IJBPAS, June, 2015, 4(6): 4070-4085

ISSN: 2277–4998

International Journal of Biology, Pharmacy and Allied Sciences (IJBPAS)

'A Bridge Between Laboratory and Reader'

www.ijbpas.com

THE RELATIONSHIP BETWEEN CASH HOLDINGS AND FUTURE STOCK RETURNSS OF LISTED FIRMS ON TTEHRAN STOCK EXCHANGE

MOMENI A R[1], SOLTANI H[2], SHEIKHI O[3]*

1: Assistance professor, department of Accounting, Payame Noor University (PNU), P.O. Box, 19395-3697, Tehran, Iran.

2: Department of Management, Marvdasht Branch, Islamic Azad University, Marvdasht, Iran.

3: Department of Accounting, Bushehr Branch, Islamic Azad Universty, Bushehr, Iran.

***Corresponding Author: E Mail: omid_shikhi@yahoo.com**

ABSTRACT

In this study, the relationship between cash holdings and future stock returnss of listed firms in Tehran Stock Exchange is studied. In this regard, the effects of cash holdings, changes in cash holdings, excess cash holdings and net cash balances on future stock returnss in the form of four hypothesis formulation and 98 firms from listed firms in Tehran stock exchange during 5 years (2009-2013) has been tested. This study follows two methods, first in aim view is applied and in descriptive view is correlation, and Multi linear regression model with panel data and fixed effects has been used for testing the hypotheses. The results show that between variables cash holdings, changes in cash holdings, excess cash holdings and net cash balances with future stock returnss are negative and significant relationship. Therefore, the present study was to provide evidence of approved the agency theory in Tehran Stock Exchange achieved.

Keywords: Cash holdings, changes in cash holdings, excess cash holdings, net cash balances, future stock returnss

INTRODUCTION

Economic enterprises are successful in today's competitive markets that have plans for their future. Financial planning is the most important approach of planning that is very important. Cash is integral component of financial planning due to the critical importance of cash in success of economic units and its necessity for their survival. Cash is the first and most important factor of economic enterprise life **[1]**. In fact, only

enterprises can survive that can meet their cash needs timely. The way of using internal cash is important decision in conflict between shareholders and managers. In times of firm economic growth and increasing cash reserves, managers decide whether cash to be distributed among shareholders, to be spent on domestic spending, to be used for foreign studies or to be stored?It is important howprofit-seeking managers to choose between holding or reserving cash. Administrators must compare self-interest of current expenditures and flexibility ofholding cash deposits. Moreover, profit-seeking managers must measure the possibility of increased benefits over cash holding cost **[2]**.

The main advantage of cash holding is increased ability of firms to use profitable investment opportunities and avoid costly external financing. If the market is efficient, there is no reason to hold liquidity in firms. In such an environment, any desired level of cash is not considered and when internal funds are not enough to be used in new projects is, firm can use external financing and financing from external sources takes place fairly **[3]**. Managers typically follow a level of cash that is in optimal condition according to pros and cons of holding it **[4]**. In fact, firms set their optimum level of cash through determining the final costs and benefits of cash holding. The important point is that there is an appropriate level of cash for firms where manager decides on cash holding with active approach based on analyzing cost - benefit **[5]**. Recent research indicates that firms are interested to investment that holds relatively more cash. Firsm that hold cash believe that they will have better access to good investment types **[6]**.

On the other hand, decision making regarding different types of investment and selecting the most suitable types of investments are important and basic topics of financial management and the main aim of accounting is to provide information that help investors or creditors to estimate the cash that will be paid at future as dividends, interest or repayment of loan and to calculate firm risk. In general, cash holding will reduce financial crisis and will be considered as safe potential against unexpected losses and it will make possible the pursuit of optimal investment policies when firm faces financial constraints and ultimately will reduce the costs of collecting funds or cash assets. On the other hand, investors potentially punish firms that hold cash more than needed amount, because investors can gain higher efficiency from invested cash compared to hold it **[6]**. According to research carried out in world, still, the question of relationship between cash holding and future return of firms stock

is discussed. According to above, the aim of this study is to evaluate the relationship between cash holdings and future stock returnss of listed firms on Tehran Stock Exchange.

The structure of this article continues in the following order: in sections two and three, the theoretical background and review of literature are presented. Then, research methodology is discussed in section four which includes research hypotheses, research design, data collection, statistical population, sampling method, sample size, models definition and operational definitions of research variables, method of analysis and testing hypotheses. Finally, research findings are discussed and suggestions are provided.

