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THE RELATIONSHIP BETWEENINNOVATION AND OPERATIONAL EFFICIENCY RATE ASSETS IN COMPANIES LISTED IN TEHRAN STOCK EXCHANGE

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ABSTRACT

Financial performance has been considered the range of investors and other users. On the other hand, inventory management in this study is considered as operational innovation. The cost of inventories may also be important. The purpose of this study was to examine the relationship between innovation and operational efficiency rate of assets in companies listed in Tehran Stock Exchange. The research is in the period from 2006 to 2012. The objective of the present study and the method of data collection is a semi-experimental research. The results showed that increasing the proportion inventory turnover led to an increase in the rate of return on assets, require the reduction of inventory to current assets led to an increase in the rate of return on assets and the difference between the current ratio and quick ratio leads to a decrease in the rate of return on increasing assets.

Keywords*: rate of return on assets, the difference between the current ratio and quick ratio, Inventory turnover ratio of inventory to current assets

INTRODUCTION

A large part of commodity investments and expenditures of the company are the resources and the amount of great importance and therefore the activities of several corporate profitability of the relationship between the amount of the commodity, profitability and corporate performance is done. For example **Bilender and Makin (1991)** argue the inventory management in different ways influence on

firm performance. They also stated that the maintenance of inventory companies can improve production planning, or lack of inventory shortage cost and procurement costs through bulk purchases and transactions are significantly reduced in price speculation. They argue that the cost of maintenance should include opportunity costs, location costs, transport costs, obsolescence, and the cost of such insurance should be ignored **(Bylndr and Makin, 1991)**. Moreover, some researchers such as **Gerber (1984), Miner (1996), Khoeri (1999) and Kutt (1999)** argue that the total current assets inventories, accounts receivable, short-term investments consist of participate as a shield against risk and uncertainty. **Falga (2008)** argues among the constituent current assets, inventory is a special place and this has led the company always tries to maintain a sufficient amount of inventory that this policy is largely associated with the operational management of financial decisions. In this study, the inventory management in three inventory turnover ratio, inventory ratio and current ratio and quick ratio is defined as the difference between the factors. Given the above, this study examines innovation and return on assets has been operating.

Literature

Khodadipour and Kargrpour (2009) examined the relationship between operating cash flow and liquidity ratio and return on equity of listed companies in Tehran Stock Exchange. The sample survey of 50 companies during the period 2001-2006.The results showed that the operating cash flow ratio is a significant positive correlation with stock returns immediatelybut the ratio of net working capital to total assets and return on equity relationship is not established.

Ebrahimi and Saeidi (2010) conducted a study entitled "the impact of accounting variables and characteristics of the companies listed on the stock price at Tehran Stock Exchange ". Their study examined the number of companies in the period of2007-2001 and, including 92 companies. Their results showed that the ratio of earnings per share, ROA and stock price before the stock prices are directly related to the current period three variables operating cash flow per share for the company and have no impact on stock prices and asset turnover ratio finally, there is an inverse relationship between stock price and company size.

Main and others (2012) examined the relationship between changes in inventory, profitability and value companies listed in Tehran Stock Exchange. In their study of 56 companies that have the characteristics of the proposed data in the period 2009-2002 collected and processed. In this study, the

type of data (panel data) determine the appropriate estimates of Hausman tests, Chow and method-Pagan ALM and, test the hypothesis of correlation analysis (Pearson coefficient) and regression analysis were used. The first and second sub-hypothesis testing results indicate an inverse relationship significant changes in inventory and short-term changes in the company's profits and changes in the value of the company. The results of the second and third sub-hypothesis suggests the lack of a significant correlation between the change in inventories of goods with long-term changes in the company's profits and changes in the company's return on assets.

