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# Investigating the relationship between optimal cash and shares price in companies listed in Tehran Stock Exchange

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## Abstract

Cash profit is vital resources of every unit and a balance between available cash and cash needs is the most important factor of economic health of each unit. Since both companies that do not hold enough cash and the companies that hold a lot of cash, have many problems; hence, this study examines the relationship between optimal cash flow calculation by stock prices of companies listed on Tehran Stock Exchange. In this study, the optimal cash (acceptable) to participate estimated and continue to examine this issue whether future performance, when a business unit of the optimal level of estimated cash to be diverted, affected or not? To test the hypotheses, the financial information relating to the years 2009 to 2015, 144 companies in Tehran Stock Exchange were accepted, were chosen. The results show that there is a significant relationship between the amount of optimal cash and stock prices of listed companies.

**Keywords:** optimal cash, shares price, Tehran Stock Exchange.

**Introduction**

Cash management includes a broad set of activities related to the collection, storage and payment, which aims to determine the cash requirements of the business, managing cash balances and short-term investments. Economists explain within an entity's cash holdings, Offered a variety of reasons, most notably Keynes incentives is cash holdings. Keynes's theory of demand for money in terms of what he has called liquidity preference theory; this raises the question why people kept their money? In response to this question, unlike the classic relied only on the demand for money transactions, three types of incentives to demand money, the transaction motive, precautionary motive and motivation are considered speculative. People often prefer to trade based on incentives to ensure their basic transactions, they attempted to cash holdings. The precautionary motive, people prefer to deal with unexpected situations that lead to abnormal costs, the amount of cash they hold. The purpose

of the money is speculative demand, we expect that money to profitable trading, and exploitation of opportunities that arise in the future is held. How much cash that a company holds, by factors such as transaction costs, opportunity costs and information asymmetry is affected. In financial markets, there are transaction costs. The costs and lost opportunity costs, to ensure that companies take action to maintain the optimal level of cash assets. The problem of information asymmetry also creates demand precautions to be critical residues; because there is information asymmetry, increased problems and the cost of financing as a result of the information asymmetry between the company and the capital market, precautions to demand cash incentive company.

After examining the importance of keeping an optimal amount of cash, to examine this issue that deviate companies optimize cash flow yield their future. In this study, the rate of return on assets, future operating is measured is affected or not?

Cash holdings, together with its costs is a lot of cash held by companies, can lead to the formation of conflict between managers and shareholders representing this may increase the management authority and damage the interests of shareholders. In other words, the resulting high opportunity cost for the company's cash holdings. Why is that cash has a low rate of return and clearly the market return and affect the company is operating performance. The lack of sufficient cash holdings to companies that face financing constraints may cause loss of future investment opportunities and hence have a negative impact on future performance and returns. However, some other theories speak of the benefits of holding cash and believe that the company due to the possible future use of investment opportunities, action to high cash holdings, which in this case represented by ignoring conflict theory, expected return and the company's future performance.

**A variety of methods for determining share price**

**Per share has four pricing categories:**

**A) Nominal price:**

Nominal price of a share, the price is based on the initial public offering price of done it. As previously explained, each nominal price of shares of companies listed on stock exchanges in Iran is one hundred dollars (1,000 Rial). Nominal price value on the stock sheets may be inserted. The image below shows an example of a tab. As you can see, the entire capital, number of shares and nominal price of each stock, plus the number of shareholders at its disposal stock is listed on the worksheet.

**B) Book price:**

If the total liabilities from total assets subtracting the amount remaining reflect the total value of company equity capital or put it more precisely will be the total equity of the company. If the sum of the number of equity shares of the company gives us the resulting number represents the book value per share. For example, suppose that the total value of a company's assets at the end of the first year of activity, 10 billion Toman. The company is also a total of 7 billion Toman in banks and other companies, debt. Thus, the total equity of the Company will be 3 billion Toman (3 = 7-10). If the company has released a total of 20 million shares, book value per share will be 150 Toman.

