

Full Length Research Paper

Surveying of the relationship between the amount of investment and corporate value

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Accepted 13 December, 2017

ABSTRACT

the present study seeks to examine the relationship between the amount of investment and firm value in companies listed at Tehran Stock Exchange. Independent variables include the amount of investment. firm value is our dependent variable measured by Tobin-Q index. Also, the control variables such as firm size, leverage, and growth opportunity are used. The study is an applied research with correlative, post-event methodology. Population of the study includes 120 companies listed at Tehran Stock Exchange during 2007 to 2017 using screening method. Normal least squares regression model is used for testing hypotheses. Results indicate that amount of investment has no effects on firm value in general companies in sense.

Keywords: amount of investment, firm value, Tehran Stock Exchange.

INTRODUCTION

Corporate value is a function of profitability of investments in the company. Thus, in order to maximize wealth of investors, managers need to identify factors affecting level of investment and make expectations of investors meet investment opportunities. This way, they can both boost investment opportunities and achieve satisfaction of investors Fazary (2000). On the other hand, investors are considered to be essential elements of capital market. Investors are primarily concerned with operating their capital to maximize and profitability and returns. In order to motivate investors to invest in financial assets, returns on these assets should be higher than other options [Bahramfar, Mehrani (2005). Different perspectives have been postulated about effects of investment level on corporate value. Researchers in the field of agency theory state that, in case of extra free cash, managers are likely to invest in risky projects to prevent outflow of this cash Bushee (1998). Some theorists believe managers utilize this cash to develop

their business and promote investment level Tehrani and Hesarzadeh (2009). The value created for owners may come as a result of different factors. Here, Surveying of the Relationship between the amount of investment and Firm Value are explored.

Theoretical basis of study

Amount of investment

Investment as a financial decision constitutes risk and returns. Low or high levels of risk or returns contribute to make different constitutions of investment. On the one hand, investors seek to maximize their wealth and, on the other, they have to encounter uncertainty of financial markets. The latter obscures certainty of obtaining returns on investment. In other words, all decisions of an investor rely on the interaction between these two factors.

Based on level of risk-taking or risk-avoiding attitudes, investors and managers demonstrate different levels of investment through promoting capacity (physical assets) or investment in financial assets (such as shares, bonds and treasury bills) (Abzari, et al., 2006). Analysis of investment and mastery of theories on investment may contribute to improve management and increase investors' wealth, while leading to informed decisions. Decisions on investment involve three components of expectations, intervals and risk which are hard to be catered from simultaneously since many factors are influential on investment level (Denis et al., 1994). Managers can achieve maximum productivity through recognizing these factors and employing them in realizing optimal level of investment (Verdi, 2006). On the other hand, inefficient markets have deficiencies that can negatively affect optimal level of investment and consequently, lead to the process of over- or under-investment. Under-investment or over-investment theory indicates that companies using low level of optimal investment suffer from under-investment, while companies using high level optimal investment suffer from over-investment. Thus, recognizing factors affecting investment level is highly demanded for evaluating and determining optimal level of investment in companies (Baradaran et al., 2012). Different definitions have been proposed for investment level:

1. Investment level is the ratio of cash for investment in non-current assets, shares and securities to total value of assets of the previous year. (Baradaran et al., 2013).
2. Investment level refers to the ratio of annual changes of assets to assets of the previous year (Abbasi and Ebrahimzadeh, 2011).
3. Investment level is the process of over-investment or under-investment in companies (Tehrani and Hesarzadeh, 2009).
4. Investment level is surplus free-floating cash and using it for investment activities (Kato et al., 2002).

The present study adopts the first definition.

Firm Value

In the recent years, great attention has been devoted to the issue of corporate value in the form of shareholder wealth (Rapapartit, 1986; Capland, 1994; Jensen, 2000), stakeholder value (Friman, 1984), customer value (Morfi et al., 1996), business ethics (Vallskoz, 1998; Fort, 2001), social responsibilities of companies (Karol, 1999), environmental conservation (Tsidle, 1993; Ten Bronsil et al., 2000) and civil rights (Ulino, 1999). It is generally accepted that corporate value develops based on moral

values and standards of managers and the staff. If we assume company as a virtual structure, it is true to say that corporate value stems from values and priorities of stakeholders. That is to say, the value of a business unit is created when stakeholder values are internalized. Determining corporate value is an essential factor in investment (Thomason, 2004). Corporate value is the weight of objectives and goals from the viewpoint of decision-makers. These objectives may include profitability, stock return of business unit, customer value (customer satisfaction), and job-satisfaction among the staff, providers' satisfaction, and appropriate social performance. After all, corporate value is market value of equity obtained from number of shares multiplied at price per share at the end of fiscal year (Nikoumaram and BadavarNahandi, 2009).