Theoretical background and review of literature

Cash is critical resource of every business unit. The balance between cash funds and cash needs is one of the key factors of economic health of business units and their activities continue. Cash flows have key role in many financial decisions, securities valuation models, evaluation methods of capital investment projects and etc. Cash holding policies are the most important fiscal policies in firm's management procedure. There are various theoretical frameworks in finance literature in order to explain the cash holding policies. The most important issue is the potential effect of cash holding on stock returns from shareholder point of view **[7]**. According to Modigliani and Miller **[8]**, firms can finance their investment projects easily and with minimal cost through reference to capital markets; in other words, firms can easily replace both internal and external resources and don't pay any additional fees in this regard, so, the cash balance is considered irrelevant issue and decisions about cash will be independent from firm's financial situation.

The fact is that internal and external resources cannot be easily replaced in imperfect markets. The accumulated cash can represent the previous success and increased liquidity can reduce the need for costly external financing. The needs that lead to transaction costs and data acquisition costs and on the other hand, reduce the probability of false selection costs and insufficient liquidity costs and thus increase the firm's value and future stock returnss based on hierarchical theory **[9, 10]**. On the other hand, the accumulated cash will not be more efficient, if the accumulated cash is remained constantly on balance sheet. The presence of excess and stagnant liquidity has low efficiency and is invested in non-profitable investment projects and can lead to agency costs for shareholders and negative economic consequences for firm which reduces efficiency and, firm value

and future stock returnss based on free cash flow theory **[11]**. Therefore, firms are constantly engaged in making decisions about optimal level of cash holding based on hierarchical and free cash flow theories **[7, 12]**. Schwetzler and Reimund **[13]** examined in their study the determinants of cash balance in German firms. They studied the effects of cash surplus on performance and direct effects of firms' assessment due to cash balance and showed that cash surplus prevents management from operational improvement of business unit that is consistent with agency- based inefficient investment hypothesis. Oler and Picconi **[14]** examined the issue whether firm's future performance and future returns are affected by optimal cash balance deviation or not? Their results were obtained between 1989 and 2006, respectively, and showed that rate of future operation assets return and rate of next year stock returns begin to decline when it deviates from estimated optimal cash flow for both firms that hold surplus cash and firms that hold less cash (inverse relationship). Swanson and Alltizer **[6]** examined in a study the relationship between hold cash and return of stocks investment portfolio. The results indicate a significant positive relationship between amount of cash holding and stock market portfolio returns.

Chen et al **[7]** examined in their study the relationship between liquidity and future stock returnss. Their findings show that management agency problems will be reduced in the case of less cash holding that supports the hierarchy theory and if it leads to growth opportunities, managers will hold more cash. Results show that any deviation from optimal level of cash estimation is significantly detrimental for future performance of market and stock returns. Finally, excessive or insufficient cash holding by firms will lead to increased agency costs or insufficient investment, which will result in deterioration of firm's future performance. Shepherd **[15]** examining the effects of cash on market returns between small and large firms concluded that cash holding surplus among large firms leads to a reduction in firm value. Also, market efficiency among small firms is increased through increasing cash ratios. This high efficiency is not due to known added risk factor.

Bülow et al **[16]** examined the relationship between cash more and less than optimal level and the future performance of firms listed in Tehran Stock Exchange. The results show that study hypotheses have not been approved based on a significant negative relationship between the degree of deviation from optimal cash and future operation assets return rate. Qorbani and Adili **[17]**

studied the cash holding, firm value and information asymmetry. The study results suggest that when information status is asymmetric, there is a significant and negative relationship between cash holding and firm value. Results confirm the theory of free cash flow. Rahimiyan et al **[18]** examined the relationship between cash holding surplus and share value in Tehran Stock Exchange. The results indicate that cash holding surplus by firms temporarily and continuously does not effect on equity value.

MATERIALS AND METHODS

Research hypothesis

Four hypotheses have been considered in order to examine the relationship between cash holding and future stock returnss. Hypotheses are formulated as follows:

H1: There is significant relationship between cash holding and future stock returns.

H2: There is significant relationship between changes in cash holdings and future stock returnss.

H3: There is significant relationship between excess cash holdings and future stock returnss.

H4: There is significant relationship between net cash balances and future stock returns.

