Cash Holding in Cash Management - A Study on IT Sector

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INTRODUCTION
Cash holding is one of the most important financial decisions that the manager of the concerned organization has to make in the organization. Generally, it is seen that the amount of cash that they organizations hold for future purposes is very negligible. Hence in the case of investment in profitable securities, cash gives some flexibility but when it relates to the capital market holding, cash is not advantageous. In this study, generally two contradictory theories such as Trade-off theory and the Pecking Order Theory are considered. In this study we generally observed the behavior of cash holding. We also observed whether cash holding of the organization is related with the degree of financial leverage, size of the organization, investment and profitability. From this study we can easily understand the impact of DFL, Investment and Size of the organization on Cash holding. Proper holding of cash in cash management can prevent the bankruptcy of any organization.

Key Words: Cash Holding, Cash Management, Trade off Theory, Pecking Order Theory
companies hold on an average of their total assets in cash or cash equivalents, Ferreira and Vilela (2003) find an average cash ratio of 15% and Guney et al. (2003) observe that the average cash ratio of the company is 14%. Therefore, a question rises, why companies hold cash? For ascertaining the answer several studies have been undertaken. In these studies, generally two contradictory theories such as Trade-off theory (Myers, 1977) and the Pecking order theory (Myers et al., Majluf, 1984) are considered. In the trade-off theory an optimal capital balance should be maintained, which results from weighting its marginal benefits and costs. On the other hand, pecking order theory posits that as the extension work of trade-off theory, does not believe the idea of optimal capital level. It is utilized as buffer between retained earnings and investment needs.

Earlier studies like Opler et al. (1999) and Kim et al. (1998) supported the trade off theory. Cash level not only increases the growth opportunities of the company but also increases the business risk and capital expenditure. And it is difficult to operate in the capital market. On the other hand it decreases with its size, leverage and its dividend payments. Most of the studies supported the trade-off theory and shows that firm which have superior investor protection and in countries where capital markets are better developed hold less cash. Dittmare et al. (2002), Ferreira and Vilela (2003) and Guney et al. (2003) are the supporter of this type theory.

The trade-off theory:

Similar to debt capital, cash holding creates costs and benefits, and it is very important in financing the growth opportunities of the organization. The most important benefit of holding cash is that it constitutes a safety buffer (Levasseur 1979) which helps the organization to avoid the costs of raising external funds or liquidating existing assets and which allows the organization to finance their growth opportunities. In an imperfect market where the companies are operating, they have problem in accessing the capital markets and also bear a very important external financing cost. The main reason is that their environment is uncertain. Therefore, insufficient amount of cash forces the organization to forgo the profitable investment projects or to take loan at high rate of interest.

Generally, two main costs are associated with cash holdings. Such costs depend on whether managers want to maximize shareholders wealth or not. If managers are want to increase shareholders’ interests, the only cost of cash holdings is its lower return related to other investments in some external or internal projects of the same risk. If managers are want to maximize shareholders wealth, then they increase their cash holdings to raise assets under their control and so to be able to increase their managerial diplomacy. In this case, the cost of cash holdings will increase and include the agency cost of managerial diplomacy.

Pecking order theory:

Extending pecking order theory (Myers and Majluf 1984) to the explanation of the determinants of cash, leads to the conclusion that there is no optimal cash level. It is used as a buffer between retained earnings and investment needs. Under this theory, the cash level would just depend upon the result of the financing and investment decisions.

According to this theory, due to asymmetries information issuing new equities is very costly for firms. Therefore, firms finance their investments primarily with the help of internal funds, then with debt and finally with equities.

At the time of higher cash flow, firms use them to finance new profitable projects, to repay debts, to pay dividends and finally to accumulate cash. When retained earnings are insufficient to finance new investments, then firms use their cash holdings, and then issue new debt.

OBJECTIVES OF THE STUDY

The present study is prepared to make an in-depth analysis of the selected companies in Indian IT sector in respect of their cash holding during the period of

2002-2011. Holding sufficient cash enables the organization to take the risk of borrowed capital, enlarge their assets position and investment to some profitable projects.

Holding cash is an indicator of sound liquidity. It helps the organization in meeting their contractual obligation when they are due. Higher amount holds by the organization as cash means better the position of liquidity. But excess holding cash can be dangerous for maximizing profitability. Profit cannot be forgone in order to maintain liquidity. Therefore, cash holding should be maintained in such a way that both profitability and liquidity are not affected.

More specifically, the objectives of the study in this chapter are as follows.