Wang *et al* (2009) in their study examines the impact of corporate governance on performance characteristics of Chinese companies. They used in their study of two approaches to corporate governance. First, the influence of each of the features of corporate governance on corporate performance and then examines the impact of corporate governance on corporate performance pay all specifications. Their results showed that firms with better corporate governance regime has better performance and higher value. Also, the concentration of ownership, Institutional investors, public ownership and operation of the market and there is a significant positive relationship.

Amir *et al* (2010) found that the ratio of operating profit is more in the market reaction. Next, the ratio of operating profit is divided into two components consists of margin and earnings ratio than the other. The results showed that non-interactive stability of gross profit is greater than the proportion of other benefits, found no difference in the stability of the interaction of these components. Operating net flow into two separate components of working capital and fixed asset turnover was the study revealed a stable interactive and non-interactive and non-interactive and interactive stability constant currencies circulating more money in circulation. Another result of this study showed that high ratio of operating profit (loss) of future excess returns in relation to positive (negative) and this is not related to the operational flow of net assets, but if the level is lower than operating profit, net turnover increased operational efficiency does not lead to an increase that represents a ratio of operating profit for the market reaction.

Basuand Wang (2011) investigated the relationship between changes in inventory, profit and value of the company. The results of the study found that between 1950 and 2005 showed a negative correlation between changes in inventory and the company.

Al- Saeid and Vahba (2013) did the research on the relationship between ownership structure and inventory management. They vary in their study of the managerial ownership, board structure and the size of the board as moderator variables in order to evaluate the effect of moderating variables on the relationship between institutional ownership and management of their inventory. Their results show that institutional ownership has a positive impact on inventory management when managerial ownership is high, there is a dichotomy task manager and board size is large.

Bits and others (2013) research on the relationship between innovation, operational and financial performance did. Their results showed that the ratio of total asset turnover ratio Earnings before interest and taxes and have a positive relationship with the asset turnover ratios, return on assets, rate of return on equity and profit margins are not related. The ratio of inventory to current assets ratio of earnings before interest and taxes and currencies had a negative correlation with the ratio of the rate of return on assets, rate of return on equity and profit margins had no relationship. They examined the difference between the current ratio and quick ratio with financial ratios showed thatit has no relationship with any of them.

METHODOLOGY

Research methodology

The present study regarding the objective and the method of data collection is a semi-experimental research.

Population & sample

The population is surveyed by Tehran Stock Exchange. The sample is selected after applying the limits specified by Cochran formula.

A) The Company prior to 2006 was a member of the Exchange.

B) For the period 2006 to 2012 financial statements are prepared and presented fellowship.

C) During the study period and no holdup Trading (trading symbol for the interruption of trading is not interrupted for more than three months).

D) Financial statements for the fiscal year ending in the 29/12.

Sample selection in this study after restrictions imposed by the selected target of Cochran then determined using the formula the samples were selected using random sampling their number is 70 now.

Data collection

In order to collect the necessary data, companies selected by referring to the financial statements, explanatory notes and using software to manage cash and Dena share CDs and financial information exchange. One can also visit the site and

CODAL.IR RDIS.IR extract the necessary data and variables.

Research hypotheses

Main hypothesis: improved management of inventory does not lead to an increase in the rate of return on assets.

First sub-hypothesis: Inventory turnover ratio does not lead to an increase in the rate of return on assets.

Second sub-hypothesis: the reduction of inventory to current assets does not lead to an increase in the rate of return on assets.

Third sub-hypothesis: the reduction in the difference between the current ratio and quick ratio does not lead to an increased rate of return on assets.

Research model

$$ROA_t=\alpha_0+\beta_1 IT_t+\beta_2 IC_t+\beta_3 Q\text{-}C_t+\beta_4 SIZE_t+\beta_5 LEVt+£_t$$

ROA, return on assets
IT, Inventory turnover ratio
IC, the ratio of inventory to current assets
QC, the difference between the current ratio and quick ratio
SIZE, the size of the company, which is equal to the natural logarithm of total assets at end of year
LEV, the leverage ratio of debt divided by total assets is obtained.

