Research article

The Investigation of Relationship between Structure of Assets and the Performance of Firms Evidence from Tehran Stock Exchange

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Abstract

In recent years, extensive studies have been undertaken concerning the capital structure and performance. However, research on the relationship between structure of assets and performance has not applied .In this paper, the relationship between structure of assets and performance of firms listed in Tehran (Iran) Stock Exchange has been studied in various industries. For this purpose, the ratio of current assets to non-current assets as a structure of assets and Return on Assets (ROA) as criteria for firm performance was used. Findings of investigating 252 firms listed in Tehran Stock Exchange observation in the 2001 to 2012 in the four industries (pharmaceutical, chemical, cement and automobile) suggest in 95% confidence level, signification relation between structure of assets and performance existent. In other words Significant linear relationship between structure of assets and performance of active firms in the industry are examined, in fact, this relationship is different in various industries .for examine the relationship, Nonlinearity test was used. Without intervention the moderating variable (in this study is capital structure), these statistical results show that the relationship between the pharmaceutical industry and cement as the relationship logarithmic; that is, with the increasing ratio of current assets to Non-current performance may improve, but its slope is less. In the Automotive industry and the Chemical yield was observed nonlinear relationship between structures of assets. **Copyright © IJEBF, all rights reserved.**

Key words: Structure of Assets, Firms Performance, Type of Industrial

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Introduction

Financing and investment decisions in firms are prospective decisions. In these decisions the firm regarding their own funds at the present time, in order to fulfill its obligations and design the future prospect. With respect to goal of company that as well as maximize wealth of stockholders, appropriate mix of assets and investment

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and financing decisions of firms are important tasks. The goal of the financial manager makes decisions that maximize firm value. Thus, a competent and experienced financial manager in order to maximize the value of the company must determine: what resources are needed and what resources should be provided. In fact, assets in the balance sheet is the palpitate heart and lifeblood of the organization and to what the combination and what resources should be provided. On the other hand management must determine that the organization's business environment, type of industry and market conditions and general economic, market and organizational perspectives and strategies, as well as how assets should be structured. Actually, structure of assets must also be determined based on many factors (Namazi & Shirzadi, 2005).

Miller and Modligliani (1958) for the first time examined the topic of capital structure. Their discussion was whether use of debt in the firms' capital structure on the value of the firm and cost of capital will affect or no? They offer assumptions such as perfect competitive market, lack of income tax, no bankruptcy costs, and lack of agency costs, and existence information asymmetry between domestic and foreign capital market participants and alternative financing sources, showed the administrators can't be changed by a combination of funding sources, the company value will change. In other words, the value of the firm is independent of its capital structure. This theory, known to first Miller & Modligliani Theory and argues that such with default ignore tax, value of a company with debt (leverage) equal to the value of the firm without debt (non-leveraged); is, However, although the theory theoretically seemed reasonable, while in the real world, despite financial constraints unrealistic to think that these two researchers will illustrate the theory. So a few years later, in 1963, Miller & Modligliani with respect to the tax effects of the adjustment of their previous theory. Their first and second theory, create a great revolution in this field. So that we see today has been this subject of considerable academic and professional (Miller & Modligliani, 1958).

The current literature in accounting has paid much attention to capital structure. Capital structure subject and performance of the firms is matter that has been considered by many researchers around the world. However it must be said, there is no focus to structure of assets and firm performance is applied. So, this research for the first time is reviewed this subject and try present evidences based on structure of assets can be effect on firm performance and also in different industries.

The purpose of this research was to investigate the influence of structure of assets on the industry performance of companies in Tehran Stock Exchange. For this purpose, the first, review structure of assets and the reasons for its justification; in the next section, we review the literature related to this field of research hypotheses are presented. Then the findings will be presented and interpreted, and the finally, the last section of the study is devoted to conclusions.

Theoretical principles and hypotheses development

Decision making regarding capital structure and assets is one of the most challenging and the most difficult issues facing corporations, yet most vital decisions about their survival. With reference to the researches and academic texts can be seen as one of the main reasons for failure of Organizations is inadequacy investing and inappropriate financing. Empirical evidence also shows that some success companies failed because of insufficient capital and asset structure.

Thus, the issue of capital & assets structure is one of the most important topics in theory and practice accounting, in a way that can affect the success or failure of an organization, as mentioned, capital structure is one of the major issues raised in accounting and finance, which attention too many researchers around the world who have been allocated. However, the subject structure of assets and it is impact on firm performance in these studies is the missing link that has not been considered so far. This paper present empirical evidence on the effect on the company's assets. The main objective of this study is that whether the structure of asset the firm on industry and firm performance influences or no?