) 150=20000000/3000000000(

Maybe for you there is the question of a company's stock nominal price is 100 Toman, while the book value of shares 150 Toman? The answer is that the profits the company earned in the first year of its activity is also considered as shareholder rights and has the book value of a share, from 100 Toman to 150 Toman increased. The reason for mentioning the word "office" in the book value of each share is that the figures related to assets and liabilities, according to the figures recorded in the accounting books of the company, are indicated.

**(C) Market price:**

Market price or transaction price, the price is based on its stock, in stock trading. As already explained, although the nominal price per share of stock is 100 Toman, most companies is on the stock exchange on

nominal price and even book value, not traded. What determines the price of shares in the stock exchange, the supply and demand for a stock. For example, it may be due to the good performance of a company, many investors buy shares of the company's clients are in stock. Thus, the price of the stock based on demand, will increase and may even increase several times the cost would be nominal. In contrast, poor performance of a company may cause the reluctance of investors to buy or hold shares as a result; an increase in supply is in stock. Naturally, the increase in supply, the share price dropped and if this trend continues, the share prices may even under par, ie reach 100 Toman. Therefore, the market price of a share, the price is that in exchange for the shares is determined.

**(D) The intrinsic price:**

The intrinsic value of a share is the real value of the shares. Maybe for you the question is what the difference between the market price and intrinsic value of a share there. Let me explain with an example. Suppose the cost of a company's market share is now 200 Toman, in other words, a company's stock is now at a price of 200 Toman in stock sales. However, many investors are still seeking to purchase such shares. If you ask the investments that is why you intend to purchase the company's shares? The answer to all of this will be that "In our opinion, this share is worth more than 200 Toman". What this means, is that the real value of a company's shares, higher than the market price of the share. Thus, in a simple definition, intrinsic value of a share, confirms the value that investors are allowed to participate. Naturally, if the eyes of investors, share intrinsic value of a share is higher than its market price, to purchase will be a good option, but if the intrinsic value of a share is lower than its market value, the shares will not be a good option for investment (Virtual Forum Iran, http://training.irvex.ir/index.php).

Collins et al (1997), empirically examine the relationship between book value and earnings valuable US companies over a period of 40 years (1993-1954) began.

The results of their study showed that the relationship between the book value and earnings value of the company during the study period, indicating that the relationship between the book value and gain valuable not changed significantly during the study period. However, during the period under review the relationship between the book value of the company's value increased on a regular basis while the relationship between profit and corporate value steadily declined. Other empirical studies that have used data from America market, changes in the relationship between accounting numbers have been valuable. Berger et al (1996), and Bergstaller and Dichoo (1997) the book value, compared with earnings in explaining stock price is more important. About the role and importance of book value, this in recent decades has not been and in some models such as the residual income model as one of the variables have entered two reasons. The first reason is that a lot of profit from temporary items such as extraordinary items and exceptional items is formed, as a result, book value, to estimate future earnings are a better representative. The second reason is which largely represents the book value or worth stopping treatment company (Collins, 1997). Several studies showed that the increase in the book value of the stock assessment and correlation of these variables with the market value of firms. However, since the economic environment, social, political and cultural power in Iran is different from Western countries, as a result of such credit claims will be examined in accordance with Iran.

With the expansion of publicly owned firms in the form of research is the emergence of joint stock companies, fundamental changes in the economic environment of recent years has emerged. In such an environment, financial accounting plays major role in providing information useful for users such investors to make investment decisions. Investors to evaluate companies' shares, are in need of information such as book value per share. They can on the one hand have an estimate of future earnings and valuation models on the other hand using the residual income model; determine the intrinsic value of the stock. But because of the high rate of inflation in the country and the company's use of historical cost model for financial reporting, usefulness of information presented can be greatly questioned. By examining the relationship between earnings per share and book value per share value of the company as a residual income model by Olsen (1995) have tested. Research suggests a good test ends when the