Separation of ownership from management, together with development of agency theory, emphasized on the importance of evaluating performance of managers as an essential issue in accounting, particularly management accounting. In this regard, many different measures and approaches have been proposed, such as Tobin-Q (Noravesh and Hoseini, 2009). In 1969, James Tobin used the ratio of market value to book value of investment to examine investment projects. This is known as Tobin-Q ratio. He claimed that corporate performance could be measured by this ratio, and aimed at establishing a causal relationship between Q and investment level of company. If the measured ratio exceeds 1, it is concluded that the company is highly inspired to invest since returns of investment is greater than costs of capital. Otherwise, if the ratio is smaller than 1, it is concluded that the company is not working favorably and investment will be abolished in it. Tobin's Q ratio is studied broadly by many researchers; William Brainard (1997), Lidenberg and Ross (1981), Salinger (1984), Birger and Cynthia (1988), Perfect (1994), Berger and Ofek (1995), Leewillen and Bandernat (1977), Darell and Tompking (1999), Demstz and Villalonga (2000).

Tobin-Q ratio is a combined measure based on accounting and market information. Many researchers suggest it as the best optimal measure for evaluating performance and corporate value (Leewillen and Gbadernat, (1997). Higher ratio indicates higher corporate value in the market. In simple words, the more accepted corporate value for shareholders, the greater is the price of share and corporate value. On the contrary, a company with low performance known for shareholders experiences decline in Tobin-Q and corporate value (Salehi, 2001). Tobin-Q is calculated as market value of assets divided by total price of their replacement (Thomas, 2012). It is used here as the measure for evaluating corporate value.

LITERATURE REVIEW

Leng and Stulz (1994) studied the relationship between Tobin-Q and investment opportunities and concluded that when Tobin-Q rate is bigger than 1, investment opportunities increase for the company.

Ohlson (1995) found that corporate value is a function of book value, earnings and other related data.

Dichow (1997) states that unpredictability of changes in a variable is the measure for evaluating relevancy of that variable to corporate value. Thus, high level of unpredictability of a variable indicates its relevancy to corporate value and makes it an optimal measure for investigating relevancy since corporate value is created through information, and new information can change corporate value.

Shleifer and Vishny (1997) found in their study that big institutional investors as a corporate governance mechanism positively affects corporate value.

Bushee and Noe (1999) argued that short-term investment institutes tend to invest in companies with greater quality of disclosure. In addition, they found that higher quality of disclosure (timeliness and reliability) have negative effects on stock returns in the future (reduced variability). That is because higher level of disclosure attracts long-term investors.

Kato et al., (2002) demonstrated that cash flow, Tobin-Q rate, earnings growth, dividends, declared dividend, and changes in capital influence investment level. Their results indicated a significant relationship between changes in dividends and past, present and future earnings.

Wolf (2003) introduced Tobin-Q as the best and strongest existing index for evaluating and predicting corporate performance.

Yung (2004) concluded in his study that improving the quality of corporate governance has positive effects on financial performance and corporate value. It also ensures external investors to trust financial statements of companies.

Chiang (2005) used S and P measures of transparency to estimate level of financial information transparency and found a direct relationship between financial transparency and executive performance. He also found a positive and direct relationship between corporate governance and performance. Interestingly, improving management system leads to promotion of corporate performance and value. Therefore, supervisors can trust information disclosed by managers and adopt them in their decisions.

Based on standard definition of S and P, Aksu (2006) showed that increasing level of information transparency minimizes information asymmetry and possibility of fraud, while it increases corporate value and decreases costs of capital. Also, the author showed that transparency and disclosure lead to decrease political costs and unaccepted costs of tax.

Chiu (2009) evaluated effects of financial reporting transparency on corporate value and performance. He realized that transparency of disclosure in financial statements is a mechanism that maximizes corporate value and prevents moral risks between managers and owners.