Company's assets structure, are composition of current assets and non-current assets in the balance sheet. Current assets include: cash, inventory, accounts receivable, prepaid orders, and more.

An entity shall classify an asset as current when:

    (a) it expects to realize the asset, or intends to sell or consume it, in its normal operating cycle;
    (b) it holds the asset primarily for the purpose of trading;
    (c) it expect to realize the asset within twelve months after the reporting period; or
    (d) The asset is cash or a cash equivalent (as defined in IAS 7) unless the asset is restricted from being exchanged or used to settle a liability for at least twelve months after the reporting period.

The operating cycle of an entity is the time between the acquisition of assets for processing and their realization in cash or cash equivalents. When the entity's normal operating cycle is not clearly identifiable, it is assumed to be twelve months. Current assets include assets (such as inventories and trade receivables) that are sold, consumed or realized as part of the normal operating cycle even when they are not expected to be realized within twelve months after the reporting period. Current assets also assets held primarily for the

purpose of trading (financial assets within this category are classified as held for trading in according with IAS 39) and the current portion of non-current financial assets.

Current assets will increase the flexibility and power of firm to repay debt, as a result, some industries that need more current assets in these cases role and important play. In this industry because of much opportunities investment and development opportunities such assets is vital (IFRS. 2012). Such as the most important company's assets can be refer to inventory and materials. The amount of these assets due to market conditions and prospects is important. If market demand is created suddenly, It is better the company sufficient access to these supplies in order to meet the demand, Otherwise, it will not be able to achieve satisfactory performance because of the considerable time necessary for preparation of materials and products, maybe will lose of the market. However, if the market is not swinger demand, no require to maintenance large inventory and with planning can be reduce many products maintenance costs and improve performance.

Of other important Current Assets can be cited to Cash. This asset must be maintained according to current liabilities and investment opportunities. Because of over hold because waste of resources that could be better location used and if under hold can contribute to the company's own debt problems will likely assets and other non-current assets. This can cause damage to company reputation and so had to get a higher interest rate debt that it can have a negative impact on the company's current performance and future.

Non-current assets, including fix assets, are important for the production and market expansion, because some exist opportunities in market needs to current assets lesser and more require to manufacturing capacity such space and physical place, equipment and machinery; therefore some industries need more to non-current assets. Structure of assets show funds supply was being held in what form and in what way it is spent.

One of other important factors affecting the performance of companies is capital structure. Studies carried out in recent years about the importance of funding, confirmed it.

Capital structure can include debts, loans, bonds and equity. Competitive market conditions, how to supply finance companies, is the key matters for continue to their survival. Any one of financing methods, have different capital costs and opportunity costs; this cause to more importance this matter. If you have too much debt, increase the risk of bankruptcy and reduce the value of the company. On the other hand, if equity is high, resulting increase the expected turnover of stockholders and Financing costs, so managers need to choose the best of financing method.

Among other factors that could affect the company's performance, mentioned inflation, economic conditions, the size and risk of the company. Then could not be say that the capital structure is alone affect on company's performance, but both of them, that is structure of assets and capital structure in addition, other factors are significantly important and should be considered.

Inexplicit was clear due to type of the market and products in various industries, there are different requirements on the type of assets and this matter can also be effective on the company's performance. If the company has good opportunities for investment, but, has not sufficient resources, poor performance than its competitors, as a result, the value of the company than to other companies will decline and may lose some of its market share. In this case, competitors may develop market share and limit our company. In contrast, in other industries, the opportunities, the need to production capacity and has the enough space in non-current assets and they are more important. As a result for survive must be adoption appropriate strategy for structure of asset.

Due to the main issue in this study (examining the relationship between structure of assets and performance of firms in different industries) research hypotheses are formulated as follows:

H1) There is significant relationship between the composition and performance of assets (income asset) stock companies, by type of industry. Hypothesis includes four sub-hypotheses are as follows:

H_{1-1}) There is significant relationship between the composition and performance of assets (income asset) stock companies that activate at Drug industry.

H_{1-2}) There is significant relationship between the composition and performance of assets (income asset) stock companies that activate at Chemical industry.

H_{1-3}) There is significant relationship between the composition and performance of assets (income asset) stock companies that activate at Cement industry.

H_{1-4}) There is significant relationship between the composition and performance of assets (income asset) stock companies that activate at automotive industry.

In order to study the structure of assets, current and non-current assets is in the pharmaceutical, chemical, cement and automotive were investigated.