Methodology and Data Collection

This study, the objective, practical and in essence, is a descriptive study with emphasis on correlation relationships. Because on the one hand, it examines the status quo and on the other hand, the relationship between different variables using regression analysis to determine them. In addition, a post-hoc studies (using past data) is placed.Also, the method of data collection is the research library.

Statistical population, sampling method and sampling volume

The statistical population of this study includes all listed firms on Tehran Stock Exchange during 2009-2013. The quality of information and easy access to the information of financial documents and other data were important reasons for this choice. Regarding the goals of research and some inconsistencies among listed firms on Tehran Stock Exchange, the systematic deletion method of sampling was used. The following conditions were regarded necessary for being in research population:

1. It is not considered as a bank, financial, investment, holding or leasing institution. Because their special area of activity affects the relationship between factors which are investigated in this study and they cannot be generalized.

2. The firm must be listed in stock exchange organization before the end of 2007 and it

must not have exited from stock exchange list during 2009-2013.

3. For comparability issues, the financial year of firm must end 29th Esfand (20th March) of every year.

4. The firm had no change of financial year during 2009-2013, and it is not broken.

5. Financial accounts of firm must be available.

98 firms met the above criteria during 2009-2013, are selected as statistical sample.

Constructing Models and operational definition of research variables

To test hypothesis of regression models following are used:

$Ri_{i,t+1} = \alpha+\beta_1 CH_{i,t} + \beta 2\ LEV_{i,t} + \beta 3\ Size_{i,t} + \varepsilon_{i,t}$ ...*(1)*

$Ri_{i,t+1} = \alpha+\beta_1 \Delta CH_{i,t} + \beta 2\ LEV_{i,t} + \beta 3\ Size_{i,t} + \varepsilon_{i,t}$ ...*(2)*

$Ri_{i,t+1} = \alpha+\beta_1 ECH_{i,t} + \beta 2\ LEV_{i,t} + \beta 3\ Size_{i,t} + \varepsilon_{i,t}$ .. *(3)*

$Ri_{i,t+1} = \alpha+\beta_1 NLB_{i,t} + \beta 2\ LEV_{i,t} + \beta 3\ Size_{i,t} + \varepsilon_{i,t}$...*(4)*

At the above models, respectively:

$Ri_{i,t+1}$: future stock returnsof i firm in the year t;

$CH_{i,t}$: cash holdingof i firm in the year t;

$\Delta CH_{i,t}$:changes in cash holdingsof i firm in the year t;

$ECH_{i,t}$:excess cash holdingsof i firm in the year t;

$NLB_{i,t}$:net cash balancesof i firm in the year t;

$LEV_{i,t}$:Financial leverage of i firm in the year t;

$Size_{i,t}$:size of i firm in the year t;

$\varepsilon_{i,t}$:error.

The variables are grouped into three categories: independent, dependent and control variable.

Independent Variables

The independent variables in this study,Cash holdings, changes in cash holdings, excess cash holdings and net cash balances quality is how they are calculated as follows.

Cash holdings

The cash holdings are calculated as follows (Chen et al, 2012; Al-Najjar, 2013):

$CH = (CASH + MKT) / TA$

In which, *CH*cash holdings; *CASH*CASH; *MKT*Marketable securities and *TA*is total assets.

Changes in cash holdings

The changes in cash holdingsare calculated as follows (Chen et al, 2012):

$\Delta CH = CH_t - CH_{t-1}$

In which,ΔCH changes in cash holdings; CH_t current period cash holdings and CH_{t-1} is prior period cash holding.

Excess cash holdings

In this study, according to the results Opler et al (1999) and Al-Najjar (2013) research, the following regression model will be used in order to assess the optimal cash balance at firm level. In other words, required cash for firm is function of model independent variables.

$LIQ_{i,t} = \beta 1 MTB_{i,t} + \beta 2 OCF_{i,t} + \beta 3 NWC_{i,t} + \beta 4 LEV_{i,t} + \beta 5 RSIZE_{i,t} + \varepsilon_{i,t}$

In which,*LIQ* cash balance including bank balance and short-term bank deposits (divided by total assets), *MTB* growth opportunities of firm (the ratio of capital

market value to capital book value), *OCF* operation cash flow (divided by total assets), *NWC*net working capital (divided by total assets), *LEV* the ratio of current and non-current debt to total assets, *RSIZE* firm size (log of total assets) and ε is model balance that is excess cash holdings criteria (*ECH*).

