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Studying the effect of risk management on stock returns of companies listed in Tehran Stock Exchange

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Abstract

This study examines the relationship between risk management and stock returns of companies listed in Tehran Stock Exchange. To do this, 73 companies during the period of 2005 to 2010 were selected. The effects of different variables on risk management including working capital, current assets, and current liabilities (independent variables) on stock returns (the dependent variable) of companies were studied. The purpose of it is to know the following issues:

1- Studying the relationship between current assets changes and stock return changes

2- Studying the relationship between current liabilities changes and stock return changes

3- Studying the relationship between working capital changes and stock return changes

4- Studying the relationship between risk management approach and stock return changes. For the analysis, the Pearson correlation and regression are used. Also, by the use of security exchange site and Tadbir Pardaz Software, the raw data of companies were directly gathered from Tehran Stock Exchange and financial statements of companies, and EXCEL and SPSS Softwares were used for data analysis. The results demonstrate that there is no significant relationship between any of the risk management variables and stock returns of companies in Tehran Stock Exchange during the years 2005 to 2010.

Keywords: stock returns, risk management, current assets, current liabilities, and working capital.

Introduction

It is more than a hundred years that Financial Management, as a scientific field of study, has experienced great changes and had developed day by day, and its different fields has changed to be more specialized. In the past centuries, Industrial Production Companies have massively produced a great number of products and gained great profits; it caused that planning and controlling issues, especially regarding cash flow power, gradually get attention in financial management, and working capital management and risk management turn into a special section of financial unit, and a great number of managers devote all their energy and time daily to manage these two issues.

Creating balance between current assets and current liabilities is important because decision about each one affects on the other one too. Working Capital (gross) is the amount which is invested in current assets. If current liabilities are subtracted from current assets, working capital is obtained.

There are several strategies in the management of working capital obtained by a combination of current assets strategies and current liabilities strategies. In the management of working capital, due to the different conditions, appropriate strategies for the companies should be selected so that current assets and current liabilities of a business unit can effectively be managed, and the financing needs of a business unit are appropriately satisfied; by this way, the stock return of companies raise and stockholders' wealth is maximized. By combining cur-

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rent assets and current liabilities, the overall strategy of working capital management is divided into two categories: Strategy of Risk Management (Bold) and Strategy of Limiting Management (Conservative). (Jahankhani and Parsaeian, 2001)

However, one of the final goals of every company is to maximize the profit in long term, but maintaining liquidity of company is important too. The problem is that gaining profit in case of losing liquidity can create serious problems for a company. So, a balance should be created between these two goals, and one goal should not be gained to cost another goal, because very one of them has its own importance. If a company does not pay attention to the profitability, it cannot survive for a long time; on the other hand, if it does not care about the liquidity, it may confront bankruptcy and not paying the liabilities on time.

Since investors convert their most cash assets to common stock, a lot of factors should be considered when investing. If investors, in countries where security markets are not efficient, start to invest regardless of a series of factors, they will not be able to achieve desired results.

Regarding the aforementioned issues, the main objective of the present study is to determine the relationship between risk management changes and stock return changes of the companies listed in Tehran Stock Exchange. The independent variables in this study include: changes in current assets, changes in current liabilities, and changes in working capital of companies listed in Tehran Stock Exchange. The dependent variable in this study is return on equity of these companies in order to specify whether return on equity of the companies is because of risk management changes of the items of these companies or not? And if such relationship exists, how much is it justifiable?

Hypothesis development

Risk in common language is: a danger which due to uncertainty about an event in the future happens and as this uncertainty is more, it is said that the risk is higher. Webster's New Collegiate Dictionary (1981) has defined risk as an exposure to danger. Glossary of investment believes risk to be the potential loss of investment which can be calculated.

In the Chinese language risk is defined as the following sign: the first sign shows danger and the second sign means opportunity. In other words, risk makes us face with a combination of danger and opportunity.