Literature review

The majority of researches in this field, much no attention have been made to structure of asset and capital structure has focused on the study. Such can be mention Mirokrishnan (1997) studied the relationship between

firms performance and capital structure concluded that there is negative significant relationship between the ratio of total debt to total equity and equity turnover.

Murray & Vidhan (2002) In America examined the relationship between the performance and structure of firms capital carried 1971 to 1998. That result was there is significant relationship between company's performance and capital structure.

Fosberg and Ghosh (2006) research on companies accepted New York Stock Exchange did. They included that, according to the New York companies in their capital structure 5-8% more than debt have used, it is clear the relationship between (ROA) is negative in New York Stock Exchange.

Nejadfahim (2002) by Pearson's correlation coefficient, and Spearman correlation in level of 95% to investigate relationship between ratio debt/net incom and turnover the assets and concluded that in food & drink industry, there is an inverse relationship between ratio debt/ EAT. In Industry-specific vehicles there is an inverse relationship between the ratio debt/ Measures of financial performance in Machinery and equipment industry there is an inverse relationship between the ratio debt/ EAT and especially ROA .

Tian and Zeitun (2007) The relationship between capital structure and firm performance using data from 167 Jordanians during the 1989 to 2003 studied and conclude that there is Significant relationship between the short-term debt to total assets, the ratio of total debt to total assets, ratio, long-term debt to total assets, ratio of total debt to total equity and ratio turnover return on assets (ROA).

Naser & Ayesha (2008) study of 91 participants from Pakistan during the period 2006 to 1999 was performed. In the present study, the size, growth and taxes and ROA as the independent variable and Financial Leverage as the dependent variable selected that using Pearson's correlation there is also a significant correlation between capital structures.

Test period, population and the statistical sample

The statistical sample of this study is all the companies accepted (listed) in Tehran Stock Exchange during the period from 2001 to 2012 was formed. This sampling technique, Elimination method according to predetermined criteria. Companies who have been following criteria were selected as examples:

 1) Among investment firms, banks, insurance and financial intermediation not.
 2) Before 2001 are accepted in Tehran Stock Exchange

According to the above criteria, the first, 300 participants were selected for the study that information about them was not available, for some of the variables, hence in this study were the only companies in which all variables have been used.

So, 252 companies were selected for each of the above industries 63 firms and data have been selected and used.

Research Method

This study is a correlation using historical data. Actual data in "Pool" has been studied by multiple regression model is required. The data were extracted from Tadbir software and with information financial statements adjusted and for preparation from an Excel spreadsheet and analyzed using SPSS 19 software.

Model and variables used

The model used in this study, according to literature review and current theoretical fundamentals exploit and is designed. In this study, regression analysis with stepwise method was used for the relationship between the dependent and independent variables. So, first step, take regression between structure of assets (current and non-current assets) as the independent variable and the firm performance as dependent variable; the next step into the capital structure as well as a moderating variable is regressed. If (sig) is the significance level, as well as moderating variables in the regression remains, but if the (sig) is not significant remove from the regression. Therefore the following ratios for companies in various industries obtain and then they enter to regression:

Current asset to Non-current asset ratio (Structure of Asset Index)

Profit to asset ratio (Performance Index)

Debt to equity ratio (Structure of Capital Index)

These ratios used respectively as the independent variable and dependent and modulators. In order to assess whether or not variable moderator is appropriate. Once the relationship between structure and performance of assets are reviewed, and then added variable moderator to equation, If sig capital structure is less than 5% appropriate variable for result moderate. But if it is more than 5% same result of the first equation will accept. From following equation for assess relationship between structure of assets and performance is used:

$$Y = \alpha + \beta X_1 + \varepsilon$$

Y= Performance of firms (ROA)

X_1= Current asset to Non-current asset ratio

From following equation for assess relationship between structure of assets and performance with enter variable moderator is used:

$$Y= \alpha + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$$

X_2 = Debt to equity ratio

Hypothesis Test:

H 1-1) Pharmaceutical Industry Test

Using by Regression between performance and the structure of asset for active companies in the pharmaceutical industry, the following results were obtained:

Table 1: Information about the relationship between test performance and structure of assets in the Pharmaceutical industry

	R	**R SQURE**	**B**	**Sig X_1**	**Sig X_2**
Before Moderating Variable	0.313	0.098	0.313	0.012	-
After Moderating Variable	0.662	0.483	0.274	0.006	0.0000