Net cash balances

The net cash balancesare calculated as follows (Shulman and Cox, 1985):

$NLB = (CASH + MKT - AP) / TA$

In which, *NLB*net cash balances; *CASH*CASH; *MKT*Marketable securities; *AP*Accounts Payable and and*TA* is total assets.

Dependent variable

According to Chen et al (2012), the dependent variable in this study, future stock returns is obtained as follows.

Future stock returns

In the present study, stocks return of ordinary shares in a determined period is calculated regarding the first and last prices in that period and the proceeds obtained from ownership and increasing firm's capital, through this equation (Ra'ee&Sa'eedi, 2004).

$Ri_t = (1 + \alpha_t) * P_t - P_{t-1} + D_t - M / P_{t-1}$

In which, *Ri* stock return;α firm capital increase ratio;*P* stock price;*D*stock dividends and *M* is stockholders cash proceeds.

Control variables

The control variables used in this research is theFinancial leverage and Firm size.

Financial leverage

Financial leverage, to the extent that a company through loans and borrowings, financing has been implicated (AbdeTabriziand Hanifi, 2007). The Financial leverage calculated as follows:

$LEV = TL / TA$

In which, *LEV*Financial leverage; *TL*Total liabilities and *TA* is total assets.

Firm size

To determine the size of the firm, several investigators have used different criteria. Kroes and Manikas (2014) used from sale logarithm, Abor (2008) assets logarithm and Naceur et al (2006) the market value of capital logarithm. In this study the logarithm of natural total assets is used to determine the size of the firm.

$Size = Ln(TA)$

In which, *Size* Firm size; *Ln*logarithm of natural and *TA* is total assets.

Data analysis methods and hypothesis testing

In the present study, According to the data type and methods of analysis, the combined use of data. Statistical hypotheses testing using linear regression multiple ordinary least squares method (OLS) was performed. Statistical analysis was performed using the softwareExcelversion 2010, Stataversion 9/1 and EViewsversion 8.

RESULTS AND DISCUSSION

Descriptive Statistics

Summary of descriptive statistics is presented for the variables in **Table 1** to provide an overview of the expressed data and central statistics indicators tendency and dispersion.

As can be seen in above **Table 1**, average future stock returns of firms is 296.5%. The average cash holding is 6.1%, changes in cash holdings is 0.2%, excess cash holdings is 3 % and net cash balances is -2.7%. Financial leverage implies that average use of firms from debt is 60.3%. Finally, study sample size of firms is 13.855. The data shows the standard deviation of the mean scattering data. Low standard deviation indicates low dispersion of data of the average and high standard deviation indicates high dispersion of data of the average. Changes in cash holdings variable has the lowest dispersion of average and future stock returnsvariable has the highest distribution of the average. Also, the coefficient of skewness and Kurtosis of all the variables except the profitability indicate that these variables had a normal distribution. To prove this claim, we must continue to use statistical tests discussed in the following.

Evaluation of the normal distribution of variables

Using the Kolmogorov - Smirnov test normal distribution of variables are examined. Kolmogorov-Smirnov test results are presented in **Table 2**.

Correlation test of research variables

If the variables of research are continuous and scale ratio and the Pearson's correlation coefficient is used to analyze the correlation between them. The results of Pearson's correlation test are presented in **Table 3**.

As can be seen in the table above, the correlation between each pair of variables is estimated using Pearson method and below that it is the possibility of using the t test for significant correlation was obtained. For each pair of variables that may be obtained in less than 0.05, the correlation between two variables, is significant at 95% and if this probability is less than 0.01, the correlation between two variables is significant at 99% confidence level. Due to these items and obtained mark a significant degree of correlation and the correlation between the variables can be as mutually reviewed. For example, according to the probability obtained for the correlation between cash holdingand future stock returns, it can be stated that the out of matter of controlling the effects of other variables on future stock returnsbetween these two variables are relations and obtained negativecorrelation indicates that the relationship between the two variables are

reverse. Also, as can be seen in the table above, the absolute value of the correlation between variables is less than 0.70. Thus it can be stated that there is no serious multicollinearity between the variables. Note that the correlation coefficient shows only a correlation between two variables simultaneously, it is necessary to determine the effect of other factors influencing the effect of the independent variable on the dependent variable and the control by the use of multiple regressions. So in the following we will continue using a regression model to test hypotheses.

Test research hypotheses

The first hypothesis test

In this study to test the first hypothesis, the model (1) was used as a regression model and will be estimated using panel data. The results of the selection model to estimate model (1) of research are presented in **Table 4**.

