

Investigating Changes in the Value of Corporate Fixed Assets as a Foreign Factor Affecting Reporting Quality, Financing, and Investment

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Abstract

In this study, the effect of the changes in the value of fixed assets of the firms on reporting quality, financing, and investment, as a foreign factor, was examined in 152 listed firms in Tehran Stock Exchange based on the written information in the financial reports of these firms from 2006-2016. Hypotheses were tested using multivariate regression through Eviews software. Results showed that changes in the value of tangible fixed assets have lower effect on the financing of the firms with high reporting quality compared to the firms with lower reporting quality; but, this was not the case about investment. Also, results showed that changes in the value of fixed assets is correlated with reporting quality. Although based on explained theories in the literature, the correlation of financial reporting quality and provision cost was confirmed, the results of this study didn't show the effect of changes in the value of fixed tangible assets on the investment of listed firms in Tehran Stock Exchange.

Keywords: Changes in the value of fixed assets, reporting quality, financing, investment, Tehran Stock Exchange.

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Introduction

One important factor for providing assurance to the investors and creditors in investment activities is preparing the information which can help them in financial and economic decision makings. The existence of assurance mechanisms for the investors and other users towards the information quality of financial accounting with the goals such as increasing the efficiency of capital market and optimal capital allocation is essential (Wang et al., 2015). Usefulness of the decisions is a main feature of accounting information quality since stakeholders use them in their decision makings. Thus, accounting information's quality can be indirectly measured by the goals and motivations of accounting information's providers (Balakrishnan et al, 2014).

In this study, change in the value of tangible fixed assets resulting from the changes in the price of fixed assets was considered as an external factor in the capacity of financing. Changes in the price of assets resulting from external factors is the possibility of suggesting an option for the investments and changes in the capacity of financing. When the price of tangible fixed assets change, the firms whose larger amounts of assets belong to tangible fixed assets experience more changes in their assets' values, leading to more changes in their capacities for financing.

Literature

In an ideal capital market, there is no information asymmetry, moral hazard, tax, and conflicts for increasing foreign investments. Thus, there is no correlation between investments of large firms and producing internal cash flows. For example, if a firm needs cash for the financial provision of its investment projects, it can easily provide it from foreign capital markets. If this firm has more-than-required cash for the financing of the projects with net positive value, it will allocate that free cash flow to distribution among stockholders and foreign markets as its options for future investments. However, in the real world, firms don't act per se; because, there are different problems in the capital market. Problems like information asymmetry and agency problems lead to corporate limitations in collecting cash from foreign capital markets and restrict managers in using produced cash in the projects with net positive value (Wang and Ramalingegowda, 2013).

Besides, monitoring management is difficult for foreign capital providers in creating a potential for the management in relation with internally-produced cash flows on the projects. This cash is useful from the view of the management; but, it is costly from the view of stockholders. It means that there must be a positive correlation between corporate investment and producing internal cash flows. This is the theory of free cash flows, introduced by Jensen (1986).

Miller and Modigliani (1958) showed that in the neoclassic framework, the final value of an investment project is not the only required factor for the firms in investment or decision-making (Chen et al., 2011). Firm investment should not just rely on producing internal cash flows and access to foreign financial resources. In this respect, many studies found that some signals affect market credit regarding tax and exchange cost, likely to deviate firm investment from its optimal state. Accordingly, information asymmetry and

agency problems are common deviation factors, affecting investment return in the incomplete markets (Bushman and Smith, 2001).

In this regard, financial reporting is an important tool for decreasing information asymmetry and agency problems. It is supposed that financial reporting plays an important role in decreasing underinvestment and overinvestment, especially for the firms with free cash flows. From one hand, financial reporting quality decreases information asymmetry by providing investors with more information about investment projects, leading to the decreased consequences in bonds' issues (Bushman and Smith, 2001). On the other hand, qualitative financial reporting decreases ethical issues by facilitating contracts and supervision mechanisms (Healy and Palepu, 2001). Besides, managers tend to overinvest on the firms with free cash flows. However, firms with higher financial reporting quality control the negative effect of investments and inefficiencies by increasing stockholders' abilities for monitoring managers and improving projects' selection (Wang et al., 2015).

