

The Investigation of Effect of Assets Structure on Performance of Accepted Companies of Tehran Stock Exchange (TSE)

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ABSTRACT

The aim of this article is to investigation of effect of assets structure on performance of accepted companies o Tehran Stock Exchange (TSE) using Panel Data approach. In this regard, we apply many models for answering this problem. We use two group investigations. First, for 150 companies have been established and second models have been estimated for five industries. In both groups, we estimate tow model (1. With fixed asset and variable assets, and 2. with variable assets to fixed assets ratio as independent variables). Result show tha in general, fixed assets have significant positive effect on EBIT (Earnings before Interest and Taxes). Also effect of these variables on EBIT among various industries is not same. The results were confirmed using the stability tests.

KEY WORDS: Panel Data, Tehran Stock Exchange, Earnings before Interest and Taxes, Assets Structure.

1. INTRODUCTION

1085 Firms own multiple assets and the nature of the assets varies across the firms. For a specific multi-
1, the assets can be similar to each other, indicating that the firm is focused and it has minimized the potential conflicts which are caused by holding widely diverse assets. Alternatively, the assets can be different from each other, suggesting that the firm is diversified and it has captured the coinsurance benefit of various assets. It is also common that some of the assets are separated from the original firm and incorporated in a new entity. Those assets are not always put into a smaller firm with the same structure as the original firm. For example, they can be transferred into an entity which looks more like a trust and where the role of the equity-holders is minimized to holding only the cash flow rights. The trust securitizes the assets by issuing its own non-recourse claims and it establishes a substantially cheaper bankruptcy restructuring procedure. Essentially, firms face the task to find their optimal corporate structure and scope (Flannery et al., 1993). The Tehran Stock Exchange (TSE) is Iran's largest stock exchange, which first opened in 1967. The TSE is based in Tehran. As of July 2010, 337 companies with a market capitalization of US\$72 billion were listed on TSE. TSE, which is a full member of the World Federation of Exchanges and a founding member of the Federation of Euro-Asian Stock Exchanges, has been one of the world's best performing stock exchanges in the years 2002 through 2010. TSE is an emerging or "frontier" market. The most important advantage that Iran's capital market has in comparison with other regional markets is that there are 40 industries directly involved in it. Industries such as the automotive, telecommunications, agriculture, petrochemical, mining, steel iron, copper, banking and insurance, financial mediation and others trade shares at the stock market, which makes it unique in the Middle East (Financial Times, 2010). The rest of the paper proceeds in the following steps: Section 2 will introduce our theatrical framework. Section 3 gives methodology and model. Section 4 presents results. Finally, section 5 is this paper's conclusion.

2. Theatrical framework

Asset is a basic need for firms to start their business and expand-known as globalization. To deal with globalization, firms should concern on financing problem's that focused on asset structure. Asset effect on the firm's ability to survive and compete with others firms (strong capital can kill the weak one). Asset structure's suitability effects on the choice and proportion debt used in capital structure. A firm which asset is suitable as security for loans tends to use debt rather heavily. Eugene and Joel (1998) found that firms with a bigger number of asset structure have a tendency to use a bigger long-term debt too

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because they use their asset as security for loans. The types of assets available and their liquidity depend on local economic and investment market conditions. In most developed economies there is a wide variety of assets available, including some with high liquidity(Duangploy, 2005). This is not the case in developing markets, where there is usually a limited choice of assets in which to invest. Foreign investments are sometimes permitted, but such investments pose a currency risk in addition to any inherent riskiness in the type of asset held, and it takes assets outside of the immediate jurisdiction of the supervisor. Also, because insurers are typically among the largest investors, governments sometimes require that they invest locally in order to help develop the local investment markets (Hedge et al., 2004).

In this research EBIT (Earnings before Interest and Taxes) was used as an indicator of performance of stock exchange. Earnings before Interest and Taxes are a measure of a company's earning power from ongoing operations, equal to earnings before deduction of interest payments and income taxes. EBIT excludes income and expenditure from unusual, non-recurring or discontinued activities. In the case of a company with minimal depreciation and amortization activities, EBIT is watched closely by creditors, since it represents the amount of cash that such a company will be able to use to pay off creditors and also called operating profit (Trabelsi et al., 2004).

So it is important for firms to make their financing decision- asset structure decision, which is the choice between debt and equity financing. The best proportion between debt and equity used will enter firms into the optimal asset structure. Some of important judgmental issues should be applied consider to an optimal asset structure. The aim of the research is to find out the magnitude of the asset structures.