According to the results of the Chow test, since the Chow test significance level is less than 0.05 (0.000), anisotropy of intercept is verified and panel data methods should be used in estimating. Also according to the results of the Hausman test, since the level of significance of the test is less than 0.05 (0.000), there is verified and fixed effects model should be estimated using the fixed effects approach. The results of estimating the model and also the test results and the assumptions of the classical regression are provided in **Table 5**.

In examining the overall significance of model, due to the fact that F-statistic significance level (sig) is less than 0.05 (0.000), the overall significance of model is approved with 95% confidence. Determining factor of model suggests that 63% of future stock returnss variation is explained by variables entered into model. Moreover, since Durbin-Watson statistic value is between 1.5 and 2.5 (2.119), therefore, the independence of model balance is confirmed. Multi-colinearity Test results show that VIF statistic values are less than 10 in all variables of model that indicates the absence of multic-ollinearity among independent variables. So, another regression pre- hypothesis is confirmed. Significance level (sig) of t-statistics related to cash holdings is less than 0.05 (0.000) and its coefficient is negative (-0.450). Therefore, it can be said that there is negative and significant relationship between cash holding and future stock returns. As a result, the first hypothesis is confirmed at confidence level of 95 percent.

The second hypothesis test

In this study to test the second hypothesis, the model (2) was used as a regression model and will be estimated using panel data. The results of the selection model to

estimate model (2) of research are presented in **Table 6**.

According to the results of the Chow test, since the Chow test significance level is less than 0.05 (0.000), anisotropy of intercept is verified and panel data methods should be used in estimating. Also according to the results of the Hausman test, since the level of significance of the test is less than 0.05 (0.000), there is verified and fixed effects model should be estimated using the fixed effects approach. The results of estimating the model and also the test results and the assumptions of the classical regression are provided in **Table 7**.

In examining the overall significance of model, due to the fact that F-statistic significance level (sig) is less than 0.05 (0.000), the overall significance of model is approved with 95% confidence. Determining factor of model suggests that 56.8% of future stock returnss variation is explained by variables entered into model. Moreover, since Durbin-Watson statistic value is between 1.5 and 2.5 (2.211), therefore, the independence of model balance is confirmed. Multi-colinearity Test results show that VIF statistic values are less than 10 in all variables of model that indicates the absence of multic-ollinearity among independent variables. So, another regression pre- hypothesis is confirmed. Significance level (sig) of t-statistics related to changes in cash holdingsis less than 0.05 (0.000) and its coefficient is negative (-0.091). Therefore, it can be said that there is negative and significant relationship between changes in cash holdings and future stock returns. As a result, the second hypothesis is confirmed at confidence level of 95 percent.

The third hypothesis test

In this study to test the third hypothesis, the model (3) was used as a regression model and will be estimated using panel data. The results of the selection model to estimate model (3) of research are presented in **Table 8**.

According to the results of the Chow test, since the Chow test significance level is less than 0.05 (0.000), anisotropy of intercept is verified and panel data methods should be used in estimating. Also according to the results of the Hausman test, since the level of significance of the test is less than 0.05 (0.000), there is verified and fixed effects model should be estimated using the fixed effects approach. The results of estimating the model and also the test results and the assumptions of the classical regression are provided in **Table 9**.

In examining the overall significance of model, due to the fact that F-statistic significance level (sig) is less than 0.05 (0.000), the overall significance of model is approved with 95% confidence.

Determining factor of model suggests that 53.2% of future stock returnss variation is explained by variables entered into model. Moreover, since Durbin-Watson statistic value is between 1.5 and 2.5 (2.066), therefore, the independence of model balance is confirmed. Multi-colinearity Test results show that VIF statistic values are less than 10 in all variables of model that indicates the absence of multic-ollinearity among independent variables. So, another regression pre- hypothesis is confirmed. Significance level (sig) of t-statistics related to excess cash holdingsis less than 0.05 (0.011) and its coefficient is negative (-0.002). Therefore, it can be said that there is negative and significant relationship between excess cash holdingsand future stock returns. As a result, the third hypothesis is confirmed at confidence level of 95 percent.

The fourth hypothesis test

In this study to test the fourth hypothesis, the model (4) was used as a regression model and will be estimated using panel data. The results of the selection model to estimate model (4) of research are presented in **Table 10**.

