THE FINANCIAL DETERMINANTS OF CORPORATE CASH HOLDINGS: EVIDENCE FROM TEHRAN STOCK EXCHANGE

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Abstract
This study focuses on the effects of financial determinants on the cash holdings in corporations. Cash holdings were as dependent variable and leverage, dividends, return on equity, asset liquidity and firm size was considered as independent variables. Multivariate regression was used to test the research model. The information needs has collected from listed companies in Tehran Stock Exchange. The Study sample consisted of 50 firms for the five-year period of 2009-2013. The results showed, there is significant relationship between leverage and liquidity and cash holdings and there is no relationship between other variables and cash holdings.

Key words: Cash holdings, Leverage, Dividend, Profitability, Liquidity, Size

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Introduction
Cash management includes a wide range of activities related to the collection, maintenance, and payment with the purpose of determining the liquidity requirement of business units, management of cash balances and short-term investments. This is how much cash a company provides maintenance by various factors such as transaction costs, opportunity costs, and information asymmetry is affected. In financial markets, there are transaction costs. The costs and lost opportunity costs, ensure that the company has to maintain the optimal level of cash holdings. Keep cash, plus the cost of its own. Keep cash in large quantities by companies, can lead to the formation of agency conflicts between managers and shareholders, which may increase the management authority and cause harm to the interests of shareholders. In other words, keep up the cash, resulting in an opportunity cost for the company, because cash have a low rate of return and also clearly affect the market return and the operating performance of companies. On the other hand, lack of maintenance funds to companies that are facing financing constraints may cause loss of future investment opportunities and hence have a negative impact on future performance and efficiency companies.

Theoretical Basis
The cash is the balance of cash and deposits in banks and financial institutions, including invested in short-term deposits, with no maturity that minus the extra demands placed impressions without prior notice. In 1996, the directors of a company and an investor agreement was signed, in accordance with this agreement, the investor should have effort in a 5-year period for the development of the company. One of the key elements of the agreement, the obligation under which the investor should during this period, cash assets such as cash and securities amounted to $7.5 billion was divided. This led to the introduction of the questions that had no experience in the finance literatures there an optimum value for money? And if there is much to be?

Balance model
This model implies that firms compare the costs and benefits of holding cash and make decisions. Cash maintenance reduces the likelihood of financial crises and reduces the potential loss of investment opportunities as a result of lack of access to enough funds to reduce. Hierarchical model
According to this model, that presents the theory of Myers and Mjlof (1984) corporate prefers to finance from internal resources of the company to external financing which is sensitive to information. This theory is based on the assumption that the people in corporate are now more aware of the shareholders. If there is no enough internal resources for financing investment program and information asymmetry is also hampered, managers may be forced to withdraw from the project will be profitable, in this state the cash is variable and single opportunity for issuing shares without market value occurs when there is information asymmetry (drobetz et al, 2010).

Free Cash Flow Model
The model presented by Jensen (1986) and states to accumulate funds under its control and take investment decisions which may not necessarily be in the interests of the shareholders. The free cash flow is the cash that is surplus to fund all projects with positive net present value when discount rate is the cost of capital. Conflict of interest between managers and shareholders about
the policy of dividends is more especially when organizations have more significant free cash flow.

**Incentives for cash holdings**

A review of the literature relating to cash maintenance, general incentives for cash maintenance can be divided into five general groups as follows:

**Transaction motive**

Transaction motive is mostly because of the cost of other assets (except cash) in commercial transactions. It is expected that firms with higher transaction costs facing greater amounts of cash. Keynes (1936) argues that corporate are required to maintain cash between the receipt of the proceeds of the sale and commercial expenses. Not only do companies have to pay to creditors and other payments, but the cost to do deals to keep their cash. Keown (2006) suggests that hold cash enables business unit to be faced with the daily expenses.