Galitz (1996, p.5) considers risk as any fluctuations in any income. The definition makes it clear that the potential changes of future for a particular index, positive or negative, will make us deal with the risk. So, it is possible that the changes cause us to gain or to lose. Glib thus presents risk as: any phenomenon that can divert the result that the investor expects is called risk (Gilb, 2002). For the first time, Markowitz (1952), based on quantitative definitions presented, introduced numerical index for risk. He defined risk as the periodic standard deviation of a variable.

There are different approaches towards the definition of risk that is only concerned about the downside volatility. Hube defines risk as income loss possibility or loss of capital (Hube, 1998). Therefore, risk can be defined as:

First approach: risk as any possible fluctuations of economic efficiency in the future.

Second approach: risk as any negative possible fluctuations of economic return in the future.

As we want to explain the risk management approach from the viewpoint of working capital, now, we turn to explore a variety of strategies for working capital.

By the application of various strategies, companies can, in conjunction with working capital management, influence the liquidity of the company. These strategies are determined by the level of risks and their returns. Working capital management is divided into two categories: Limiting Management (Conservative) and Risk Management (Bold).

Limiting strategies in the management of working capital will cause the power of liquidity to go up excessively. In the implementation of conservative policies it is tried that risk of due debt failure reaches to its lower level. The management, in this strategy, tries to hold a large amount of current assets (the rate of which is lower). Hence, the companies that have such strategies have low liquidity risk and efficiency.

Working capital management with risk strategy seeks, by having fewer amounts of current assets, to take maximum advantage of current liabilities and run the company. In implementing this strategy, liquidity risk will be very high and the company that carried out this strategy will often be in a situation that cannot be able to pay the debts. On the other hand, since current assets get to the lower limit, rate

of investment return goes very high (if the company does not go bankrupt). As the management of working capital is the subtract of current assets of current liabilities, so the strategies used in current assets and current liabilities have vital effects in the amount of working capital. Therefore, in the following diagram, these two different strategies for both managements of working capital are briefly described.