According to the results of the Chow test, since the Chow test significance level is less than 0.05 (0.000), anisotropy of intercept is verified and panel data methods should be used in estimating. Also according to the results of the Hausman test, since the level of significance of the test is less than 0.05 (0.000), there is verified and fixed effects model should be estimated using the fixed effects approach. The results of estimating the model and also the test results and the assumptions of the classical regression are provided in **Table 11**.

Table 1: Descriptive statistics of research variables

Variables	Number	Minimum	Maximum	Average	Standard deviation	Skewness	Kurtosis
Future stock returns	490	-5.910	11.455	2.965	3.499	0.183	-0.329
Cash holding	490	0.000	0.486	0.061	0.068	2.928	4.163
Changes in cash holdings	490	-0.291	0.306	0.002	0.055	0.263	0.640
Excess cash holdings	490	-0.034	0.447	0.030	0.067	2.909	5.045
Net cash balances	490	-0.465	0.485	-0.027	0.110	0.137	2.714
Financial leverage	490	0.096	1.027	0.603	0.167	-0.334	-0.307
Frimsize	490	-10.815	18.454	13.855	1.322	0.885	1.271

Table 2: Results of Kolmogorov-Smirnov test variables

Variables	*Kolmogorov-Smirnov test*	*Significance level*	*Result*
Future stock returns	0.922	0.363	AcceptedH_0
Cash holding	1.550	0.141	AcceptedH_0
Changes in cash holdings	1.999	0.098	AcceptedH_0
Excess cash holdings	1.533	0.152	AcceptedH_0
Net cash balances	1.799	0.114	AcceptedH_0
Financial leverage	0.935	0.347	AcceptedH_0
Frimsize	1.856	0.105	AcceptedH_0

Due to the significance of all variables that is more than 0/05 so the hypothesis H_0 of normal distribution of variables at 95% will be approved.

Table 3: Results of the Pearson correlation test variables

Variables	Future stock returns	Cash holding	Changes in cash holdings	Excess cash holdings	Net cash balances	Financial leverage	Frimsize
Future stock returns	1						
Cash holding	-0.460** (0.000)	1					
Changes in cash holdings	-0.137** (0.004)	0.439** (0.000)	1				
Excess cash holdings	-0.330** (0.000)	0.999** (0.000)	0.442** (0.000)	1			
Net cash balances	-0.417** (0.000)	0.625** (0.000)	0.351** (0.000)	0.621** (0.000)	1		
Financial leverage	-0.391* (0.017)	-0.288** (0.000)	-0.397** (0.000)	-0.265** (0.000)	-0.489** (0.000)	1	
Frimsize	-0.194** (0.000)	0.198** (0.000)	-0.499** (0.000)	-0.188* (0.013)	-0.102* (0.024)	0.177** (0.000)	1

Values in parentheses indicate the significance level 0.01** and 0.05 *.

Table 4: The results of the selection model to estimate model (1) of Research

Type of test	Value of the test statistic	Significance level	Result
Chow test	5.408	0.000	Panel method
Hausman test	35.090	0.000	Performance fixed effects

Table 5: The Results of the first hypothesis test by estimating model (1) of Research

Dependent variable: Future stock returns *Number of Views: 490*				
Variables	*Coefficient*	*Student t statistics*	*Significance level*	*VIF statistics*
Intercept	2.141	7.283	0.000	
Cash holding	-0.450	-6.221	0.000	1.094
Financial leverage	-0.192	-4.823	0.000	1.130
Frimsize	-1.520	-8.460	0.000	1.036
Adjusted R^2	0.630			
F-statistic	9.828			
sig (F-statistic)	(0.000)			
Durbin-Watson	2.119			

Table 6: The results of the selection model to estimate model (2) of Research

Type of test	Value of the test statistic	Significance level	Result
Chow test	5.459	0.000	Panel method
Hausman test	37.484	0.000	Performance fixed effects

Table 7: The Results of the second hypothesis test by estimating model (2) of Research

Dependent variable: Future stock returns Number of Views: 490				
Variables	Coefficient	Student t statistics	Significance level	VIF statistics
Intercept	2.208	7.525	0.000	
Changes in cash holdings	-0.091	-2.397	0.000	1.005
Financial leverage	-0.239	-5.256	0.000	1.036
Frimsize	-1.452	-8.369	0.000	1.033
Adjusted R^2	0.568			
F-statistic	9.794			
sig (F-statistic)	(0.000)			
Durbin-Watson	2.211			

Table 8: The results of the selection model to estimate model (3) of Research

Type of test	Value of the test statistic	Significance level	Result
Chow test	**6.643**	**0.000**	**Panel method**
Hausman test	**58.097**	**0.000**	**Performance fixed effects**

