20th of March).

2.1.2 Testing research hypotheses

To test the hypotheses we have used the following regression models:

Model (1): $\text{Growth}_{it} = \beta_0 + \beta_1 \text{Cons}_{it} + \beta_2 \text{SIZE}_{it} + \beta_3 \text{DIV}_{it} + \varepsilon_{it}$

Model (2): $\text{Growth}_{it} = \beta_0 + \beta_1 \text{Cons}_{it} + \beta_2 \text{ST}_{it} + \beta_3 (\text{Cons}_{it} * \text{ST}_{it}) + \beta_4 \text{SIZE}_{it} + \beta_5 \text{DIV}_{it} + \varepsilon_{it}$

Model (3): $\text{Growth}_{it} = \beta_0 + \beta_1 \text{Cons}_{it} + \beta_2 \text{LT}_{it} + \beta_3 (\text{Cons}_{it} * \text{LT}_{it}) + \beta_4 \text{SIZE}_{it} + \beta_5 \text{DIV}_{it} + \varepsilon_{it}$

To test first, second, and third research hypotheses we have used models 1, 2, and 3 above, respectively.

2.2 Research variables

2.2.1 Dependent variable

Growthit: firm growth is calculated as the growth of assets. The variable of firm growth i in year t that is equal to total assets of current year minus total assets of the previous year divided by total assets of previous year (Kaplan and Norton, 1992).

2.2.2 Adjusting variables

STit: the adjusting variable of short-term debts ratio that is a criterion for short-term debt maturity and is equal to the ratio of short-term debts to total assets of firm i in year t. Regarding that the present research emphasizes on short-term and long-term debt maturities, the isolation of debt variables into short and long types and studying their effects on the relationship between conservatism and growth considers maturity factor (Niven, 2001).

LTit: the adjusting variable of long-term debts that is an index of long-term maturity debts and is equal to the ratio of long-term debts to total assts of firm i in year t.

2.2.3 Control variables

SIZEit: control variable of firm size that is equal to natural logarithm of total assets of firm i in year t.

DIVit: the dividend ratio variable that is equal to the ratio of dividend per share in firm i in year t.

2.2.4 Independent variable

Consit: conservatism variable in firm i in year t. in this research and following the research by Givoly and Hayn, (2002), the following model was used to calculate conservatism where is it conditional. The incentive to select is the fact that the data required for this model are easily accessible and most researches carried out internationally have used this model too. The conservatism index is calculated based on the model mentioned as follows:

Consit = net earnings before unprecedented items – cash flow resulted from operations / total assets at the start of the period (Knoops, 2010).

Table 1. Results of descriptive statistics

Variable	Observations	Minimum	Maximum	Mean	Std. Dev.	Skewness	standard error of coefficient skewness	Kurtosis	standard error of coefficient Kurtosis
Growth $Asset_{i,t}$	1430	-0.09	0.88	0.172	0.187	1.156	0.065	1.170	0.129
$Cons_{i,t}$	1430	-0.823	0.755	-0.703	0.145	-0.739	0.065	3.938	0.129
$Size_{i,t}$	1430	9.797	19.009	13.54	31.5	0.835	0.065	1.125	0.129
$Div_{i,t}$	1430	0	0.954	0.419	5.2910	0.011	0.065	-1.172	0.129
$ST_{i,t}$	1430	0.044	0.906	0.541	0.186	-0.181	0.065	-0.716	0.129
$LT_{i,t}$	1430	0.01	0.94	9.080	0.096	0.773	0.065	10.840	0.129

3. Discussion and results

3.1 Research findings

Table 1 shows the descriptive statistics related to the variables. Accordingly, the average firms' dividend is equal to 0.42. In other words, firms have distributed less than 50 percent of their stock earnings and have tried to hold their internal resources to have a means for financing without paying interest and to avoid borrowing. The average ratio of long-term debts to total assets is 9 percent. In other words, about 9 percent of firms' capital structure is formed of long-term debts. But the ratio of short-term debts to assets has been 0.54 and more. However, we should note that regarding the number of data observations to be more than 30 (1430 observations), based on central limit theorem we can say that their distribution has been normal.