Business units always face many investment opportunities and need rational decision makings about an optimal investment. In fact, investment of every business unit should be based on the resource limitation and its efficiency. But, the main issue is selecting plans and decisions about investment opportunities by the managers of the business units in line with their own interests. In other words, information asymmetry and conflict of interests inhibit an optimum investment (Yang and Jiang, 2008). Thus, business units should consider the extent or level of investment regarding resources' limitation for the investments on different plans (Modarres and Hesarzadeh, 2008). This is done through assessment methods of the plans such as using net current value. In this method, investment on one or some plans is justifiable if its net current value is positive. Thus, accepting the plans with negative net current value leads to the overinvestment and the lack of optimized investments (Verdi, 2006). One effective factor in overinvestment is the existence of free cash flows in the business units. Managers in the business units with high free cash flows invest on the plans which create non-monetary return, leading to more spread of investment in the business unit and consequently overinvestment (Jensen, 1986). One effective factor in the optimum investment is the quality of accounting information which is an important information resource for the investors (Yang and Jiang, 2008).

Since in Iran the relationship of reporting quality and financing and investment has not been examined, this study investigates it in the firms of Tehran Stock Exchange. On the other hand, the effects of information quality and investment optimization on the corporate investments have not been concerned in Iran like foreign studies (Core et al., 2008).

Some studies have examined the concepts of free cash flows. Opler et al. (2001) found that the firms with excess cash and capital expenditures invest more even when they face weak investment opportunities. However, managers focus their extra cashes on extra investments on their related projects rather than distributing them among stockholders. In this regard, financial reporting can decrease information asymmetry between managers and investors, decreasing the costs of managers' supervision for stockholders. Thus,

qualitative financial reporting can play an important role of monitoring the decrease of agency problems in these firms.

Wang et al. (2015) found that a qualitative financial reporting leads to the investment efficiency in the incomplete markets. A qualitative financial reporting decreases information asymmetry, affecting the relationship of free cash flows and investment efficiency. Balakrishnan et al. (2014) showed that the firms which had variable investments on the fixed assets and estates can offset exogenous corporate financial provisions by increasing the quality of financial reporting. Biddle et al. (2009) showed that the high quality of financial reporting can direct underinvestment and overinvestment towards optimum investment. These results show that some consequences of high reporting quality is decreased moral hazards and undesirable choice which inhibit efficient investments.

Richardson (2006) found a correlation between overinvestment levels of the firm with free cash flows. Based on the agency costs, overinvestment focuses on the firms with the highest levels of free cash flows. He found that ownership structures of these firms is correlated with their free cash flows. Also, strong ownership structures like the presence of active stockholders affects the decrease of overinvestment.

Saghafi et al. (2011) showed that the higher the accounting information of the firms, the lower the likelihood of occurring overinvestment; this relationship occurs more in the firms with more free cash flows and the effect of decreased overinvestment on these firms is higher through the quality of accounting information.

Tehrani and Hesarzadeh (2009) found that free cash flows and limitation in the financing lead to overinvestment and underinvestment.

Reviewing above literature, the following hypotheses are stated:

H₁ Change in the value of tangible fixed assets has lower effect on the financing of the firms with higher reporting quality compared to the firms with low reporting quality.

H₂ Change in the value of tangible fixed assets has lower effect on the investment in the firms with high reporting quality compared to the firms with low reporting quality.

Firms select their reporting trends based on the benefit-cost approach. Thus, the changes in the value of tangible fixed assets can affect the trends of corporate reporting. When the value of tangible fixed assets changes, the financing capacity of the firms changes as well. Thus, for reaching financing goals, the firms can select their reporting trends in a way that the level of information asymmetry meets their demands in case of financing. Since based on previously mentioned points, information asymmetry affects the capacity of financing. Therefore:

H₃ There is a significant correlation between the change in the value of fixed assets and reporting quality.

Methodology

Statistical population of this study included all listed firms in Tehran Stock Exchange. Since sampling was through systematic random sampling, the firms with the following conditions were selected as the sample.

1. They were listed in Tehran Stock Exchange before 2006.
2. Their fiscal year ended in the last month of winter and didn't change during study period.
3. The stocks of these firms were exchanged during the study period.
4. Business activities of the firms were not stopped during study period.
5. The information related to the variables of the study belonging to the firms were available. Based on these criteria, 152 firms were selected as the sample.

To test H1, Model (1) was used.

Model (1).

$$I\check{N}V_{it} = \beta_1 RE_V\check{A}LUE_{it} + \beta_2 RE_V\check{A}LUE_{it} \times FRQ_{it-1} + \gamma_1 STATE_I\check{N}DEX_{st} + \gamma_2 FRQ_{it-1} + \varepsilon_{it}$$

Where,

$I\check{N}V$ =financial provision cost

The sign "~" above the name of the variable shows that the average of the firm has been subtracted from the variable. For example:

$$I\check{N}V_{it} = INV_{it} - \frac{1}{T} \sum_{t=1}^T INV_{it}$$

Where,

$RE_V\check{A}LUE$ is the change in the value of tangible fixed assets

Which is calculated as follows:

$$RE_V\check{A}LUE_{it} = \left(RE_V\check{A}LUE_{i83} * STATE_I\check{N}DEX_{s,83-t} \right)$$

Where,

$RE_V\check{A}LUE$ = the market value of tangible fixed assets in 2014 multiplied by inflation index till year t.