The results of the above survey on the relationship between performance and structure of assets companies in the pharmaceutical industry shows with increase ratio of non-current assets/current in the active companies in this industry is follow better firm performance. sig 0.012, indicating a significant relationship between them and changing in structure of assets have more effect and significant on firms performance. In other words, a positive β coefficient indicates that the relationship is direct. The coefficient of determination represents the explanatory power of the independent variables is that in the research is (0.313) Which is statistically significant, indicating that the variables selected for this study are appropriate, because of strongly concerning explanatory dependent variables. It is quite obvious that the structure of assets alone can not explain firms performance and capital structure can also be in the matter are effective. on the other hand, maybe companies with the same assets that have different performance that could result from differences in how they are funded, for this reason ratio of debt/equity enter the model, until can see its effects. In the next row, we see that moderating variable has a sig (0.00) that is appropriately the second variable. Correlation between the two variables in the second order, more than before, so we can say about 48% of the firm performance is dependent on two variables .B coefficient related to non-current assets to current is also positive. But its value is lower and its sig has been reduced that shows with enter ratio explanatory power modulator structure of assets has better.

So that, the first hypothesis the study is confirm. As a result, there is a significant linear correlation between the structure of assets and active firm's performance, in pharmaceutical industry. This study, in addition to linear regression, nonlinear regression was also used and tested, Indicate that in pharmaceutical industry, the relationship between structure of assets and firms performance to form of logarithmic regression can also has been. This relationship shows with increase current assets performance can be improved; however, the rate of growth in the firms is not constant; so this, increase current assets somewhat can continuously improve performance. After a few decrease rate of growth, so that increase current assets is less lead to improve firms performance, In other words, the relationship between structure of assets and performance of firms in the pharmaceutical industry is direct, but to form of is downside.

H 1-2) Chemical Industry Test

Using by Regression between performance and the structure of asset for active companies in the chemical industry, the following results were obtained:

Table 2: Information about the relationship between test performance and structure of assets in the Chemical industry

	R	**R SQURE**	**β**	**Sig X_1**	**Sig X_2**
Before Moderating Variable	0.076	0.006	-0.076	0.553	-
After Moderating Variable	0.473	0.223	0.441	0.012	0.0000

You observe that the structure of assets before moderating variables (capital structure) enter performance does not explain the significant level, meanwhile, the relationship between structures of assets performance negative show.

After adding a moderating variable, sig (0.00), which indicates the suitability of this variable for add to equation that by entering this variable into the equation, the relationship between structure of assets and active firms' performance in this industry is significant. Also the relationship between performance and structure of assets is positive. Thus, with increasing the proportion of non-current assets to current performance in the industry will increases. Two independent and moderating variables to correlation dependent 0.473 and about 223% of the performance change is related to these two variables. According to the table to reason of significance relationship between structure of assets and performance the second hypothesis is confirmed. In this industry there is no relationship between structure of assets and performance neither linear nor non-linear and only to taking into account the capital structure. The relationship is linear.

H 1-3) Cement Industry Test

Using by Regression between performance and the structure of asset for active companies in the cement industry, the following results were obtained:

Table 3: Information about the relationship between test performance and structure of assets in the Cement industry

	R	R SQURE	β	Sig X$_1$	Sig X$_2$
Before Moderating Variable	0.690	0.477	0.69	0.000	-
After Moderating Variable	0.694	0.481	0.703	0.000	0.462

Sig of moderating variable is 0.462, as a result in this industry moderating variable, is not appropriate and only use the same firs order equations. In Cement industry there is higher correlation than other industries the test, and 48% of performance, depending on the structure of assets and indicate importance structure of assets. As you observe its sig is zero, thus there is relationship significant linear between structure of assets and firms performance. Beta coefficient is also positive, indicating a direct relationship between structure of assets and performance. In this industry compared to other industries effect of entering the capital structure of the model as a moderator variable has no significant effect on the correlation performance and the structure of assets and indicate high significant structure of assets in this industry.

So, the third hypothesis is confirmed. In this industry there is structure of assets and significantly correlated with performance. Also we can say, the value of its meaningful than to other industries is more impressive. In cement industry non-linear correlation test and observed that data is logarithmic related together, and this relationship is stronger that linear. And this relationship shows that with increase current assets the performance can be improved. However, the rate of performance growth not constant, so that companies can increase current assets partially continuously improves the company's performance. Then the rate of growth is reduced, so that increase current assets less could be cause improve the company's performance. On the other hand, can not expressly claim if current assets increase lead to firms performance. Instead of can conclude that part of firm performance affect of its composition and assets mix. Thus, a high ratio of current assets to non-current assets of the company is not result to improve. In **figure 1** an example of a logarithmic correlation is that the cement industry will be presented.