current profits of the company does not provide future earnings, and the company is likely to face suspension or refined, the book value of the company is increasingly important in determining the value (calins, 1997). Based on studies carried out one of the factors that explain the volatility in the explanatory power of earnings and the book value of the company's value over time is important. Change the size of the company (Fama, 1995). Hine (1995) with the possibility of unprofitable large and small companies showed that smaller companies are more likely than larger companies to report losses. He knows because of the greater variety of activities and suggests that larger firms. When the economy will falter larger companies are better able to protect themselves from losses. As a result, the stability of the value of the company's benefits smaller companies. It is also expected that smaller companies than larger companies experiencing financial difficulties or be defeated. For reasons that were mentioned investors when assessing smaller enterprises greater value to book value as the value of representative or stop treatment reprisals.

If that firm size increases cannot see this explanation. If the size of the company increases, it is expected that attention be paid to the benefit of investors of book value. More stock pricing models based on discounted future cash earnings per share. In fact, higher future earnings per share the investor has more value (ohlson, 2001). With increasing size and diversity-changing activities, expected losses as a result of financial problems and stop or greatly Purifier is nullified. As a result, according to ensuring the continuity and profitability of large corporations, investors, investor attention to stock valuations are focused on earnings per share. As a result, stock valuations, earnings per share book value per share are more important.

**Research method**

The research is descriptive and correlational. Descriptive because the goal is to describe the conditions or phenomena is investigated and to better understand the current situation is the relationship between solidarity and because the variables are considered. This study examines the relationships between variables and tries to prove this relationship in the current situation is based on historical data. Preferred method for correlation is regression. In this type of relationship between variables is based on objective analysis. This research presents a dependent variable, one or more variables are independent, and the effect of the independent variables on the dependent variable is estimated through regression tests. Methods of purpose, is applied. Because paid the changing relationships on the stock exchange.

**Research Hypothesis**

There is a significant relationship between cash and stock prices of companies listed on the Tehran Stock Exchange.

**Statistical Society**

The population refers to the whole people or elements with attributes or characteristics shared and done research on them (Khaki, 2005). Sample selection process is called sampling. In other words, a collection of elements to choose activities that are carried out is called sampling. The samples in this study, there are different ways and by different methods can be passed to the selection process. Often in the world of action is best done by systematic sampling. The first method is to define conditions for sample selection and lacking the qualifications mentioned aspects are removed from the study.

1) Company as investment firms, banks and was not insured.

2) Company until the end of 2015 and became a member of the Tehran Stock Exchange during the period under study data are available.

3) The Company's fiscal year ended March each year and the fiscal year does not change during the study period.

4) It participated in the study period the company's share in the Tehran Stock Exchange is continually transaction and not more than six months of trading interruptions.

**How to measure variables**

As previously stated, the purpose of this study investigates the effect of firm cash from the cash surplus or deficit optimal, the rate of return on assets, operational company. It is therefore necessary to carry out this study, the optimal amount of cash the company estimated.

Pattern (1) Determining the optimal amount of cash

To determine the optimal amount of cash, the variables included in the study Euler and Picon (2009) is used according to the conditions in the country have been adjusted for these variables. How to calculate the variables of the model 1 is provided in Table 2:

$$Cashi,t= \alpha0 + \alpha1(Market\text{-}to\text{-}Book)i,t + \alpha2(Sales\ Growth)i,t + \alpha3(Firm\ Size)i,t + \alpha4(Cash\ from\ Operations)i,t + \alpha5(Net\ Working\ Capital)i,t + \alpha6(Capital\ Expenditure)i,t + \alpha7(Leverage)i,t + \alpha8(Dividend\ Dummy)i,t + \alpha9(Firm\ Age)i,t + \alpha10(Tax)i,t + \varepsilon i,t$$

In this study, the normal, instead of cash, cash logarithm Ln (cash) is used. To determine the company's market value by multiplying the number of shares at period end stock market value has been used. Cash flow from operations of the operating activities and capital expenditures from investment activities in the cash flow statement is extracted. In the case of dividend (Dividend Dummy), the company's dividend to shareholders last year, number (1). Otherwise number (0) order. Also, for the calculation of taxes from tax reported in the cash flow statement is used.