**Caution motive**

The incentive to hold cash was introduced by Keynes (1936) to express the company need to hold cash to remain safe against unpredictable risks arising from lack of cash. Azkan (2004) believe that the company hold cash for facing unpredictable risks arising from lack of cash and if the cost of other sources of financing is extremely high, use the balance of cash to finance their investments. Drobtez and Gruninge believe that if external financing costs or financial problems are high, the corporate accumulate cash to deal with this deficit in unanticipated cash funding and financing the projects with positive net present value.

**Speculative motive**

As Kinz (1936) argues, speculative motives are the weakest reason to hold cash. This motivation primarily is a type of response to a change in the amount of cash through the change in the worth, and usually represents a continuous response to gradual changes in interest rates. Keown (2006) argues that the motivation and incentive to trade are the main motive for holding cash, but also speculative motives more related to the uncertainty about interest rates and is effective on the cash held by the company.

**Agency motive**

When external shareholder protection is weak, firm value rises only when the company pays dividends. It means the only external shareholder protection is strong when cash held by managers is not related to the value of business unit (Kalcheva and Lins, 2007). Tax incentives Foley et al (2006) found other reasons to hold cash by studying of U.S companies that have kept large sums of cash. They found that companies that are subject to a heavier tax laws and paying tax, hold more cash.

**Research Background**

Ghorbani and Adili (2011) examined the relationship between cash holdings and the company value and information asymmetry in the Stock Exchange of Tehran. The study population consists of all companies listed on the Tehran Stock Exchange. Using a panel data analysis of 105 companies with 2003 to 2008 years, they found there is a significant inverse relationship between cash holding and company value.

Lewis et al (2009) in a study examined the relation between accounting conservatism and cash holdings. They examined 101221 firm-years in the period of 1974 to 2006. They showed the companies that exert greater conservatism, raising cash, has a greater effect on stock returns. Khauvla and Saddur (2006) examined the factors that determine the cash in French company. Their results showed that when companies have high financial leverage reduce the cash.
Statistic Population
The population is listed companies in Tehran exchange stock during 2008 to 2012. Also the sample is determined using delete method and considering following criteria:
1. Their financial year end be 12/29 each year.
2. The companies should not change their financial periods.
3. Sample companies have not been stopped during period of study permanently.
4. The company availability of information is required.
5. Sample companies would not be among financial (banks) and investment companies. (different capital structure).
According to above conditions 50 firms are selected to use in this study that its data is obtained using the site of Tehran Stock Exchange and RahavardNovin software.

Research hypothesis
1. There is a significant relationship between leverage and cash holdings.
2. There is a significant relationship between dividend and cash holdings.
3. There is a significant relationship between profitability and cash holdings.
4. There is a significant relationship between liquidity and cash holdings.
5. There is a significant relationship between firm size and cash holdings.

Method of data collection
First, the sampling step is used. Then we used the statistics letters of the exchange, information provided to the stock exchanges and accounting firms and other relevant information.

Research methodology
The main objective of the research is study relationship between financial determinants and corporate cash holdings, so it is ex-post fact and applied research. And also because the data collected without researcher interference it is a type of quasi-experimental research. According to the analysis of the relationship between variables it is correlation research.

Data analysis
Methods In this study we used different tests for analyzing the data, such as Pearson correlations, t tests, and multiple linear regression. Views software will be used in all statistical techniques.

Time and place scope of the study
Place scope
Place scope is Tehran Stock Exchange.
Time scope
In this study, data from 2008 to 2012 will be used.

The research model
The following model will be used to test the research hypotheses:
\[ CASH_{it} = \beta_0 + \beta_1 LEV_{it} + \beta_2 DPO_{it} + \beta_3 ROE_{it} + \beta_4 LIQ_{it} + \beta_5 SIZE_{it} + \varepsilon_{it} \]

The research variables
Dependent variable
CASH: the cash ratio measured by cash and cash equivalents to total assets ratio.
Independent variables
LEV: the leverage ratio, measured by total debt to total assets,
DPO: the dividend payout ratio measured by dividends per share divided by earnings per share,
ROE: the return on equity ratio measured by net income divided by owner's equity,
LIQ: the liquidity ratio measured by the most liquid assets to current liabilities,
SIZE: the natural logarithm of total assets.

