

Investigating the Relationship between Chief Executive Officer's Characteristics and Excess Cash Holdings of Companies Accepted in Tehran Stock Exchange

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Abstract: The present research aims to investigate the relationship between chief executive officer (CEO)'s characteristics and excess cash holdings of companies accepted in Tehran stock exchange. The research population included 135 companies accepted in Tehran stock exchange during a six-year period between 2012 and 2017. Research hypotheses were analyzed using panel data regression and mixed model regression in Iyzyes. The analysis of hypotheses in this study by EGLS estimation method at 95% confidence level showed that there is no significant relationship between CEO ownership and excess cash holdings. There is a negative and significant relationship between CEO tenure in company and excess cash holdings; accordingly, the more CEO tenure, the less excess cash holdings. There is no significant relationship between CEO financial specialty and excess cash holding. CEO power has a negative and significant relationship with excess cash holdings; accordingly, the more CEO power, the less excess cash holdings.

Keywords: Chief Executive Officer (CEO), Excess Cash Holdings, Cash, CEO Characteristics.

Introduction

Separating ownership and management, managers as owners' representative manage the company. A conflict of interest is created between managers and shareholders by the formation of representation relationship. That is, managers may engage in opportunistic behaviors and make decisions in line with their interests and in contrast to interests of shareholders. The need for corporate governance is due to conflict of interests among people who present in the corporate structure. Accounting conservatism in financial reporting has enhanced the quality of this reporting and has protected interests of many stakeholders, especially creditors, and it prevents bold accounting practices (Mehrani et al., 2015). The major advantage of cash holdings in inefficient capital markets is to increase company's ability in order to take advantage of valuable investment opportunities and to avoid high costs of external financing; on the other hand, high cash holding is associated with opportunity costs for company. Managers need to determine best combination of financing sources to maximize shareholders wealth and increase company value. In this regard, due to the importance of the subject, numerous studies have investigated factors affecting liquidity holdings. However,

less attention has been paid to behavioral characteristics of managers in these studies that can influence cash holdings (Kashanipour & Mohammadi, 2017).

Making decision to determine corporate cash reserves is one of the most important issues in the financing literature. The major advantage of cash holdings in inefficient capital markets is to increase company's ability in order to take advantage of valuable investment opportunities and to avoid high costs of external financing; on the other hand, high cash holding is associated with opportunity costs for company (Ishikawa & Takahashi, 2010). Corporate cash policies play an important role in corporate finance. From the perspective of preventive and transactional incentives, companies hold cash to meet their unpredicted needs, especially when external financing is costly (Habib & Hasan, 2017). One of the most controversial issues in financial management is cash management. How to utilize company's resources, especially internal ones is an important decision in conflict of interest between shareholders and managers. Managers try to achieve the goal of maximizing corporate equity by choosing appropriate mix of assets and liabilities (Chauhan et al., 2018).

The incentives to excess cash holding and maintain are justified within the framework of exchange theory and representation, and exchange theory has the most empirical evidence in this regard. Corporations with large excess cash are often pressured by institutional investors to return invested capital because cash accumulations may encourage managers to do value-destroying activities. Managers may also use cash savings for personal interests. Perhaps the most important issue for shareholders is the potential impact of excess cash holdings on stock return. Accumulated cash can represent past success; this will have no higher returns if it remains constant in the balance sheet. In addition, if managers spend too much cash on non-valuable investment and marginal benefits, it will eventually lead to a decrease in shareholder returns (Rahimian et al., 2014).

Companies can use their cash for new investments, merger or acquisition of other companies. In addition, companies can use cash to purchase their own shares or pay dividends as shareholders' rewards. However, if companies are unable to find an appropriate place to invest their cash, they will have to pay tax on their excess cash. Accordingly, management may spend excess cash on over-investing in low-profit projects that don't improve company value. Very few studies have examined the role of CEO characteristics in decisions related to excess cash holdings (Lim & Lee, 2019). Therefore, in order to clarify the relationship between CEO characteristics and excess cash holdings, the main issue of the research is to answer the question whether CEO characteristics are significantly related to excess cash holdings of companies accepted in Tehran stock exchange or not.

Related review of literature

Cash is an important source of domestic capital controlled by the CEO. The decision on how to increase cash flow is made by managers (Liu & Mauer, 2011). In general, a company's survival depends on how the company manages its cash. According to this view, some studies showed that value of cash depends on its availability and how it is used by the CEO. Specifically, Jensen (1986) stated that individual characteristics of the CEO, such as motivations and personal interests, influence the use of cash because the existing cash is under the control of the CEO. Also, he claimed that managers may abuse their managerial position and use cash to pursue their personal interests, especially when the company has too much cash (Gord et al., 2018). When managers and investors have the same beliefs about current and future financing costs, the optimal level of cash will be determined by cost balance and benefit of cash holding. If managers and investors have different beliefs, the optimal level of cash will be determined by managers' view on external financing. On the one hand, managers may hold more cash to finance ongoing investment opportunities; accordingly, they avoid future external financing which is considered unnecessarily costly by them (Deshmukh et al., 2018).