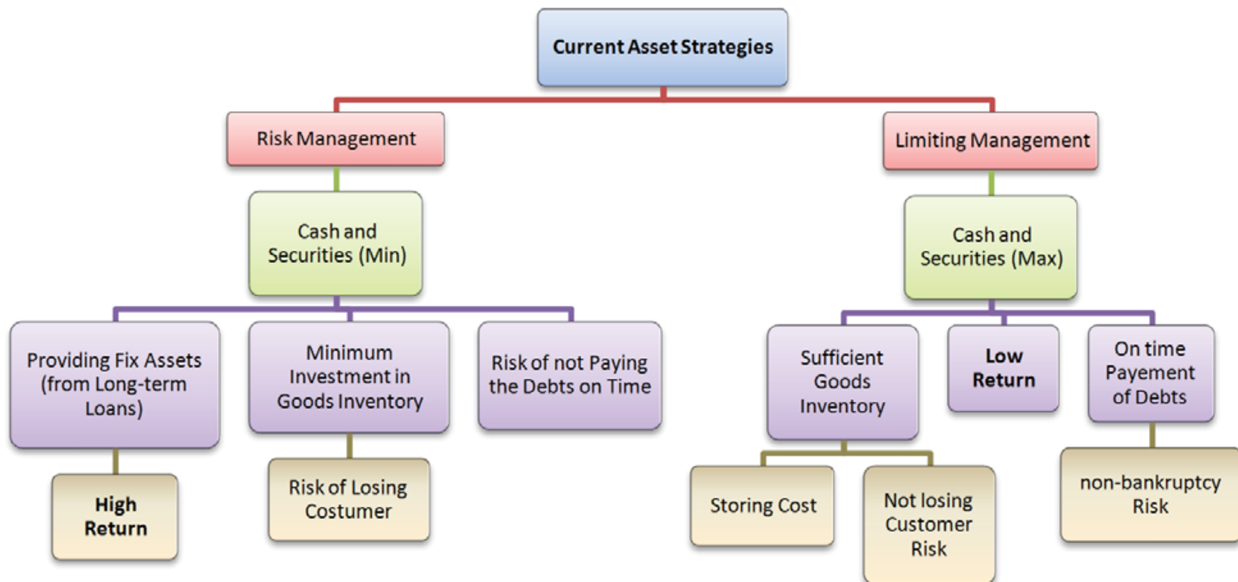

Figure 1. Current Assets Strategy

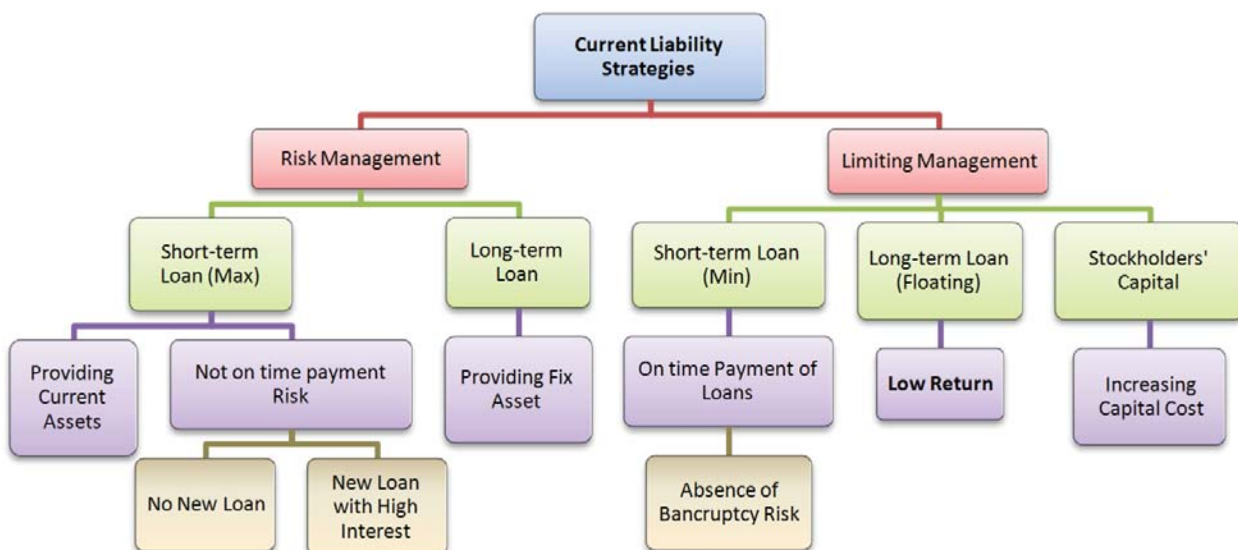

Figure 2. Current Liability Strategy

Hassanpour (2009) has investigated the effect of the strategy of working capital on stock returns. Overall capital management strategy will be divided into three categories: 1. Conservative strategy, 2. Bold strategy, 3. Moderate strategy. To determine the strategies, some financial ratios are used. In the calculation of returns for stock, return means increasing the value of the share compare with price of the beginning of the period. In this study, 62 companies from nine industries in 20 seasonal periods are selectively chosen. Hypothesis test results show that the average of returns in different strategies are significantly different and bold strategy (risk-taking) has the highest returns among other strategies in all industries.

Izadinia and Taki (2010) studied the effect of working capital management on the viability of profitability of the companies listed in Tehran Stock Exchange. Data collection period of this study was from 2001 to 2009. The dependent variable is the total returns that have been identified as the standard measure of viability. Regression results show that cash conversion cycle with asset returns let to a significant inverse relationship, and, also, high investment in inventory and receivable accounts led to lower profitability.