FRQ=financial reporting quality

For evaluating financial reporting quality, the quality of accruals is used whose reason is that these accruals are the main factor in predicting future cash flows. If the error level is lower in their estimation, the earnings will be better indicators of future cash flows (Biddle et al., 2009).

Using the quality of accruals is based on the idea that these accruals improve informative capacity of the earnings through smoothing fluctuations in cash flows. When the accruals are used for estimating cash flows and future earnings, if there is low error in their estimations (i.e. the accruals are high quality), these estimations will be more reliable.

To measure the quality of the accruals, first all accruals which make earnings should be considered. Based on the accruals' model of Dechow and Dichev (2002), operating earnings result from the sum of cash flows and accruals:

$$E_{j,t} = CFO_{j,t} + TCA_{j,t}$$

Consistency degree in the relationship of cash flows and accruals examines the quality of accruals. Thus, in this study, for evaluating the quality of financial reporting (accruals' quality), the substitution of the resulting number for the corporate accruals based on the model of Fransis et al.(2005) and residue calculation were used:

$$TCA_{i,t} = \beta_0 + \beta_1 CFO_{i,t-1} + \beta_2 CFO_{i,t} + \beta_3 CFO_{i,t+1} + \beta_4 \Delta Rev_{i,t} + \beta_5 PPE_{i,t} + \varepsilon_{i,t}$$

Where,

TATE_INDEX=inflation rate

For H2 test, substituting investment as the dependent variable in the previous regression, Model 2 was obtained and used:

Model (2).

$$EXT_FIN_{it} = \beta_1 RE_VALUE_{it} + \beta_2 RE_VALUE_{it} \times FRQ_{it} + \gamma_1 STATE_INDEX_{st} + \gamma_2 FRQ_{it} + \varepsilon_{it}$$

For H3 test, Model 3 was used:

Model (3).

$$FRQ_{it} = \alpha_i + \beta_1 RE_VALUE_{it} + \gamma_1 STATE_INDEX_{st} + \varepsilon_{it}$$

Results

Results of H₁ tests are shown in Table (1).

Table 1. H₁ test results

$I\check{N}V_{it} = \beta_1 RE_V\check{A}LUE_{it} + \beta_2 RE_V\check{A}LUE_{it} \times FRQ_{it-1} + \beta_3 STATE_I\check{N}D\check{E}X_{it} + \beta_4 FRQ_{it-1} + \varepsilon_{it}$				
Variables	Coefficients	t value	Sig	Hardy test
Intercept	9.0288	6.76	0.000	-
$RE_V\check{A}LUE_{it} \times FRQ_{it-1}$	-.0535	-3.57	0.000	1.92
$RE_V\check{A}LUE$	-1.7653	-1.87	0.012	1.76
$TATE_I\check{N}D\check{E}X$	.0097	1.25	0.000	2.12
FRQ_{it-1}	-.456	-1.85	0.000	2.00
Determination coefficient =89.15%		Modified determination coefficient=87.26%		
Dourbin-Watson=1.97				
F value=4.29		likelihood=0.000		

As seen in Table 1, 89.15% of the changes of dependent variable is explained by the independent variables in the table. Determination coefficient was obtained to be 87.26%. The Dourbin-Watson statistics of 1.97 shows that error components in this model don't have a significant correlation and have independent behaviors. In other words, there is no self-correlation between error components of the observations. F value of the measured regression is 4.29. Regarding the significance level of 0.000, the regression is significant. Significance level of Hardy test for each variable is below the acceptable error level. Thus, each variable is consistent. To test hypotheses, independent variable (the value of tangible fixed assets) was used through reporting quality. The effect of this variable on the cost of financial provision was negative and significant (-.0535). In other words, H₀ was rejected and H₁ was confirmed. Results of H₂ tests are shown in Table (2).