Research finding

Descriptive statistic

<table>
<thead>
<tr>
<th>Variable</th>
<th>CASH</th>
<th>LEV</th>
<th>DPO</th>
<th>ROE</th>
<th>LIQ</th>
<th>SIZE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.06</td>
<td>0.67</td>
<td>0.49</td>
<td>0.76</td>
<td>0.15</td>
<td>13.72</td>
</tr>
<tr>
<td>Median</td>
<td>0.04</td>
<td>0.67</td>
<td>0.475</td>
<td>0.535</td>
<td>0.07</td>
<td>13.63</td>
</tr>
<tr>
<td>Maximum</td>
<td>0.6</td>
<td>1.19</td>
<td>7.13</td>
<td>8.81</td>
<td>3.75</td>
<td>18.87</td>
</tr>
<tr>
<td>Minimum</td>
<td>0</td>
<td>0.11</td>
<td>-6.74</td>
<td>-1.56</td>
<td>0</td>
<td>10.18</td>
</tr>
<tr>
<td>Std. Dev</td>
<td>0.08</td>
<td>0.18</td>
<td>0.80</td>
<td>1.18</td>
<td>0.36</td>
<td>1.56</td>
</tr>
<tr>
<td>Skewness</td>
<td>3.79</td>
<td>-0.25</td>
<td>0.35</td>
<td>3.24</td>
<td>7.03</td>
<td>0.65</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>21.46</td>
<td>3.64</td>
<td>50.96</td>
<td>18.95</td>
<td>60.22</td>
<td>4.18</td>
</tr>
</tbody>
</table>

Summarized Results of Hypothesis

**Hypothesis 1:**

According above table we concluded there is significant and negative relationship between leverage and cash holdings.
Hypothesis 2:

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>DPO</td>
<td>-0.002976</td>
<td>0.004614</td>
<td>-0.645054</td>
<td>0.5196</td>
</tr>
<tr>
<td>C</td>
<td>0.062059</td>
<td>0.003909</td>
<td>15.87587</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Total panel (balanced) observations: 250

According to above table we concluded there is no significant relationship between dividend and cash holdings.
Hypothesis 3:

Dependent Variable: CASH  
Method: Panel Least Squares  
Date: 12/20/14   Time: 20:40  
Sample: 1387 1391  
Periods included: 5  
Cross-sections included: 50  
Total panel (balanced) observations: 250

<table>
<thead>
<tr>
<th>Prob.</th>
<th>t-Statistic</th>
<th>Std. Error</th>
<th>Coefficient</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.8099</td>
<td>0.240823</td>
<td>0.004955</td>
<td>0.001193</td>
<td>ROE</td>
</tr>
<tr>
<td>0.0000</td>
<td>12.13273</td>
<td>0.004920</td>
<td>0.059698</td>
<td>C</td>
</tr>
</tbody>
</table>

Effects Specification

Cross-section fixed (dummy variables)

- Mean dependent var 0.652539R-squared
- S.D. dependent var 0.565237Adjusted R-squared
- Akaike info criterion 0.950452S.E. of regression
- Schwarz criterion 0.506532Sum squared resid
- Hannan-Quinn criter. 420.4689Log likelihood
- Durbin-Watson stat 7.474517F-statistic

According above table we concluded there is no significant relationship between profitability and cash holdings.