Jacobnejad (2010) studied the relationship between working capital management and profitability of listed companies in Tehran Stock Exchange. So, 86 companies were selected during the period of 2002-2007. In this study the effects of different variables of working capital management including average collection period, inventory turnover period, average payment of debt period, and cash conversion cycle on firms' operating net profit were studied. The results show an inverse relationship between working capital management and profitability, and that managers can, by reducing the collection period, payment of debts, the flow of goods, and cash conversion cycle to the least amount, create positive value for shareholders.

According to the theoretical basis and the literature review, in the present study we seek to examine the following hypotheses:

First hypothesis: there is a significant relationship between the current assets and the variation in stock returns of companies listed in the Stock Exchange.

Second hypothesis: there is a significant relationship between the changes in current liabilities and changes in stock returns of companies listed in the stock exchange.

Third hypothesis: there is a significant relationship between the changes in working capital and changes in stocks returns of companies listed in the Stock Exchange.

Fourth hypothesis: there is a significant relationship between the risk management and changes in stocks returns of companies listed in the Stock Exchange.

Methodology

According to the research subject and cited cases, this type of research, regarding the objectives, is practical, and regarding the way of doing is causal-comparative, and regarding the dimension of time, is a post-event research. The research hypotheses were formulated through inductive reasoning and the method of research is deductive. The research has been done through a library research (square) and reviewing the financial statements of companies.

In order to collect the required information, the financial statements and the notes attached by the Tehran Stock Exchange, and Tadbirpardaz and Rahavarde Novin softwares have been used.

Sample and Calculating Variables

Sample Selection

The location of the research is public companies accepted In Tehran Stock Exchange, and the time of the research is the period between 2005 to 2010 that is a 5-year period.

In this study, using the formula of finite population sampling, sample size was calculated which is a sample of 73 companies.

It worth mentioning that the conditions and characteristics of the companies should be as the following:

1. The companies in the research must have been a member of the Exchange prior to 2005. Due to the nature of the subject, investment firms, financial intermediation and banks are excluded from the sample.

2. The mentioned companies should not have negative stock return; in other words, in the study should not be non-profiting.

3. The company should have information on current assets, current liabilities, and data of calculation of stock return (changes in stock prices, dividends and capital gain) should be available.

Operational Definitions of Variables

Independent variables

• Current assets include cash and other assets which are expected, during normal operation of an institution, within one year of the balance sheet date, to be used (such as inventory requirements), to be sold (for example, inventory) or to be converted into cash (i.e. debtors) .

• Current liabilities are debts that are expected to be paid or settled, within one year of the balance sheet date, through current assets. Current liabilities generally include creditors, receivables documents, and advances of income.

• Working Capital is defined as the difference between current assets and current *liabilities. Current Assets – Current Liabilities = Working Capital*

• Risk Management: This type of management is based on less cash maintenance and good inventory. In this case the company intends to have great current activities and high circulation. On this base, the cost of maintaining current assets decreases but the efficiency increases.

Dependent Variable

Normal stock return is the set of incomes which, during a financial period, is given to the stockholder, as follows:

A) Price Change: price change, in a period of time, is one of the main factors of return which is generally known as Capital Gain

B) Cash Earnings of Each Share: which is paid to the stockholder after tax fraction, and is called as Dividend.

C) Benefits from Right Priority in Buying Eq uity: shareholders of public companies, in buying the new shares which are being published after capital increase, have priority compared with the others, and can use their rights in appointed time. This right has the value of transactions.

D) Benefits from Share Profit or Award Shares: Some companies prefer to pay the profit to stockholders as award share. So, instead of cash profit, they affiliate some shares to stockholders.

Results

Results of the First Hypothesis

First hypothesis: there is a significant relationship between the current assets and the variation in stock returns of companies listed in the Stock Exchange.

Since P = 0.05 > 0.742 therefore, at confidence level of 0.95 it can be said that there is no significant relationship between current asset changes and stock return changes.