Bauer et al., (2009) studied effects of corporate governance mechanisms on stock returns and showed that companies with better structure of governance enjoy higher level of corporate value and higher returns, compared to companies with poor structure.

Wiu and Chieen (2011) realized that increase in liquidity leads to enhance corporate governance and, consequently, corporate value.

O'Connor (2012) evaluated effects of investment level on corporate value using the parameters of transparency and multiple shareholders. He showed that this effect is stronger in companies with higher transparency and multiple shareholders. O'Connor also found that investment level in companies with single shareholder is stranger than those with multiple shareholders.

Salehi (2001) studied correlation between Q and Lidenberg models and confirmed their correlation at confidence level of 99% in evaluating corporate value.

Yahyazadeh et al. (2005) found in their study that book value has increasing role in determining corporate value. Book value per share is used as key factor in determining corporate value in a wide range of studies. In fact, users of earnings per share pay more attention to book value of shares in determining corporate value.

Noravesh and Hoseini (2006) argued that considering information disclosure in companies leads to improving the quality of disclosure, which in turn, decreases opportunistic management of earnings. They used rankings of Stock Exchange Organization to examine the quality of disclosure in terms of timeliness and reliability.

Panahian and Sadeghi (2006) reported that improving financial information transparency increases investor activity and trust.

Haghshenas (2006) found that Tobin-Q helps investors in recognizing attractive markets. It also helps managers to develop corporate capacity through increasing investment or buying existing assets in the market.

Qanbari (2007) evaluated the relationship between corporate governance mechanisms and performance. Results of his study indicated that rate of independent directors has no effects on performance. Also, internal audit has a positive and direct relationship with performance, while institutional investors have positive effect on performance.

Yeganeh and Moradi (2008) demonstrated a direct relationship between institutional investors and corporate value. According to the authors, institutional investors effectively supervise the company and actively manage their portfolio and persuade managers to take optimal

decisions. As a result, they contribute to promote corporate value and performance.

Banimahd and Mohseni (2010) studied factors affecting rankings of companies by Stock Exchange in terms of timeliness and reliability and showed that conceding governmental ownership of industries to private sectors is an optimal way for improving disclosure quality. Also, industry type has positive relationship with timely disclosure of information, i.e., greater number of companies in an industry leads to better and timely disclosure of information.

Kordestani and Alavi (2011) concluded in their study that financial reporting through transparent disclosure decreases information asymmetry and increases optimal allocation of resources (adopting accurate choices) and efficiency of corporate performance (managerial efforts to sustain interests of shareholders instead of moral hazards). This accounting functionality contributes to economic development.

Abbasi and Ebrahimzadeh (2011) reported that cash flow, dividends paid, declared dividends and changes in liability have positive and significant effects on investment level. However, Tobin-Q has negative and significant effects on it. They also found that earnings growth rate and changes in capital have significant effects on investment level. In simple words, the authors showed that earnings and return on assets can't be used solely for determining investment level.

Hypotheses

The present study investigates the relationship between amount of investment and with firm value. To do this, the following hypothesis is projected:

H₁: investment level has effects on firm value.

METHODOLOGY

The present study is an applied research using correlative post-event methodology.

Population, sampling and duration

Population of the study includes all companies listed at Tehran Stock Exchange. Data are collected from 2007 to 2017. A screening method is used for sampling companies satisfying the following criteria:

1. Companies with available information from 2007 to 2017.
2. Companies listed at Tehran Stock Exchange in 2007, remaining active up to 2017.
3. Companies whose fiscal year ends in Esfand (March).

4. Companies which are not considered as financial, investment, holding or mediatory
Considering the above criteria, 120 companies were selected.

Variables

Independent variables include amount of investment.

Amount of investment (IL)

Investment level is the ratio of cash flow for investment activities in non-current assets, securities and shares to total value of assets in the previous year and is calculated as:

$$IL_{it} = \frac{\text{Cash flow in investment activity}}{TA_{t-1}}$$

Where

IL_{it} = investment level of company i in the year t.