According to equilibrium theory, to maximize shareholders' wealth, management must adjust cash balance in such a way that ultimate benefits of cash holding equate to its ultimate costs (Safari Gerayoli, 2014). On the other hand, free cash flow (FCF) theory states that managers have an incentive to accumulate cash in order to increase the resources under their control and to be able to make judgments about corporate investment decisions. Therefore, they work with the company's cash to avoid providing detailed information to the capital market. However, managers may make investments that have a negative effect on shareholders' wealth (Ferreira & Vilela, 2004). In regard with financing, companies first provide sources of investment through accumulated profit; then they finance with low and high-risk debts and finally with issued stock. As a result, since management prefers internal financing to external sources, it tends to accumulate cash to be able to do financing within the company and not to refer to external sources.

In a study on investigating the relationship between CEO characteristics and corporate excess cash holdings, Lim and Lee (2019) examined the relationship between firm's excess cash and CEO characteristics, such as ownership type, percentage of managerial stocks, entry into multinational corporates and CEO tenure. According to a sample study on Korean companies in 2000-2014, it was first stated that professional CEOs have higher cash holdings than

manager-owners. Second, the more the CEO tenure, the less excess cash holdings. Third, CEO dependence on a multinational corporation has a significant effect on corporate excess cash holdings.

In a research on the effect of cash holdings on corporates performance, Supar et al (2018) investigated the effect of mediating role of earnings quality on the relationship between cash holdings and corporate performance in Malaysian stock exchange. The statistical sample of the research was selected from corporates of six different industries in Malaysia. The research results showed that earnings quality affects corporates performance because financial reporting is a true reflection of economic activity. Generally, the results showed that new cash management policy by earning quality leads to higher levels of corporate performance.

In a research on whether managers appointed by banks affect cash holdings or not, Chauhan et al (2018) investigated the effect of managers appointed by banks on cash holdings of Indian companies. The results of this study show that companies in which managers are appointed by banks have less cash than those are not appointed by banks. However, because of appointing managers by banks, in companies that are not dependent on bank's financing, there is a further reduction in cash assets. The results also indicate a strong relationship with bankers' ability to reduce corporate financial constraints by improving access to banking, non-banking and financial institution loans.

In a research on management ability and marginal value of cash, Gord et al (2018) investigated the relationship between management ability of CEO and marginal value of cash. Generally, the findings show that the market will have higher cash value if the cash is managed by highly capable CEOs. According to this view, shareholders consider the ability of the CEO when they evaluate cash flow.

In a research, Sarlak et al (2018) investigated the effect of auditing quality on the relationship between managers' overconfidence and cash holdings. The research hypotheses were analyzed using a population consisted of 170 companies accepted in Tehran stock exchange between 2011 and 2015 through multiple regression equations based on pooled data. The results indicate that there is a negative relationship between managers' overconfidence and cash holdings. Also, auditing with high quality does not reduce the level of negative relationship between managers' overconfidence and cash holdings.

Research hypotheses

The main purpose of the present study is to investigate the relationship between CEO characteristics and excess cash holdings of companies accepted in Tehran stock exchange; therefore, research hypotheses can be as follows:

- There is a significant relationship between CEO ownership and excess cash holdings in the company.
- There is a significant relationship between CEO tenure and excess cash holdings in the company.
- There is a significant relationship between CEO financial expertise and excess cash holdings in the company.
- There is a significant relationship between CEO power and excess cash holdings in the company.

Research methodology

This is a descriptive and applied research. Applied research is a study whose results are used to solve needs and problems. Therefore, the purpose of this type of research is to use them to solve specific issues and problems in society. Descriptive research consists of a set of methods designed to describe conditions or phenomena under investigation. A descriptive research can be merely used to understand the current situation or to assist in decision-making process. Since this research makes use of past information to investigate the relationship between variables, this is considered as ex-post facto research.

Research population and sample

The research population included all companies accepted in Tehran stock exchange between 2012 and 2017. In order to conduct this research, the data of companies accepted in Tehran stock exchange with the following characteristics were collected annually from 2012 to 2017:

- To maintain their comparability, companies should have a fiscal year-end on the last day of December.
- During the research, they should not stop their activity and should do not change their financial year.
- All information about companies needed to conduct research should be available.
- They should not be part of banks and financial institutions (investment companies, financial intermediaries, holding companies, leasing and insurance).
- Companies should be accepted in Tehran stock exchange before 2012.