Table 9: The Results of the third hypothesis test by estimating model (3) of Research

Dependent variable: Future stock returns *Number of Views: 490*				
Variables	*Coefficient*	*Student t statistics*	*Significance level*	*VIF statistics*
Intercept	**3.176**	**9.301**	**0.000**	
Excess cash holdings	**-0.002**	**-0.106**	**0.011**	**1.076**
Financial leverage	**-0.185**	**-4.236**	**0.009**	**1.111**
Frimsize	**-1.643**	**-8.703**	**0.000**	**1.033**
Adjusted R^2	**0.532**			
F-statistic	**11.514**			
sig (F-statistic)	**(0.000)**			
Durbin-Watson	**2.066**			

Table 10: The results of the selection model to estimate model (4) of Research

Type of test	Value of the test statistic	Significance level	Result
Chow test	**7.119**	**0.000**	**Panel method**
Hausman test	**60.202**	**0.000**	**Performance fixed effects**

Table 11: The Results of the fourth hypothesis test by estimating model (4) of Research

Dependent variable: Future stock returns **Number of Views: 490**				
Variables	**Coefficient**	**Student t statistics**	**Significance level**	**VIF statistics**
Intercept	**3.663**	**9.788**	**0.000**	
Net cash balances	**-0.121**	**-10.213**	**0.000**	**1.314**
Financial leverage	**-0.204**	**-4.894**	**0.000**	**1.342**
Frimsize	**-1.549**	**-8.601**	**0.000**	**1.033**
Adjusted R^2	**0.596**			
F-statistic	**13.522**			
sig (F-statistic)	**(0.000)**			
Durbin-Watson	**2.190**			

In examining the overall significance of model, due to the fact that F-statistic significance level (sig) is less than 0.05 (0.000), the overall significance of model is approved with 95% confidence. Determining factor of model suggests that 59.6% of future stock returnss variation is explained by variables entered into model. Moreover, since Durbin-Watson statistic value is between 1.5 and 2.5 (2.190), therefore, the independence of model balance is confirmed. Multi-colinearity Test results show that VIF statistic values are less than 10 in all variables of model that indicates the absence of multic-ollinearity among independent variables. So, another regression pre- hypothesis is confirmed. Significance level (sig) of t-statistics related to net cash balancesis less than 0.05 (0.000) and its coefficient is negative (-0.121). Therefore, it can be said that there is negative and significant relationship between net cash balancesand future stock returns. As a result, the fourth hypothesis is confirmed at confidence level of 95 percent.

CONCLUSION AND RECOMMENDATIOND

Iran's capital market as an emerging market gives good value for cash. Valuation degree of cash by shareholders of Iranian firms indicates the shortage of supply resources and its importance. Also, the cash holding amount of studied firm indicate that its ratio in world is at lower level compared to other firms. Cash holding interactions indicate that cash has no appropriate variation in studied sample, and leads to reduced future stock returnss considering its low proportion in firms. According to results of research hypotheses, managers use conservative strategy for capital flow. Thus, in this type of strategy, managers are interested in preserving needed cash. On the other hand, cash holding creates agency problems and reduces the efficiency of using available resources by managers in order to achieve the desired income. Thus, increase in cash holding will lead to reduced future stock returns. The results of this hypothesis are not consistent with the results of Schwetzler and Reimund **[13]**, Oler and Picconi **[14]**, Chen et al **[7]** and Shepherd **[15]** studies. But they are consistent with results of Swanson and Alltizer **[6]** study results. According to the results of study, the following recommendations are suggested:

1. The results show that there is negative relationship between cash holding and its Changes and future stock returnss. Since the shareholders and investors tend to increased efficiency and efficiency without or less variation, shareholders and investors are strongly recommended to consider cash holding and its variation as reducing agent of future stock returnss in their decision making.

2. The results show that there is negative relationship between excess cash holdings and net cash balances and future stock returnss. The managers raise cash holdings and net cash balances in order to achieve their aims. Therefore, shareholders and investors are strongly recommended to consider cash holding surplus and net cash balances as reducing factor of future stock returnss in their decision making.

3. The firm managers must consider cash in the beginning of period as well as factors that are listed in regression model to achieve the desired level of firms' cash in their plans for holding cash and aimed liquidity.

4. According to the results of control variables, investors, creditors and other users of financial statements are recommended to consider financial leverage and firm size in their decision making. Because increasing financial leverage and firm size will reduce future stock returnss.