3.2 Results of testing first hypothesis

Regarding the results of testing hypotheses, the test of major presuppositions for the whole models and other findings and testing the relationships we have had the followings. Also regarding the combined nature of firm data, Chaw and Hausman test was carried out. Table 2 shows the results of Chaw's test.

Table 2. Results of Chaw's test

F statistic	Meaningfulness level
2.24	0.01

As it can be observed in table (2), the meaningfulness level of F Limer statistic is less than %5 and therefore Hausman's test should be utilized. Table 3 shows the results of Hausman's test.

Table 3. Results of Hausman's test

CH2 statistic	Meaningfulness level
18.11	0.0004

As it can be observed in table (3), the meaningfulness level of CH2 statistic is less than %5 and therefore the data with fixed effects should be utilized and table 4 shows the results.

Table 4. Results of testing first hypothesis

Model (1): $Growth_{it} = \beta_0 + \beta_1 Cons_{it} + \beta_2 SIZE_{it} + \beta_3 DIV_{it} + \varepsilon_{it}$			
Descriptive variable	**Test results**		
	Coefficient	**t statistic**	**P-value**
Fixed amount	-0.093	-2.315	0.02
Conservatism	-0.471	-14.901	0.0000
Firm size	0.016	5.645	0.0000
The ratio of dividend to earning per share	0.052	3.34	0.0009
F statistic	105.68		
P-value	0.000		
R^2	0.181		
R^2.Adj	0.180		
D-W statistic	1.77		

As it can be observed in table 4, F statistic and P-value represent the meaningfulness of total model in 1. The amount of Durbin-Watson statistic (1.77) shows the lack of existence of self-correlation between the errors. The meaningfulness level of conservatism has been less than %5 and the relationship has been negative. In other words, there has been a negative and meaningful relationship between conservatism and firm growth. This finding contradicts the first hypothesis and it shows that firms with lower conservatism have experienced more growth. The meaningfulness level of firm size also shows that there has been a positive and meaningful relationship between size and growth. In other words, firms with bigger sizes have experienced more growth either. Unlike the two previous variables, dividend does not have a meaningful relationship with firm growth. Identification coefficient and adjusted identification coefficient have been 0.181 and 0.180, respectively and this shows the identification power of the model.

3.3 Results of testing second hypothesis

Table 5. Results of Chaw's test

F statistic	Meaningfulness level
2.12	0.25

As it can be observed in table (5), the meaningfulness level of F Limer statistic is less than %5 and therefore Hausman's test should be utilized. Table 6 shows the results of Hausman's test.

Table 6. Results of Hausman's test

CH2 statistic	Meaningfulness level
18.09	0.0028

As it can be observed in table 6, the meaningfulness level of CH2 statistic has been less than %5 and data with fixed effects shown in table 7 should be used. As it has been represented in table (7), F statistic and P-value represent the overall meaningfulness of total model 2. The amount of Durbin-Watson statistic (1.81) shows lack of existence of self correlation between errors. The meaningfulness level of conservatism has been less than %5 and its relation has been negative. In other words, there has been a negative and meaningful relationship between conservatism and firm growth. The variable of debt maturity effectiveness (short-term debt maturity * conservatism) has affected the relationship between growth and conservatism and the second hypothesis is approved using the criterion of total assets. Identification coefficient and adjusted identification coefficient have been 0.188 and 0.185, respectively and this shows the identification power of the model.

Table 7. Results of testing second hypothesis

Model (2): $Growth_{it} = \beta_0 + \beta_1 Cons_{it} + \beta_2 ST_{it} + \beta_3 (Cons_{it} * ST_{it}) + \beta_4 SIZE_{it} + \beta_5 DIV_{it} + \varepsilon_{it}$			
Descriptive variable	**Test results**		
	Coefficient	**t statistic**	**P-value**
Fixed amount	-0.092	-2.146	0.032
Conservatism	-0.683	-7.702	0.000
Short-term debt maturity	-0.008	-0.34	0.73
Short-term debt maturity*conservatism	0.391	2.58	0.01
Firm size	0.016	5.676	0.00
The ratio of dividend to earning per share	0.057	3.614	0.0003
F statistic	65.95		
P-value	0.000		
R^2	0.188		
R^2.Adj	0.185		
D-W statistic	1.81		

3.4 Results of testing third hypothesis

Table 8. Results of Chaw's test

F statistic	Meaningfulness level
2.16	0.022

As it can be observed in table (8), the meaningfulness level of F Limer statistic is less than %5 and therefore Hausman's test should be utilized. Table 9 shows the results of Hausman's test.