Hypothesis 4:

Dependent Variable: CASH  
Method: Panel Least Squares  
Date: 12/20/14   Time: 20:42  
Sample: 1387 1391  
Periods included: 5  
Cross-sections included: 50  
Total panel (balanced) observations: 250

<table>
<thead>
<tr>
<th>Prob.</th>
<th>t-Statistic</th>
<th>Std. Error</th>
<th>Coefficient</th>
<th>Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0000</td>
<td>14.83867</td>
<td>0.011154</td>
<td>0.165510</td>
<td>LIQ</td>
</tr>
<tr>
<td>0.0000</td>
<td>12.77941</td>
<td>0.002775</td>
<td>0.035469</td>
<td>C</td>
</tr>
</tbody>
</table>

Effects Specification

Cross-section fixed (dummy variables)

- Mean dependent var 0.835002R-squared
- S.D. dependent var 0.793545Adjusted R-squared
- Akaike info criterion 0.034767S.E. of regression
- Schwarz criterion 0.240536Sum squared resid
- Hannan-Quinn criter. 513.5587Log likelihood
- Durbin-Watson stat 20.14149F-statistic

0.000000Prob(F-statistic)
According above table we concluded there is significant and positive relationship between liquidity and cash holdings.

**Hypothesis 5:**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIZE</td>
<td>0.009467</td>
<td>0.011612</td>
<td>0.815319</td>
<td>0.4159</td>
</tr>
<tr>
<td>C</td>
<td>-0.069279</td>
<td>0.159331</td>
<td>-0.434815</td>
<td>0.6642</td>
</tr>
</tbody>
</table>

**Effects Specification**

- Mean dependent var: 0.653595
- S.D. dependent var: 0.566558
- Akaike info criterion: 0.050375
- Schwarz criterion: 0.504933
- Hannan-Quinn criter.: 1.868097
- Durbin-Watson stat: 1.868097

According above table we concluded there is no significant relationship between firm size and cash holdings.

**Overall results:**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEV</td>
<td>0.024393</td>
<td>0.028237</td>
<td>0.863873</td>
<td>0.3887</td>
</tr>
<tr>
<td>DPO</td>
<td>-0.001236</td>
<td>0.003251</td>
<td>-0.380157</td>
<td>0.7042</td>
</tr>
<tr>
<td>ROE</td>
<td>0.005844</td>
<td>0.003695</td>
<td>1.581525</td>
<td>0.1154</td>
</tr>
<tr>
<td>LIQ</td>
<td>0.169121</td>
<td>0.011657</td>
<td>14.50853</td>
<td>0.00000</td>
</tr>
<tr>
<td>SIZE</td>
<td>0.009216</td>
<td>0.008140</td>
<td>1.132199</td>
<td>0.2589</td>
</tr>
<tr>
<td>C</td>
<td>-0.111587</td>
<td>0.110347</td>
<td>-1.011235</td>
<td>0.3132</td>
</tr>
</tbody>
</table>
The overall test results also indicate a significant relationship between liquidity and cash holdings.

Limitations
In the process of conducting a scientific study, there are circumstances that are not control by researcher. We can mention following limitations:
This study, like other studies describe the limitations of time and space. So, results should generalize to other times and other statistical society accuracy. Accounting researches usually are ex-post facto, so, it is not permitted to be present at the time variables. Although no research is complete controlling variables even science research. Political, economic, cultural and psychological climate prevailing on the Tehran Stock Exchange and also awareness among participants in the capital market impact on supply and demand, volume boom or bust. It is important to be considered in future research.

Recommendations
The population of this study consists of manufacturing firms listed in Tehran stock exchange, so the results can't be generalized to other unproductive firms. We recommend other research conduct on all companies and compare the results to this study.
Because the irrelevance some of the financial statements information that historical cost with its current value, the analysis of financial leverage, the growth of fixed assets and etc. makes it difficult, It is suggested that by use incentive policies, companies are encouraged to provide relevant data on the current value.
Recommended to stock exchange securities to lay the requirements and regulations for companies to prepare their annual capital structure and cash flow reports, the more obvious and clearer information required for shareholders and investors.
References