RESULTS

Test of model

Main hypothesis: improved management of inventory does not lead to an increase in the rate of return on assets. Main hypothesis of the present study was to test the secondary hypothesis is that they are as follows.

First sub-hypothesis: Inventory turnover ratio does not lead to an increase in the rate of return on assets

HO: Inventory turnover ratio leads to an increase in the rate of return on assets.

H1: Inventory turnover ratio does not lead to an increase in the rate of return on assets.

Results of **Table 1** shows, the F statistic is significant and confirms the significance of the model to test hypotheses. Results of **Table 1** also indicates the absence of autocorrelation between sentences, Watson camera case is disturbing. Results of **Table 1** shows the variable coefficient Inventory turnover ratio (IT) is 0/004.It is positive and significant at the 5% error level, thus confirmed the results show that H0 and H1 is rejected. Especially since the third hypothesis states that Inventory turnover ratio of the rate of return on assets has a significant relationship while the results show the opposite is expected. Hence it can be said that 95 percent confidence level of Inventory turnover ratio leads to an increase in the rate of return on assets.

Second sub-hypothesis: the reduction of inventory to current assets does not lead to an increased rate of return on assets.

HO: reduction of inventory to current assets led to an increase in the rate of return on assets.

H1: reduction of inventory to current assets does not lead to an increase in the rate of return on assets.

The results show that the variable factor of inventory (IC) is 0/18. There is a positive and significant at the 5% error level, thus confirmed the results show that H0 and H1 is rejected. Because the variable coefficient is positive and increases in proportion the rate of return on the above assets. So the second hypothesis is rejected at the 95 percent confidence level.

Instantaneous does not lead to an increase in the rate of return on assets.

HO: a reduction in the difference between the current ratio and quick ratio leads to an increase in the rate of return on assets.

H1: reduction in the difference between the current ratio and quick ratio does not lead to an increase in the rate of return on assets.

The results show that the variable coefficient difference between the current ratio and quick ratio (QC) is 0/007. There is a negative and significant relationship at the 5% error level therefore H0 and H1 are rejected. The results show that it is OK. So we can say that 95% reduction in the difference between the current ratio and acid ratio leads to an increase in the rate of return on assets for third hypothesis is not confirmed. The obtained results are in contrast with the results of **bits and others (2013)** and consistent with the results of **Wang Basu (2011)**.

Table 1: Results of hypothesis testing

Prob.	t-Statistic	Coefficient	Description
./76	-./29	-./09	**C**
*./02	2/32	./004	**IT**
*./003	2/92	./18	**IC**
./51	-./66	-./007	**Q-C**
./54	./61	./03	**SIZE**
*./000	-4/47	-./08	**LEV**
/.67			**Adjusted R-squared**
10/43			**F-statistic**
./000			**Prob(F-statistic)**
1/96			**D.W**

*** Significant at the 5% error level, Source: Calculations researcher**

DISCUSSION AND CONCLUSION

This study examines the relationship between innovation and operational return on assets in companies listed in Tehran stock exchange. Operational innovation measures comply with paper of **Bits *et al.*, (2013)** was followed in inventory turnover ratio measures the ratio of current assets and inventory difference between the current ratio and instantaneous ratio. Before testing the classical regression model sales by unit root tests, the correlation coefficient, variance anisotropy test, Chow and Hausman test was performed. The results

showed that increasing the proportion of Inventory turnover led to increased rates of return on assets and require the reduction of inventory to current assets led to an increase in the rate of return on assets and the difference between the current ratio and quick ratio leads to a decrease in the rate of return on assets.

Suggestions

The results showed that compared to a rise in the rate of return on assets inventory turnover is therefore recommended that, as investors seek to identify companies are considered profitable Inventory turnover ratio in its decisions.

Therefore, the variable rate of return on assets is the ratio of inventory that can be an important factor in increasing the profitability ratios thus varies according to the ratio of inventory, and can be an important factor in investment.

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