Table 9. Results of Hausman's test

CH2 statistic	Meaningfulness level
18.24	0.0027

As it can be observed in table (9), the meaningfulness level of CH2 statistic is less than %5 and therefore the data with fixed effects should be utilized and table 10 shows the results.

Table 10. Results of testing third hypothesis

Model (3): $Growth_{it} = \beta_0 + \beta_1 Cons_{it} + \beta_2 LT_{it} + \beta_3 (Cons_{it} * LT_{it}) + \beta_4 SIZE_{it} + \beta_5 DIV_{it} + \varepsilon_{it}$			
Descriptive variable	**Test results**		
	Coefficient	**t statistic**	**P-value**
Fixed amount	-0.101050	-2.485123	0.0131
Conservatism	-0.468399	-14.38141	0.0000
Long-term debt maturity	0.035522	0.741248	0.4587
Long-term debt maturity*conservatism	-0.041281	-0.830760	0.4062
Firm size	0.016922	5.708725	0.0000
The ratio of dividend to earning per share	0.057409	3.601118	0.0003
F statistic	64.37		
P-value	0.000		
R^2	0.184		
R^2.Adj	0.181		
D-W statistic	1.80		

As it can be observed in table 10, F statistic and P-value represent the meaningfulness of total model in 2. The amount of Durbin-Watson statistic (1.80) shows the lack of existence of self-correlation between the errors. The meaningfulness level of conservatism has been less than %5 and the relationship has been negative. In other words, there has been a negative and meaningful relationship between conservatism and firm growth. This finding is the same as previous hypotheses. The meaningfulness level of firm size also shows that there has been a positive and meaningful relationship between size and growth. In other words, firms with bigger sizes have experienced more growth either. Regarding the other two variables of long-term debt maturity and the reaction factor among long-term debt maturity multiplied by conservatism, both variables did not have a meaningful relationship with firm growth. Thus, the third hypothesis (considering the growth of assets) is not approved either. Identification coefficient and adjusted identification coefficient have been 0.184 and 0.181, respectively and this shows the identification power of the model.

4. Conclusion

The present research has investigated the relationship between conservatism and firm growth emphasizing at debt maturity. The goal of this study was to investigate about whether conservatism can increase reliability and trustworthy of information of firms and shareholders and whether there is a positive and meaningful relationship between it and firm growth or not and whether debt maturities such as short or long-term maturities does affect this relationship or not. Findings showed that there has not been a positive relationship between conservatism and firm growth and long-term debt maturity does not affect this relationship either except short-term debt maturity and when it is assessed by using assets' growth criterion. These findings contradict with results in Kang et al (2015). Although the reason can be attributed to the study period or different calculation method of some variables that can be considered in future research, the following items were considered as suggestions for future researches.

4.1 Suggestions

- Findings in first hypothesis test showed that there has not been a positive relationship between conservatism and firm growth. Regarding this, it can be suggested due to the rejection of the first research hypothesis to investigate and test this hypothesis considering other conservatism and growth models.

- The evidences in testing second hypothesis showed that short-term debt maturity affects the relationship between conservatism and firm growth and also evidences of testing the third hypothesis showed that long-term debt maturities does not affect this relationship either. Regarding this it can be suggested to consider the effect of capital structure without paying attention to the short-term or long-term feature of maturities instead of investigating the effect of long-term debt maturity on the relationship between conservatism and firm growth. Also the following applied suggestions can be presented:

1. The users of financial statements should not consider conservatism calculated through the model proposed by Givoly and Hayn, (2002) such as variables affecting growth to assess variables affecting the growth up to the time when other researches are being carried out in the field unless assets' growth criterion are utilized.
2. Firm growth can also be assessed through increases in profitability or QTobin model that can lead to different results.
3. The size factor can be considered as an effective variable in assessments.

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