Results of the Second Hypothesis

Second hypothesis: there is a significant relationship between the changes in current liabilities and changes in stock returns of companies listed in the stock exchange

Since P = 0.05 > 0.637 therefore, at confidence level of 0.95 it can be said that there is no significant relationship between Changes in current liabilities and stock return changes.

Table 1. Results of the first hypothesis test

Year Variables	The correlation coefficient	Significant level of P	Durbin Watson statistic	Linear relationship
2005-2006	0.045	0.703	2.243	There is no relationship
2006-2007	0.053	0.659	0.009	There is no relationship
2007-2008	0.175	0.139	1.985	There is no relationship
2008-2009	0.254	0.03	1.787	There is no relationship
2009-2010	0.273	0.02	2.265	There is no relationship
2005-2010	0.039	0.742	1.834	There is no relationship

Table 2. Results of Second hypothesis test

Year Variables	The correlation coefficient	Significant level of P	Durbin Watson statistic	Linear relationship
2005-2006	0.123	0.299	2.337	There is no relationship
2006-2007	0.021	0.859	1.959	There is no relationship
2007-2008	0.092	0.437	1.887	There is no relationship
2008-2009	0.099	0.404	1.84	There is no relationship
2009-2010	0.019	0.873	2.07	There is no relationship
2005-2010	0.014	0.637	2.22	There is no relationship

Results of the Third Hypothesis

Third hypothesis: there is a significant relationship between the changes in working capital and changes in stocks returns of companies listed in the Stock Exchange.

Results of the Fourth Hypothesis

Fourth hypothesis: there is a significant relationship between the risk management and changes in stocks returns of companies listed in the Stock Exchange.

Table 3. Results of the Third Hypothesis

Year Variables	The correlation coefficient	Significant level of P	Durbin Watson statistic	Linear relationship
2005-2006	0.045	0.704	2.031	There is no relationship
2006-2007	0.054	0.648	2.293	There is no relationship
2007-2008	0.018	0.878	2.072	There is no relationship
2008-2009	0.017	0.884	1.951	There is no relationship
2009-2010	0.187	0.114	1.941	There is no relationship
2005-2010	0.007	0.95	2.029	There is no relationship

Table 4. Results of the Fourth Hypothesis

The correlation coefficient	Significant level of P	Durbin Watson statistic	Linear relationship
0.148	0.671	2.024	There is no relationship

Conclusions

Because of the absence of significant relationship between risk management strategy and return, it can be argued that the intervening variables which were out of the control of the manager have been effective. Out of the important intervening variables, some like specific features of the industry, the policy applied by the government, inefficiency of capital market, and many other variables can be mentioned.

The most important limitations of the present study (mentioning the limitation of the study is because the results are interpreted with caution and may not lead to incorrect decisions) are as follows:

a) Due to some selection criteria (such as the fiscal year ending in March, no change in financial year, etc.), in selecting the companies and incompleteness of data in some companies, the generalization to other companies should be done carefully.

b) In present research, to calculate the stock return of companies during a financial period, because of the lack of complete stock index of all companies, much time was spent gathering this information.

c) The inflation conditions of the country and the lack of regulation of financial statement items are very effective in the calculation of research variables, but the effect of inflation is ignored in this study.

Recommendations

1. Developing and applying management strategy of current assets, such as just in time management, and maintaining an appropriate level of cash that, on the one hand, a company does not face a liquidity crisis and, on the other hand, prevent stagnating cash.

2. Developing and applying strategies in financing methods and managing the current debts to reduce debt cost, and the use of financial leverage. Strategies like diversification of financial sources and using methods such as credit in current account, releasing bonds, and using securities to support mortgage loans can be mentioned.

3. In order that the working capital management strategies effect on the return of companies, it is suggested that companies, according to the general industrial atmosphere, take action in cases like pricing, responding to potential demands, and paying attention to similar industries, which requires long-term strategic planning in these companies.

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