From the explanation mentioned before, the problem identification can be identified as:

1. Is there any significant influence of asset structure to Earnings before interest and taxes (EBIT) in companies accepted of Tehran Stock Exchange?
1. Is there different significant influence of asset structure to Earnings before interest and taxes (EBIT) among industries in companies accepted of Tehran Stock Exchange?

3. METHODOLOGY AND MODEL

Considering that one of the objectives of this study is to describe the earnings quality of the companies listed in Tehran Stock Exchange from the independent auditors and explain or clarify their status, so a part of the study is a survey research. The study is reasonably deductive – inductive and from the data collection view is descriptive and is based on real data in the company's financial statements. Also this research is developing in perspective of goal. The study will use various statistical methods for testing hypotheses.

451 go-public manufacturing companies in the Tehran Stock Exchange (TSE) were used as the population, and only 150 companies (in 5 groups with 30 members) were collected as the samples. Recursive Models of the Linear Regression, which was used as the analysis model, divided into two steps: (1) regressing the magnitude of the asset structure using total data, (2) regressing the magnitude of the asset structure using 5 industry data in TSE include (food, chemical, metal, non-metal and wood industries). In this research, information from libraries and documents and financial reports of Tehran Stock Exchange (TSE) has been used. In this study, regression estimation is panel data methods. With regard to the independent and dependent variables, models of research are explained as follows:

$$EBIT_i = \beta_0 + \beta_1 FA_i + \beta_2 VA_i + \varepsilon_i \quad [1]$$

$$EBIT_i = \beta_0 + \beta_1 VFA_i + \varepsilon_i \quad [2]$$

In these models, FA is fixed assets, VA is variable assets, VFA is variable assets on fixed assets ratio and finally EBIT is Earnings before Interest and Taxes.

4. RESULT

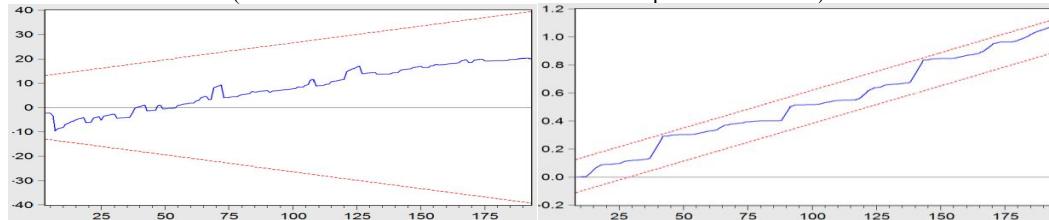
In this step, first models for total companies have been estimated. As we seen earlier, these models include dependent variable (EBIT) and independent variables (fixed assets, variable assets and variable to fixed assets ratio). Results present in tables 1 and 2. Also CUSUM and CUSUMSQ tests for stability of models are presented as Graph 1 and 2.

Table1. Result of Regression for total companies
(With fixed assets and variable assets as independent variables)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	15413.38	5322.740	2.895761	0.0044
FA	0.100558	0.047241	2.128620	0.0350
VA	-0.025153	0.033008	-0.762022	0.4473
R-squared	0.312863		Adjusted R-squared	0.303515
F-statistic	33.46562		Durbin-Watson stat	1.858211

Source: Own calculations by using Eviews software

Graph 1: CUSUM and CUSUMSQ tests for stability of estimated model Regression for total companies
(With fixed assets and variable assets as independent variables)



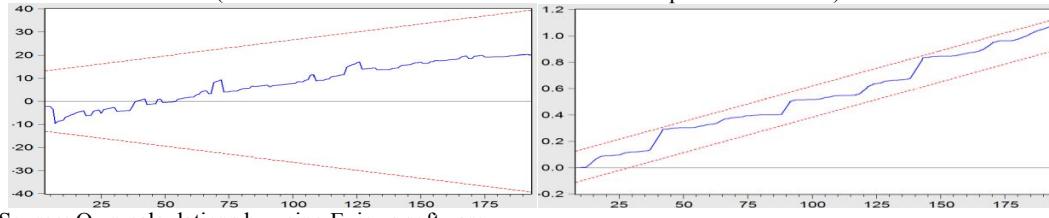
Source: Own calculations by using Eviews software

Table2. Result of Regression for total companies
(With variable assets to fixed assets ratio as independent variables)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	40051.70	4552.274	8.798175	0.0000
VFA	-15162.63	5679.127	-2.669888	0.0084
R-squared	0.045951		Adjusted R-squared	0.039505
F-statistic	7.128303		Durbin-Watson stat	1.857889

Source: Own calculations by using Eviews software

Graph 2: CUSUM and CUSUMSQ tests for stability of estimated model Regression for total companies
(With variable assets to fixed assets ratio as independent variables)



Source: Own calculations by using Eviews software

Based on these models, we show that fixed assets have significant positive effect on EBIT, but variable assets have no significant effect. Also in regard to model with variable assets to fixed assets ratio as independent variables, this variable has significant negative effect on dependent variables. In next step we apply these models for various industries. Results present in tables 3 and 4.