REFERENCES

[1] Li K K. Expected holding of cash, future performance and stock return. *Working Paper*, SSRN, 2007.

[2] Rasaiyan A., Rahimi F., and Hanjary S., Monitoring internal mechanisms of corporate governance effects on cash holdings in Tehran Stock Exchange. *Financial Accounting Research*, 2010, 2(4): 125-143.

[3] Melikian E, Ahmadpoor A, and Mohammadi M., Study the relationship between cash holding and its determinants in firms listed in Tehran Stock Exchange. *Accounting and Auditing Research*, 2011, No. 11, pp1-18.

[4] Aghayi MA, Nazafat AR, NazemiArdakanic M, and Javan A A., Studying the factors affecting cash of listed firms in Tehran Stock Exchange. *Financial Accounting Research*, 2009, 1(1, 2): 53-70.

[5] Jani M, Hoesil M, Bender A W D., Corporate Cash Holdings and Agency Conflicts. *Working Paper*, SSRN, 2004.

[6] Swanson Z, Alltizer L., Cash Position Forecasts and Stock Market Portfolio Returns. *Working Paper*, SSRN, 2010.

[7] Chen M, Wang C, Shyu S., Liquidity and the Future Stock Returns of the REIT Industry. *J Real Estate Finan Econ*, 2012, 45:588–603.

[8] Modigliani F, Miller M., The cost of capital, corporate finance, and the theory of investment. *American Economic Review*, 1958, 48(3), 261–297.

[9] Ozkan A, and Ozkan N., Corporate cash holdings: An empirical investigation of UK companies. *Journal of Banking and Finance*, 2004, 28: 2103-2134.

[10] Pinkowitz L, Stulz R, and Williamson R., Does the contribution of corporate cash holdings and dividends to firm value depend on governance? A cross-country analysis. *Journal of Finance*, 2006, 61(6): 2725-51.

[11] Jensen M C., Agency Costs of Free Cash Flow, Corporate Finance, and Takovers. *American Economic Review*, 1986, 76(2): 323-329.

[12] Autukaite R, and Molay E., Cash Holdings, Working Capital And Firm Value: Evidence From France. *Working Paper*, SSRN, 2013.

[13] Schwetzler B, and Reimund C., Valuation Effects of Corporate Cash Holdings: Evidence from Germany. *Working Paper*, SSRN, 2004.

[14] Oler D, and Picconi M., Implications of insufficient and excess cash for future performance.*Working paper*, Indiana University, 2009.

[15] Shepherd S.D., Corporate Cash Holdings and the Cross-Sectional Variation in Asset Returns. *Working Paper*, SSRN, 2014.

[16] Bülow G, Babajani J, and MohseniMaleki B., The relationship between more cash flow and less than optimal level and future performance of listed firms in Tehran Stock Exchange. *Accounting Knowledge*, 2012, 3(11): 7-29.

[17] Qorbani S, and Adili M., Cash holdings, firm value and information asymmetry. *Accounting Knowledge*, 2012, 3(8): 131-149.

[18] Rahimian N A, Qorbani M, and Shabani K., Studying the relationship between cash holding surplus and shares value in Tehran Stock Exchange. *Investment knowledge*, 2014, 3(12): 55-74.

[19] Abor J., Agency Theoretic Determinants of Debt Levels: Evidence from Ghana. *Review of Accounting and finance*, 2008, 7(2): 183-192.

[20] AbdeTabrizi H, and Hanifi F., Financial management. Vol II, Second Edition, *Agah Publication*, Tehran, 2007.

[21] Al-Najjar B., The financial determinants of corporate cash holdings: Evidence from some emerging markets. *International Business Review*, 2013, 22: 77–88.

[22] Kroes J, and Manikas A., Cash flow management and manufacturing firm financial performance: Alongitudinalperspective. *Int. J.ProductionEconomics*, 2014, Vol.148, pp 37–50.

[23] Naceur S B, Goaied M, and Blanes A., On the Determinants and Dynamics of Dividend Policy. *International Review of Finance*, 2006, Vol 6, pp 1-23.

[24] Opler T, Pinkowitz L, Stulz R, and Williamson R., The determinants and implications of corporate cash holdings. *Journal of Financial Economics*, 1999, 52: 3-46.

[25] Shulman J, and R Cox, An Integrative Approach to Working Capital Management. *Journal Cash Management*, 1985, pp. 64-67.