(i) To measure the average cash holding of the selected five companies from IT sector from cash balance at the opening and at the end.

(ii) To measure the cash as percentage of total assets of the selected companies, deviation from the average cash holding of each of the selected companies using relevant statistical tools.

(iii) To rank the companies on the basis of average cash holding. Secondly to rank the companies on the basis of consistency and finally to rank the companies on the basis of both average and consistency jointly.

(iv) To measure the degree of relationship between the cash holding and degree of financial leverage, size of the organization, investment and profitability in each of the selected companies under study by using Pearson’s simple correlation technique and to test such coefficients.

(v) To analyse the joint influence of DFL. Size of the organization and Investment on cash holding of the companies with the help of appropriate statistical measures like multiple regression analysis and to test the significance of such regression coefficients.

(vi) Finally, to examine whether the findings of the study conform to the theoretical arguments or not.

METHODOLOGY OF THE STUDY

Five popular companies from IT sector have been selected in this study. The data of the selected companies for the period 2002-2011 used in this study, have been taken from the secondary sources i.e. Capitaline Corporate Database of Capital Market Publishers (I) Ltd, Mumbai. Opening balance and closing balance of cash are used to determine the average cash balance of each year and again such cash balances are used to get the average cash holding. Large cash holding is preferable for better liquidity of the organization.

In this study companies are ranked on the basis of average cash holding and consistency of cash holding sector wise and then ranking has been done as whole taking all twenty five companies considering the average cash holding and coefficients of variation (consistency) of average cash holding. In this study we examined the relationship between average cash holding and DFL, average cash holding and Investment and average cash holding and profitability (RONW). Degree of financial leverage (DFL) is computed with the help of the following formula,

\[ DFL = \frac{Operating\ Profit\ (EBIT)}{Operating\ Profit\ Interest} \]

Financial leverage arises due to use of fixed charges bearing capital in the capital structure like debt capital. Higher debt capital means higher financial leverage. DFL measures the financial risk of the business. DFL affect the cash holding of the organization. More external borrowing means more cash holding. It can also be said that external borrowing replaces cash holding. Size of the organization has been represented through the amount equal to the log value of total assets. Size of the organization can affect the corporate cash holding. Generally, small
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FINDINGS OF THE STUDY
From table-1 it is found that in IT sector the average cash holding (ACH) of Philips India Ltd. (Philips) is highest in the year 2008 (Rs.396.25 Crore) and lowest in the year 2002 (Rs.13.3 Crore). On an average it is Rs.292 Crore. During the first half of the study period the ACH of Philips followed an increasing trend while in the second half of the study period a fluctuating trend is noticed. But, in the year 2009, the average cash holding as percentage of total assets of the company is highest i.e. 65.66%. It indicates that the liquidity position in respect of ACH is best in the year 2008 as compared to other years whereas in respect of average cash holding as percentage of total assets it is seen in the year 2009.

Table-1 shows that the ACH of Asian Electronics Ltd. (Asian) is highest in the year 2007 (Rs. 21.885 Crore) and lowest in the year 2005 (Rs.0.065 Crore). On an average it is Rs. 5.92 Crore. A fluctuating trend in the ACH is noticed during study period of Asian. The highest percentage of cash holding on total assets is reported in 2007(77.93%). It indicates that the company maintained a very low level of cash. It may be due to higher cost of borrowing of external funds or investment in other projects.

In case of Wipro Ltd. (Wipro), the picture is quite different. The ACH of Wipro is highest in 2011 (Rs.543.8 Crore) and lowest in 2014 (Rs.349.895 Crore). On an average it is Rs. 20.63 Crore. Other than the year 2002 and 2003 the company registered an increasing trend of ACH during the study period. The average cash holding as percentage of total assets is highest in 2009(23.22%). Though, the company maintained high level of cash during the study period but the percentage signifies that the company maintained low level of cash as compared to its total assets. It signifies moderate liquidity condition of the company.

Table-1 shows that the ACH of CMC Ltd. (CMC) is highest in the year 2011 (Rs.237.95 Crore) and lowest in the year 2005 (Rs.15.33 Crore). On an average it is Rs. 76 Crore. Except the year 2002, 2003 and 2004 an increasing trend in ACH is noticed during the study period. On the other hand cash holding as percentage of total assets is highest in 2011(30.85%). From table-1 we can conclude that the company improved its liquidity position during the last part of the study period.