Table3. Result of Regression for 5 industries
(With fixed assets and variable assets as independent variables)
(Food Industry)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4010.632	6701.522	0.598466	0.5545
FAFOOD	0.241770	0.034250	7.058970	0.0000
VAFOOD	-0.101261	0.046939	-2.157275	0.0400
R-squared	0.652235		Adjusted R-squared	0.626475
F-statistic	25.31932		Durbin-Watson stat	1.854182

(Chemical Industry)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	7215.850	6703.314	1.076460	0.2912
FACHEM	0.190314	0.034820	5.465646	0.0000
VACHEM	-0.040039	0.041060	-0.975127	0.3382
R-squared	0.571014	Adjusted R-squared		0.539237
F-statistic	17.96957	Durbin-Watson stat		2.589406

(Metal Industry)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	10951.97	5005.075	2.188174	0.0375
FAMET	0.082219	0.025302	3.249499	0.0031
VAMET	-0.013416	0.027948	-0.480026	0.6351
R-squared	0.357994	Adjusted R-squared		0.310438
F-statistic	7.527854	Durbin-Watson stat		1.969729

(Non-Metal Industry)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4866.083	5524.988	0.880741	0.3862
FANON	0.152916	0.042255	3.618907	0.0012
VANON	0.032434	0.072295	0.448630	0.6573
R-squared	0.570531	Adjusted R-squared		0.538719
F-statistic	17.93420	Durbin-Watson stat		1.749285

(Wood Industry)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	17170.26	6465.249	2.655777	0.0131
FAWOOD	0.023036	0.026450	0.870941	0.3915
VAWOOD	0.055350	0.061593	0.898648	0.3768
R-squared	0.200956	Adjusted R-squared		0.141768
F-statistic	3.395195	Durbin-Watson stat		1.536337

Source: Own calculations by using Eviews software

Table4. Result of Regression for 5 industries
 (With variable assets to fixed assets ratio as independent variables)
 (Food Industry)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	48571.38	11584.41	4.192823	0.0003
VFAFOOD	-22652.51	12735.07	-1.778751	0.0861
R-squared	0.101526	Adjusted R-squared		0.069438
F-statistic	3.163955	Durbin-Watson stat		2.046231

(Chemical Industry)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	50768.56	10762.97	4.716966	0.0001
VFACHEM	-27577.90	16449.02	-1.676568	0.1048
R-squared	0.091230	Adjusted R-squared		0.058774
F-statistic	2.810879	Durbin-Watson stat		2.032402

(Metal Industry)				
C	19110.47	8802.944	2.170919	0.0386
VFAMET	7468.737	10984.80	0.679916	0.5021
R-squared	0.016242	Adjusted R-squared		-0.018892
F-statistic	0.462285	Durbin-Watson stat		1.626798

(Non-Metal Industry)				
C	40021.71	10900.23	3.671639	0.0010
VFANON	-14898.10	14418.95	-1.033231	0.3103
R-squared	0.036727	Adjusted R-squared		0.002324
F-statistic	1.067566	Durbin-Watson stat		1.486445

(Wood Industry)				
C	33805.08	9568.592	3.532921	0.0014
VFAWOOD	-9651.485	11098.02	-0.869658	0.3919
R-squared	0.026301	Adjusted R-squared		-0.008474
F-statistic	0.756306	Durbin-Watson stat		1.801420

Source: Own calculations by using Eviews software

In these models, we show that there are significant variation among industries asset structure, so in some industries, independent variable have positive effect on EBIT, but in other industries this effect is positive.

5. Conclusion

For a specific multi-asset firm, the assets can be similar to each other, indicating that the firm is focused and it has minimized the potential conflicts which are caused by holding widely diverse assets. So the structure of assets can be influenced on performance of companies. The Tehran Stock Exchange (TSE) is Iran's largest stock exchange, which first opened in 1967. In this framework, our goal is to investigation of effect of assets structure on EBIT of accepted companies of Tehran Stock Exchange (TSE) using Panel Data econometrics approach. We used many models for solving above problem. We use two group investigations. First, for 150 companies have been established and second, models have been estimated for five industries. In both groups, we estimate tow model. Result show that in general, fixed assets have significant positive effect on Earnings before Interest and Taxes. Also effect of these variables on EBIT among various industries is not same. The results were confirmed using the stability tests.

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