Table 1: How to calculate variables algorithm (1)

| Symbol | Calculation method |
|---|---|
| Ln (Cash) | (Ln) of cash on the balance sheet |
| Market-to-Book | The market value of assets ÷ book value of assets |
| Sales Growth | Rate of sales growth |
| Firm Size | (Log) Net sales |
| Cash from Operation | (The criticism total assets) ÷ cash flow from operations |
| Net Working Capital | (The criticism total assets) ÷ (cash, net working capital |
| Capital Expenditure | (The criticism total assets) ÷ capital expenditure |
| Leverage | (The criticism total assets) ÷ total liabilities |
| Dividend Dummy | Dividend Dummy(0, 1) |
| Firm Age | (Log) number of years listed |
| Tax | (The criticism total assets) ÷ tax expense |

**Hypothesis testing**

- There is a significant relationship between optimization of cash and shares in companies listed on the Tehran Stock Exchange.

H0: There is no significant relationship between cash and shares in companies listed on the Tehran Stock Exchange.

H0: $\beta i = 0$

H1: There is a significant relationship between the optimization of cash and shares in companies listed on the Tehran Stock Exchange.

H1: $\beta i \neq 0$

Table 2: B - Evaluation Model Using Least Squares

| Variable | Factor | Standard deviation | t- value | Prob. | Type of Relationship | Significance level |
|---|---|---|---|---|---|---|
| EQUITY | 0.000267 | 0.000104 | 2.573364 | 0.0109 | Negative | 90% |
| C | 5944.714 | 559.9946 | 10.61566 | 0.0000 | Positive | Is significant |

| Weighted statistics | Statistics without weight |
|---|---|
| The coefficient of determination | 0.035295 |
| Adjusted coefficient of determination | 0.029966 |
| Durbin-Watson statistic | 1.654960 |
| F-statistic | 6.622200 |
| Prob(F-statistic) | 0.010872 |

As can be seen from Table 4-4 P-Value of the statistic value Prob (F-statistic) that indicates the regression is significant, 0.0000 and indicate that the model is significant at 99 percent.
The Durbin - Watson equation is a number that is between 1.5 to 2.5, and suggests that ere is a significant relationship between optimal cash stocks of listed companies in Tehran Stock Exchange at the significant level of 90%. Corrected coefficient of determination shows around 3% of the variation is explained by the independent variables listed in the table above.

**Conclusion**

In this study, the optimal cash (acceptable) for the companies is estimated and continue to examine this issue has been is there a significant relationship between optimized cash and stock prices of companies listed on the stock exchange? For these purposes, the financial information related to 144 companies in the years 2009 to 2015 were accepted in Tehran Stock Exchange, to test the hypotheses, were selected. Regression analysis was used for this study. The results show that the direct positive relationship between cash and stock prices are optimal. The results of this study are not compatible with the results of Aghaee and Sharifi (2010). They concluded that the Company's future performance (return on net assets, future operating), in case of deviation from the optimum level of estimated cash decreased. The Arooji and Hejazi (2010), which had concluded the deviation of actual cash expected rate of return on assets affecting cash that is not consistent with the study. The results, as well as does not match with the findings of Jensen (1986) at the level of cash surplus. He indicated that future rate of return on operating assets (RNOAt +1), with surplus cash due to higher investment began to decline. The results of this study are compatible with the results of the Michelson and Partch (2003). However, the results of this study do not match with results Dietmar and Smith (2007) at the level of cash surplus. They had concluded that the upcoming performance at the level of cash surplus began to decline.

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