It is found from table-1 that the ACH of Videocon Group is highest in the year 2008 (Rs.219.08 Crore) and lowest in the year 2005 (Rs.138.1 Crore). On an average it is Rs. 167 Crore. The ACH of Videocon fluctuates during the study period. Cash holding as percentage of total assets is highest in the year 2003(10.79%). The company maintained a low level of cash throughout the study period. It indicates that the company maintained a low liquidity level throughout the study period.

Therefore, among five companies from IT sector Wipro maintained higher level of cash throughout the study period and it helped the company to improve their liquidity position. Figure-1 also discloses that the average level of Cash Holding of Wipro is increases throughout study period than other companies of IT sector.

In table-2 the values of average cash holding as percentage of total assets of the companies under study have been ascertained by applying arithmetic mean and consistency of ACH have also been measured by using the coefficient of Variation (CV) of their average cash holding. Industry wise ranks have been assigned to the selected companies both in respect of average and in respect of consistency.

It is found from table-2 that in IT sector the average cash holding as percentage of total assets of Philips is the highest, followed by CMC, Wipro, Videocon and Asian respectively in that order. The table also reveals that in respect of consistency of designing average cash holding, Videocon captured the top most position and it is followed by Philips, Wipro, Asian and CMC respectively. Combining both average and consistency aspect together Philips occupied the first rank whereas Videocon has got the second rank, followed by Wipro, CMC and Asian in that order.

It has been found from table-3 that in IT sector the correlation coefficient between Average Cash Holding and Degree of financial leverage (DFL) in Philips, Asian, Wipro, CMC, Videocon are 0.723, 0.972, 0.660, (-) 0.774 and 0.379 respectively. Out of which the correlation coefficient between ACH and DFL in Philips, Asian, Wipro and Videocon Ltd is positive and the same in Philips and Wipro is statistically significant at 5% level. It implies the strength of positive association between ACH and DFL in Asian, Videocon, Philips and Wipro and correlation Coefficient of last two companies are highly significant. But, the correlation coefficient in case of CMC Ltd is negative and statistically significant both at 5% and 1% level of significance. It follows the theoretical principle.

It has been found from table-3 that in IT sector the correlation coefficient between Average cash holding (ACH) and size of the organization in Philips, Asian, Wipro, CMC, and Videocon are 0.980, 0.256, 0.983, 0.861 and 0.433 respectively. All the correlation coefficients are positive and out of which the same in case of Philips, Wipro and CMC Ltd is statistically significant both at 5% and 1% level. It implies that the ACH and Size of the organization is positively related in case of all the companies in IT sector selected in the study.

It is observed from table-3 that in IT sector the correlation coefficient between Average Cash Holding (ACH) and Investment in Philips, Asian, Wipro, CMC, and Videocon are (+) 0.155, 0.449, 0.842, 0.978 and 0.218 respectively. Out of which the correlation coefficients between ACH and Investment in Asian, Wipro, CMC and Videocon are positive. The coefficients in case of Wipro and CMC are highly significant both at 5% and 1% level. It implies high positive association between ACH and Investment among the four companies in IT sector mentioned above. The correlation coefficient in Philips is negative. It shows the negative association between ACH and Investment in Philips.
The coefficient of determination (R^2) makes it clear that only 97.3% of the variation of the company's 
ACH is accounted for by the variation in DFL Size of 
Org and Investment.

Table-4 exhibits that, for one unit increase in 
DFL, the ACH of Asian Electronic Ltd. is go down by only 
0.127 units which is also statistically insignificant. 
It is revealed from table-10 that for one unit increase in 
size of the organization the ACH of Asian go down by only 
0.752 units which is insignificant. Table-4 also shows that for one unit increase in Investment 
the ACH of Videocon increased by only 0.046 units which is insignificant. Table-4 portrays that for one unit increase in size of 
the organization, the ACH of Videocon increased by 0.046 units which is statistically insignificant. Table-4 
also displays that for one unit increase in Investment 
the ACH of Videocon Ltd is go up by 0.107 units which is insignificant. It implies that the influence of DFL 
Size of the organization and Investment on ACH is positive. 
It is found from table-4 that for one unit increase in DFL 
the ACH of Videocon go down by only 0.448 units which is statistically significant at 1% level. 
It indicates that the influence of DFL and size of the 
organization on ACH is positive and statistically 
significant while Investment is negatively 
influenced the ACH of Videocon. The coefficient of 
determination (R^2) makes it clear that only 99.1% of 
the variation of the company's ACH is accounted for 
by the variation in DFL Size of Organization and 
Investment.