According to above-mentioned characteristics, 135 companies were selected as research sample using systematic elimination method.

Models of testing research hypotheses and variables

Since this research investigates the relationship between variables, this is considered as descriptive-correlational research. In this research, each of independent, dependent and control variables will first be investigated using financial statements of companies accepted in Tehran stock exchange. Second, the research hypotheses about the relationship between variables will be analyzed using regression model; accordingly, the regression model to test research hypotheses will be as follows:

$$ECASH_{it} = \beta_0 + \beta_1 OM_{it} + \beta_2 TN_{it} + \beta_3 FECEO_{it} + \beta_4 PCEO_{it} + \beta_5 R\&D_{it} + \beta_6 SIZE_{it} + \beta_7 MTB_{it} + \beta_8 LEV_{it} + \beta_9 ROA_{it} + \varepsilon_{it}$$

$ECASH_{it}$ = excess cash holding for company i in year t (dependent variable)

OM_{it} = CEO ownership of company i in year t (independent variable)

TN_{it} = CEO tenure of company i in year t (independent variable)

$FECEO_{it}$ = financial expertise of CEO in company i in year t (independent variable)

$PCEO_{it}$ = power of CEO in company i in year t (independent variable)

$R\&D_{it}$ = research and development ratio in company i in year t (control variable)

$SIZE_{it}$ = size of company in company i in year t (control variable)

MTB_{it} = market to book ratio in company i in year t (control variable)

LEV_{it} = financial leverage in company i in year t (control variable)

ROA_{it} = return on assets in company i in year t (control variable)

B = regression coefficient

ε = error sentence

Dependent variable

Excess cash holding: In literature related to cash, cash usually refers to assets with high level of liquidity. In this research, the excess cash holding refers to short-term deposits and the sum of cash assets divided by the total assets of the company (Rahimian et al., 2014).

Independent variables

CEO ownership: It is a virtual variable that if the CEO owns the stock of the company, it will be equal to 1; otherwise, it will be zero (Lim & Lee, 2019).

CEO tenure: It refers to the logarithm of the number of years of CEO tenure in a company (Lim & Lee, 2019).

Financial expertise of CEO: If the CEO has accounting and financial expertise, this variable will be equal to 1; otherwise, it will be zero.

CEO power: If the CEO is the chairman or vice chairman of the board of directors, it will be 1; otherwise, it will be equal to zero.

Control variables

Research and development ratio: It refers to the ratio of total research and development cost to corporate assets (Lim & Lee, 2019).

Company size: It is calculated by natural logarithm of the total sales of the company (Lim & Lee, 2019).

Market to book ratio: Market to book ratio is calculated by dividing the market value of stock by the company's book value (Lim & Lee, 2019).

Financial leverage: It is calculated by the ratio of total liabilities to total assets of the company (Lim & Lee, 2019).

Return on assets: It refers to the result of dividing net profit by total assets of the company (Lim & Lee, 2019).

Data analysis

In this part, regression models corresponding to each hypothesis are analyzed using data collected from financial statements of sample companies accepted in Tehran stock exchange. Data were prepared using Excel, and estimation

of models and research hypotheses were analyzed using Eviews10. Table 1 presents the descriptive information of variables.

Table 1. Descriptive statistics of variables.

Variable	Mean	Median	Maximum	Minimum	Standard deviation	skewness	kurtosis
ECASH	0.041	0.026	0.460	0.000	0.047	2.998	17.144
OM	0.802	1.000	1.000	0.000	0.398	1.519	3.308
TN	1.301	1.386	2.397	0.693	0.507	0.286	1.917
FECEO	0.117	0.000	1.000	0.000	0.321	2.378	5.659
PCEO	0.258	0.000	1.000	0.000	0.437	1.106	2.223
R_D	0.0003	0.000	0.026	0.000	0.001	9.195	12.065
SIZE	13.936	13.821	19.566	8.504	1.561	0.512	4.193
MTB	2.546	2.202	18.665	-14.678	2.353	0.384	17.821
LEV	0.603	0.591	4.002	0.090	0.265	3.631	3.982
ROA	0.101	0.087	0.626	-1.063	0.155	0.546	9.576
Observations	810	810	810	810	810	810	810

Table 1 shows descriptive statistics of the research variables. In this table, the lowest and highest mean is respectively related to R/D ratio and size of company. Also, among the research variables, the lowest and highest standard deviation is respectively related to R/D ratio and market to book ratio (MTB).