TA_{t-1} = total value of assets in the beginning

Cash flow in investment activities: it is derived from cash flow statements

Firm value

Firm value is set as our dependent variable. Here, Tobin-Q is used for determining corporate value. It is calculated as:

$$\text{Tobin's } q = \frac{\text{Market Value}}{\text{Book Value}}$$

Control variables

Firm size, leverage and growth opportunities are used as control variables in the study, which are calculated as follows:

1. Firm size: it is calculated as natural logarithm of total assets at the end of each year (T):

$$\text{Size}_{it} = \ln(TA_{it})$$

Size_{it} = firm size at the end of year t

TA_{it} = total assets of company i in the year t

2. Leverage

It is calculated as:

$$\text{Lev}_{it} = \frac{TL_{it}}{TA_{it}}$$

Lev_{it} = leverage of company i at the end of year t

TL_{it} = liabilities of company i at the end of year t

TA_{it} = assets of company i at the end of year t

Table 1. Descriptive statistics of all variables

Variables					
Variables	IL	SIZE	LEV	GO	Q-Tobin
N	936	936	936	936	936
Mean	0/03	26/96	0/1	0/15	1/14
Standard deviation	0/05	1/4	0/11	0/34	1/14
min	0	23/61	0/001	-0/77	0/03
max	0/49	32/01	0/92	2/59	6/06
Coefficient of changes	1/67	0/05	1/1	2/27	1

Table 2. Pearson correlation of variables

Variables						
Variables		IL	SIZE	LEV	GO	Q-Tobin
	level of Correlation	1	-0/044	0/123	0/013	0/001
IL	Sig.					
	Sig.		0/175	0/000	0/699	0/936
	level of Correlation		1	0/050	0/057	-0/181
SIZE	Sig.			0/128	0/080	0/000
	level of Correlation			1	-0/039	0/144
LEV	Sig.				0/230	0/000
	level of Correlation				1	0/016
GO	Sig.					0/630
Q-Tobin	level of Correlation					1

Table 5. Results of testing hypothesis 1

Statistics Variables	Regression coefficient	Standardized coefficient (Beta)	t	Sig. t
Cfixed value	5/237	-	7/417	0/000
IL	0/647	0/030	0/920	0/358
SIZE	-0/158	-0/192	-6/016	0/000
LEV	1/579	0/158	4/920	0/000
GO	0/112	0/033	1/046	0/296
R ²	Adj.R ²	F	Sig. F	DW
0/058	0/054	14/347	0/000	1/559

3. Growth opportunity

It is calculated as the difference of sales of previous and current year divided by sales of the previous year:

$$SG_{it} = \frac{(S_{it} - S_{it-1})}{S_{it-1}}$$

Where

SG_{it}= growth opportunity of company i at the end of year t

S_{it}= sales of company i at the end of year t

S_{it-1}= sales of company i at the end of year t-1

Findings

Statistics description of variables

Results of descriptive analysis of data are presented in Tables 2-3. above

Pearson correlation of variables at total corporate level

Results of testing hypotheses

H₁: Amount of investment has effects on firm value.

$$Tobin's\ q_{it} = \beta_0 + \beta_1 IL_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4$$

$$SG_{it} + \varepsilon_t$$

CONCLUSION

Results of testing hypotheses 1 demonstrated that amount of investment has no effects on firm value in total company level. Also, Pearson correlation confirmed no positive and significant relationship between amount of investment and corporate value. It is concluded that the market is reluctant to react to increases in investment level. That is to say, in these companies, increase in investment level is not regarded as relevant information for investors. Therefore, it doesn't promote stock price and corporate value. Our results on effects of investment level on corporate value are in disagreement with findings of Mehrani and Bahramfar (2004), Fazary (2000), O'Connor (2012), while they are in line with findings of Hisu (2006), Abbasi and Ebrahimzadeh (2011).

As regards auditor type, it is concluded that in total company level, firm size may be influential since large companies listed at Tehran Stock Exchange are mostly audited by auditing organization and these large companies have little fluctuations in the market and enjoy a stable market value. These findings are in agreement with Yung (2004), Chiang (2005), while being in disagreement with Nicker (2006).

Suggestions of the study

1. Considering positive effects of leverage on corporate value in total company level, it is suggested to financial managers of companies listed at Tehran Stock Exchange to take this into account when deciding for capital structure in their companies.
2. Considering negative effects of firm size on corporate value in total company level, it is suggested that potential investors, particularly minor shareholders using financial statements of companies listed at Tehran Stock Exchange, take this into account to support their rights.

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