The table-4 depicts that for one unit increase in DFL, 
the ACH of CMC decreased by 2.938 units which is 
statistically insignificant. It is found from table-4 that 
for one unit increase in size of the organization the 
ACH of CMC Ltd increased by 0.537 units which is 
statistically insignificant.

It is also from table-4 that for one unit increase 
in Investment, the ACH of CMC increased by 0.442 units which is statistically significant at 1% level. 
It indicates that size of the organization and 
Investment of Wipro positively influenced the ACH 
whereas DFL of the company negatively influence the 
ACH. The coefficient of determination (R^2) makes it clear that only 97.4% of the variation of the 
company's ACH is accounted for by the variation in DFL, Size of Org and Investment.

It is revealed from table-4 that for one unit increases in 
DFL, the ACH of Videocon increased by 0.046 units which is statistically insignificant. Table-4 displays that for one unit increase in size of 
the organization, the ACH of Videocon Ltd increased by only 0.111 units which is insignificant. The table-4 also shows that for one unit increase in Investment 
the ACH of Videocon Ltd is go up by 0.107 units which is insignificant. It signifies that the low positive relationship between ACH and DFL 
in Asian and CMC is observed from table-3. It indicates that in Asian and in CMC the association between ACH and DFL is positive.

In table-4 an attempt has been made to assess the influence of DFL Size of the organization and Investment on Average Cash Holding. In this study DFL has been taken as the measure of financial risk, the log value of total assets has been taken as the measure of size of the organisation and log value of total 
investment has been taken as the measure of Investment. The linear regression equation has been fitted in this study ACH = b0 + b1 DFL + b2 Size of 
the org + b3 Investment, where, b0 is the value of 
intercept term (constant) and b1, b2 and b3 are the 
slopes of the line. The coefficient of regression coefficient of 
DFL Size of the organization and Investment 
Regression equation has been tested by ‘t’ test. 
It has been found from table-4 that in case of IT 
sector, for one unit increase in DFL the ACH of 
Philips stepped up by only 0.255 units, which is 
statistically insignificant. The above table also 
reveals that for one unit increase in the size of the 
organization the ACH of Philips go up by 2.205 units which is found to be statistically significant at 1% level.

Table-4 exhibits that for one unit increase in 
Investment, the ACH of Philips go up by only 
0.049 units, which is also statistically insignificant. It 
implies that the influence of DFL Size of the organization and Investment on ACH is positive.
### Table - 6 Analysis of Average Cash Holding (Avg. cash holding as percentage of total assets) of Selected Companies of IT Sector

<table>
<thead>
<tr>
<th>INDUSTRY</th>
<th>COMPANIES</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>AVG.</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT</td>
<td>PHILIPS</td>
<td>13.3</td>
<td>19.3</td>
<td>16.8</td>
<td>21.2</td>
<td>22.1</td>
<td>22.1</td>
<td>22.1</td>
<td>21.2</td>
<td>22.1</td>
<td>22.1</td>
<td>20.1</td>
</tr>
<tr>
<td></td>
<td>ASIAN</td>
<td>6.0</td>
<td>12.0</td>
<td>16.0</td>
<td>20.0</td>
<td>22.0</td>
<td>22.0</td>
<td>22.0</td>
<td>22.0</td>
<td>22.0</td>
<td>22.0</td>
<td>15.0</td>
</tr>
<tr>
<td></td>
<td>WIPRO</td>
<td>370.2</td>
<td>351.6</td>
<td>349.9</td>
<td>413.5</td>
<td>679.5</td>
<td>138.1</td>
<td>279.0</td>
<td>470.6</td>
<td>526.8</td>
<td>543.3</td>
<td>208.4</td>
</tr>
<tr>
<td></td>
<td>NOKIA</td>
<td>19.2</td>
<td>19.2</td>
<td>19.2</td>
<td>19.2</td>
<td>19.2</td>
<td>19.2</td>
<td>19.2</td>
<td>19.2</td>
<td>19.2</td>
<td>19.2</td>
<td>19.2</td>
</tr>
<tr>
<td></td>
<td>VIDEOCON</td>
<td>155.7</td>
<td>156.6</td>
<td>137.9</td>
<td>138.1</td>
<td>159.8</td>
<td>181.8</td>
<td>219.0</td>
<td>202.9</td>
<td>168.7</td>
<td>148.8</td>
<td>167</td>
</tr>
</tbody>
</table>