The results of the estimation model of the research hypotheses test using EGLS method are shown in Table 2.

Table 2. Results of Estimation model of the research hypotheses test.

Variable	Coefficient	Std. Error	t-statistic	Prob
OM	0.0008	0.002	0.408	0.683
TN	-0.004	0.001	-3.557	0.000
FECEO	0.00002	0.002	0.009	0.992
PCEO	-0.005	0.001	-2.848	0.009
R_D	0.138	0.484	0.284	0.755
SIZE	-0.005	0.001	-4.017	0.000
MTB	-0.00005	0.0002	-0.246	0.805
LEV	0.009	0.004	2.177	0.029
ROA	0.055	0.006	8.228	0.000
Intercept (c)	0.115	0.020	5.555	0.000
Coefficient of determination = 0.677		Adjusted coefficient of determination = 0.608		
Durbin Watson statistic = 1.933		Test statistic = 9.798	Probability of test = 0.000	

The results shown in Table 2 indicate that the significance of F test is 0.000 which is less than 0.05, and since f statistic shows the overall validity of the model, it can be concluded that the hypotheses test model is significant with 95% probability, and it has high validity. The adjusted coefficient of determination of the model is equal to 0.608; this indicates that about 60% of the dependent variable variations can be explained by explanatory variables of the model. Since Durbin-Watson statistic is equal to 1.933, and it is between 1.5 and 2.5, it can be said that there is no autocorrelation in model.

First hypothesis: There is a significant relationship between CEO ownership and excess cash holdings in the company.

Analysis of hypothesis 1: The results shown in Table 2 indicate that the calculated significance (prob) for independent variable of CEO ownership (0.683) is more than 0.05, and its estimated coefficient (0.0008) is positive. As a result, it can be said that there is no significant relationship between CEO ownership and excess cash holdings in the company; accordingly, the first hypothesis of the research suggesting that there is a significant relationship between CEO ownership and excess cash holdings in the company is rejected at 95% confidence level.

Second hypothesis: There is a significant relationship between CEO tenure and excess cash holdings in the company.

Analysis of hypothesis 2: The results shown in Table 2 indicate that the calculated significance (prob) for independent variable of CEO tenure (0.000) is less than 0.05, and its estimated coefficient (-0.004) is negative. As a result, it can be said that there is a significant and negative relationship between CEO tenure and excess cash holdings in the company; accordingly, the second hypothesis of the research suggesting that there is a significant relationship between CEO tenure and excess cash holdings in the company is accepted at 95% confidence level.

Third hypothesis: There is a significant relationship between CEO financial expertise and excess cash holdings in the company.

Analysis of hypothesis 3: The results shown in Table 2 indicate that the calculated significance (prob) for independent variable of CEO financial expertise (0.992) is less than 0.05, and its estimated coefficient (0.00002) is positive. As a result, it can be said that there is no significant relationship between CEO financial expertise and excess cash holdings in the company; accordingly, the third hypothesis of the research suggesting that there is a significant relationship between CEO financial expertise and excess cash holdings in the company is rejected at 95% confidence level.

Fourth hypothesis: There is a significant relationship between CEO power and excess cash holdings in the company.

Analysis of hypothesis 4: The results shown in Table 2 indicate that the calculated significance (prob) for independent variable of CEO power (0.009) is less than 0.05, and its estimated coefficient (-0.005) is negative. As a result, it can be said that there is a significant and negative relationship between CEO power and excess cash holdings in the company; accordingly, the fourth hypothesis of the research suggesting that there is a significant relationship between CEO power and excess cash holdings in the company is accepted at 95% confidence level.

Conclusion

The analysis of the research hypotheses showed that CEO ownership has no significant relationship with excess cash holding in the company at 95% confidence level; therefore, it is suggested that analysts do not consider CEO ownership as a factor for excess cash holding. The CEO tenure has a negative and significant relationship with excess cash holding in the company; therefore, the more CEO tenure, the less excess cash holding. Hence, it is suggested to board of directors to investigate CEO tenure by optimal use of excess cash holding periodically. The CEO financial expertise has no significant relationship with excess cash holding in the company; therefore, it is suggested that analysts do not consider CEO financial expertise as a factor for excess cash holding. The CEO power has a negative and significant relationship with excess cash holding in the company; accordingly, the more CEO power, the less excess cash holding. Hence, it is suggested to corporations' owners and shareholders to control the CEO power based on the excess cash holding. Other researchers are recommended to investigate other characteristics of CEOs as independent variables in future studies.

Conflict of interest

The authors declare no conflict of interest

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