Table (2). H₂ test results

$EXT_FIN_{it} = \beta_1 RE_V\check{A}LUE_{it} + \beta_2 RE_V\check{A}LUE_{it} \times FRQ_{it} + \beta_3 STAT_I\check{N}D\check{E}X_{st} + \beta_4 FRQ_{it} + \varepsilon_{it}$				
Variables	Coefficients	t value	Sig	Hardy test
Intercept	5.7654	2.87	0.000	-
$RE_V\check{A}LUE_{it} \times FRQ_{it-1}$	-.2368	-1.37	0.182	1.92
$RE_V\check{A}LUE$	.2345	2.43	0.000	2.45
$TATE_I\check{N}D\check{E}X$	.5465	2.65	0.000	1.86
FRQ_{it-1}	-.0230	-2.9784	0.023	1.97
Determination coefficient =88.89%		Modified determination efficient=86.96%		
Dourbin-Watson=1.84				
F value=4.07		Likelihood=0.000		

As seen in Table 2, 88.89% of the changes of dependent variable is explained by the independent variables in the table. Determination coefficient was obtained to be 86.96%. The Dourbin-Watson statistics of 1.84 shows that the error components in this model don't have a significant correlation and have independent behaviors. In other words, there is no self-correlation between error components of the observations. F value of the measured regression is 4.07. Regarding the significance level of 0.000, the regression is

significant. Significance level of Hardy test for each variable is below the acceptable error level. Thus, each variable is consistent. To test hypotheses, independent variable of the change in the value of tangible fixed assets was used concerning reporting quality. In other words, H_0 is confirmed and H_2 is rejected. Results of H_3 tests are shown in Table (3).

Table (3). Results of H_3 tests

$FRQ_{it} = \alpha_i + \beta_1 RE_VALUE_{it} + \gamma_1 STATE_INDEX_{st} + \varepsilon_{it}$				
Variables	Coefficients	t value	Sig	Hardy test
Intercept	7.8654	3.87	0.000	-
<i>E_VALUE</i>	.7653	2.31	0.000	1.87
<i>STATE_INDEX</i>	.6543	3.43	0.000	2.06
Modified determination coefficient=85.32% Determination coefficient=80.43%				
Dourbin-Watson=1.78				
F value=4.54		Likelihood=0.000		

As seen in Table 3, 80.43% of the changes of dependent variable is explained by the independent variables in the table. Determination coefficient was obtained to be 85.32%. The Dourbin-Watson statistics of 1.78 shows that error components in this model don't have a significant correlation and have independent behaviors. In other words, there is no self-correlation between error components of the observations. F value of the measured regression is 4.54. Regarding the significance level of 0.000, the regression is significant. Significance level of Hardy test for each variable is below the acceptable error level. Thus, each variable is consistent. To test hypotheses, independent variable of the change in the value of tangible fixed assets was used through reporting quality. In other words, H_0 is rejected and H_3 is confirmed.

Discussion and conclusion

In this study, the effect of financial reporting quality on financing and investment was examined in 152 listed firms in Tehran Stock Exchange based on the information of financial reports of these firms from 2006-2016. Results showed that changes in the value of tangible fixed values have lower effect on financing in the firms with higher reporting quality compared with the firms with lower reporting quality. But this was not the case about their effect on the investment. Also, the results showed that changes in the value of tangible fixed values are significantly correlated with reporting quality. But, the results of the relationship of changes in the value of tangible fixed values and investment in this study were against the studies of Biddle et al.(2009) and Verdi (2006) which were conducted in the developed and relatively efficient capital markets. One reason for such a result can be the lack of relation chain in undeveloped and inefficient capital market of Iran in relation with the way of inferring investment efficiency from financial reporting quality. In other words, it is likely that in the capital market of Iran, all information is not publicly available. So, one or some active members in the market know about exchange items and active firms in the market more than others. Concerning such a situation in Tehran Stock Exchange and more knowledgeability of one side compared with others shows that the dominant economic system in this market has asymmetric information.

This reveals the disintegration of the first circle of the relation chain, leading to the incorrect selection and occurrence of moral hazard as the consequences of information asymmetry. Also, the lack of the emphasis of the stockholders, investors, and lenders on the quality of written items in published financial reports and their mere reliance on the quantity of these items in the capital market of Iran from one hand and the lack of having a measure for assessing the quality of these items for the weakness and superficiality of monitoring mechanisms of the organizations such as Tehran Stock Exchange and reliable audit institutes on the other hand can cause the lack of enough attention to the financial reporting and its quality. This makes most reports non-applied; thus, they don't have any relationship with the methods of capital budgeting in the firms and the efficiency of such investments. Finally, another likely reason can be the lack of the relationship of financing cost with the risk, method, and quality of financial reporting of the firms in the capital market of Iran. In other words, the lack of ranking institutes in the capital market of Iran and equality of the rates of financial provision costs of most active firms in this market regardless of the risks or published information in their financial reports may have caused some contradictory results in this study. Results of this study contradict with Verdi (2006), Chen et al. (2010), and Balakrishnan et al. (2014). But, they agree with Gomariz and Ballesta (2013) and Jackson et al. (2009).

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