### Table - 7 Ranking on the basis of Average and Consistency of Average Cash Holding of the Selected Companies from IT Sector

<table>
<thead>
<tr>
<th>Industry</th>
<th>Company</th>
<th>Avg. Cash as % of Total Assets</th>
<th>SD</th>
<th>Rank of Avg.</th>
<th>Coefficients of variation</th>
<th>Rank of Coefficients</th>
<th>Total Rank</th>
<th>Over all Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT</td>
<td>PHILIPS</td>
<td>38.5</td>
<td>207.2</td>
<td>1</td>
<td>71.07</td>
<td>2</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>ASIAN</td>
<td>21.5</td>
<td>5.04</td>
<td>5</td>
<td>95.19</td>
<td>4</td>
<td>0</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>WIPRO</td>
<td>15.1</td>
<td>1966</td>
<td>3</td>
<td>94.37</td>
<td>3</td>
<td>6</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>CMC</td>
<td>18.6</td>
<td>77.69</td>
<td>2</td>
<td>102.2</td>
<td>5</td>
<td>7</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>VIDEOCON</td>
<td>8.43</td>
<td>25.54</td>
<td>4</td>
<td>15.3</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

### Table - 9 Karl Pearson's Simple Correlation Analysis between Avg Cash Holding and DFL, Size of Org., Investment and RONW of the Selected Companies from IT Sector

<table>
<thead>
<tr>
<th>INDUSTRY</th>
<th>COMPANY</th>
<th>AVG CASH HOLDING &amp; DFL</th>
<th>AVG CASH HOLDING &amp; SIZE OF ORG.</th>
<th>AVG CASH HOLDING &amp; INVESTMENT</th>
<th>AVG CASH HOLDING &amp; RONW</th>
</tr>
</thead>
<tbody>
<tr>
<td>IT</td>
<td>PHILIPS</td>
<td>0.723</td>
<td>0.880**</td>
<td>-0.155</td>
<td>-0.444</td>
</tr>
<tr>
<td></td>
<td>ASIAN</td>
<td>0.072</td>
<td>0.2</td>
<td>0.356</td>
<td>1.077</td>
</tr>
<tr>
<td></td>
<td>WIPRO</td>
<td>0.690</td>
<td>2.48</td>
<td>0.982**</td>
<td>15.143</td>
</tr>
<tr>
<td></td>
<td>CMC</td>
<td>-0.744</td>
<td>-3.5</td>
<td>0.861**</td>
<td>4.7881</td>
</tr>
<tr>
<td></td>
<td>VIDEOCON</td>
<td>0.379</td>
<td>1.16</td>
<td>0.430</td>
<td>1.3857</td>
</tr>
</tbody>
</table>

Note: Figures in the parentheses indicate Y values.

*Correlation is significant at the 0.05% level (2-tailed).
**Correlation is significant at the 1% level (2-tailed).

Source: Compiled and computed from 'Capitaline Corporate Database' of Capital Market Publishers (I) Ltd., Mumbai.

**Figure - 1**
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Books

ARTICLES


BRIEF PROFILE OF THE AUTHOR

Somnath Das, PhD., is Assistant Professor in Commerce and Management Area at Rabindra Mohavidyalaya, Champadanga, Hooghly, India. He has done Ph.D. on “Cash Management in Indian Corporate Sector – A study of Select Companies” from the Department of Commerce, The University of Burdwan, India. He did MBA from IGNOU, India and M Phil, Master Degree (M.Com), Bachelor of Education (B.Ed) and Bachelor of Commerce (B.Com) Degree from The University of Burdwan, India. He has about Twelve years of teaching experience in different colleges. He is an academic Counsellor in IGNOU (Chirassu, West-Bengal, SC-2886) for Master Degree Programme. His research papers have been published in reputed journals like ICFAI READER, The ICFAI university press; TREASURY MANAGEMENT, The ICFAI University press; International Journal of Research in Computer application and Management; Amity Business Review; Journal of Commerce and Accounting Research, International Journal of Banking, Risk and Insurance, International Journal of Business Analytics and Intelligence, Management Science Letters etc. He acted as a Resource Person for IGNOU Interactive Radio Counselling programme, on the subject of “Preparatory course in Commerce”. He has submitted proposal for Minor Research Project titled “Measuring the Performance of Indian Corporate Sector with the help of Cash Flow Ratios: A Study on Select Companies”. His research interests are in the area of Working Capital Management, Liquidity management, Cash Flow ratios and Corporate Governance.