H 1-4) Automotive Industry Test

Using by Regression between performance and the structure of asset for active companies in the automobile industry, the following results were obtained:

Moderating variable has a sig 0.3, thus moderating variable in this industry is not suitable, and the first equation is used. In this industry, relationship between performance and structure of assets is 0.26 and about 7% of performance change relate to structure of assets. Also the relationship between ratio of current asset to non-current is positive that shows with increase in current asset in this industry, performance will improve. As a result the forth study hypothesis is confirmed, since there is a significant relationship between these two variables. Of course it is necessary to note that in automotive industry compare to other industries probably error

is higher, since its sig is 5% and its correlation coefficients is less than other industries. In the automotive industry, except linear correlation none of the regressions were not significant, thus nonlinear relationship between two variables that cannot be found in the structure of assets and performance.

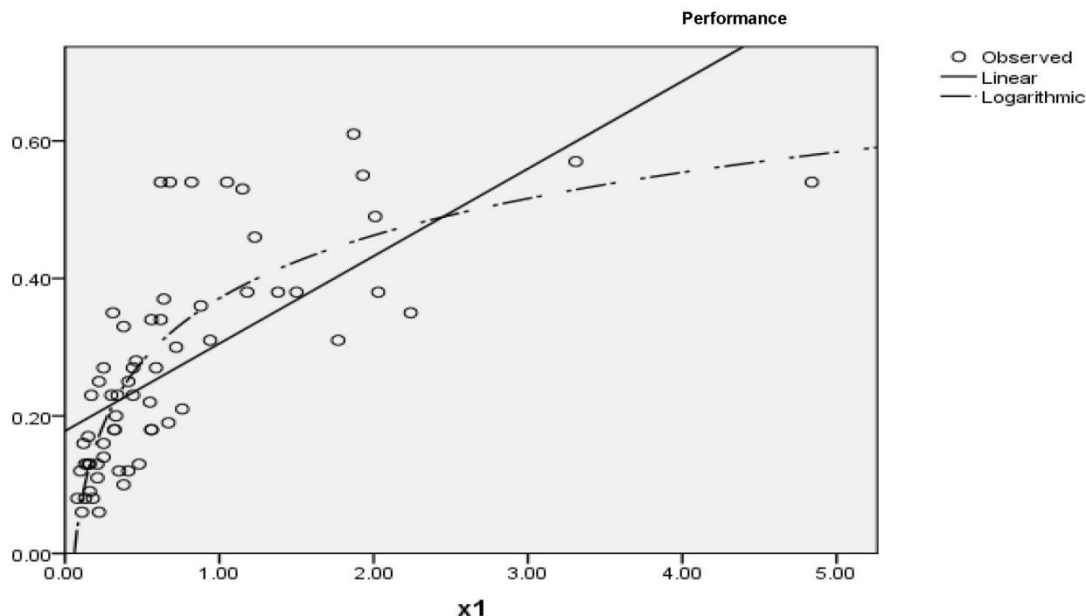**Figure 1:** an example of a logarithmic correlation in cement industry

Table 3: Information about the relationship between test performance and structure of assets in the automobile industry

	R	R SQURE	β	Sig X_1	Sig X_2
Before Moderating Variable	0.258	0.067	0.258	0.041	-
After Moderating Variable	0.288	0.083	0.265	0.036	0.3

Conclusion

 In this study the relationship between structure of assets and performance of listed companies in several industries in the Tehran Stock Exchange were studied. Thus, asset structure as independent variable, performance of firms as dependent variable and capital structure as a moderating variable was used.
To examine the relationship between four pharmaceutical industry, chemical industry, cement industry and automotive industry were investigated and studied. The statistical results show, there is significant linear relationship between the industries to be tested. These statistical results show that, this relationship is direct in these industries; thus, by increasing the ratio of current assets to non-current performance can be improved. For test this relationship nonlinear test was reviewed (without moderating variable). These statistical results show that, in the cement and pharmaceutical industry is logarithmic relationship. In fact, between 2 variables have explanatory power is more than linear relation. That is, with increase current assets to non-current, performance is improved but its slope is less. In automotive and chemical industry there is no nonlinear relationship between these two variables. This study had four hypotheses, none of them were rejected. In other words, there is a significant relationship between the structure of assets and performance in the examined industries. This study can be useful for managers, analysts, creditors and other stakeholders. According to the theories of economics, finance and accounting, suggest corporate and managers should pay attention to this matter and set the structure of its assets that lead to improve performance and consequently the improved value of the firm.

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