

## **Impact of cash holding on firm performance: A case study of non-financial listed firms of KSE**

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### **Abstract**

*This paper uses panel data from KSE listed firms during 2010-2014 to analyze the factors that influence firms' cash holdings and determine whether cash holdings are related to corporate performance and values. It is revealed that firms have increased cash holdings because of the trend of higher cash flow uncertainty. It is also shown that with large investment opportunities, the positive relationship between cash holdings and firms' returns on assets, although external investors have highly valued firms since 2008. It is implied that under a sudden deterioration in the economy, conservative cash holdings could temporarily increase firms' market values, but, in the long run, a highly conservative liquidity management policy would weaken firms' profitability on assets.*

*Key words: Cash holding, leverages, firm performance, Karachi stock exchange, ROA*

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### **1. Introduction**

The fiscal crisis of (2007-2009) breakdown has sponsored the concentration to cash holdings pointing towards attempts to improve the company's cash management policies. Inspiration toward this area is specifically turn out by the reality that organizations hoard significant volume of cash that can be easily seen in their financial statements (Cambrea, 2012). The cash holding (cash or stock) is characterized as the set of promptly accessible cash and assets easily convertible into cash with maturity less than three months (Gill & Shah, 2012). So, the cash holding choice must be sound, exhaustive and intelligent with a specific end goal to maintain a strategic distance from the negative effect of holding an excessive amount of money (Elkinawy & Stater, 2007).

The core motive of this exercise is to minimize the proportion of liquid assets hold by the organization for purpose to achieve their continuing activities and along it's to accomplish an adequate volume of cash holdings to enable organization to obtain trade rebates, to accomplish acceptable credit rating and to fullfill uncertain cash necessities (Brigham, Gapenski & Daves, 2003). However, the final object of this practice is to improve company financial performance. The capability to produce novel resources, from routine operations of an entity for specified time period and usually measures from net income and cash generate by business operations is known as company financial performance (Abiola & Olausi, 2014). However, some researchers describe the benefit of cash holdings and its determinants while other proved inverse relation. In Pakistan there are very few studies regarding cash holding which investigate its effect on firm financial

performance. For this purpose, current study aims to examine the positive or negative impact of cash holding on firm performance.

## 1.2 Significance of the research

The cash management policies and procedures are still in the growing stage in non-financial corporate industry of Pakistan. This study will have a great contribution to non-financial corporate industry; it will give a productive result about the impact of cash holding on non-financial firm performance which helps the managers about cash holding regardless of their business and its benefits. The objective of research is to examine the impact of cash holdings on firm performance of the non-financial firms in Pakistan and to identify various determinants of cash holdings decision of non-financial firms in Pakistan.

## 2.0 Literature review

The subject of the cash holding from a long time has become an elective field of investigation by finance and management scholars due to an increasing demand of liquid assets within the organization. The cash holding (cash or stock) is characterized as the set of promptly accessible cash and assets easily convertible into cash with maturity less than three months (Gill & Shah, 2012). Indeed, firm's decision of cash holding meets the objective of ensuring greater levels of financial flexibility to catch development opportunity without the risk of financial problems (Morgan, 2005). Cash holding is not the basic reason for firms, infact it is needed by them for their funding necessities which could be acquired from financial institutions according to their choice (Saddour, 2006). Various theories clear up the reason of cash holding by firms.

### 2.1 The general theory of employment, interest and money

Keynes (1936) in his theory of general interest, employment and money illustrates three reasons of cash holding. Firm's generally holds cash for transaction motive i.e. to meet routine expenditure. Second for precautionary motive i.e. Firms keep cash with themselves instead of investing in assets because it doesn't result in decreasing value whereas third purpose is speculative motive i.e. premium in real cash gives an attract shareholders.

### 2.2. Trade-off theory

There are two main types of costs associated with cash holdings and they depend upon whether managers successfully achieve their objective of maximizing shareholder wealth or not. If managers make decisions that are in the interest of the shareholders than the only cost associated with cash holding is lower return as compared to other investments bearing same level of risk. But if their decisions are not in line with shareholder interest then managers will increase cash holdings in order to increase the amount of assets under control leading will lead to increase in managerial discretion thus resulting in agency costs (Jensen, 1986; Saddour, 2006). Hence trade-off theory is applicable to determine the optimal level of cash that needs to be maintained.

## 2.3 Free cash flow theory

Jensen, (1986) revealed in theory of free cash flow that managers desired to hoard more money so they can be utilized it for self-benefits and excise highly to investments verdicts. When firms hoard high volume of cash, their dependency on external funding decline and thus managers could invest in non-beneficial ventures which diminish owner's wealth (Harford et al., 1999). Harford (1999) clarifies that organizations with extensive cash tends to contribute in mergers and acquisitions, which diminishes corporate value, expecting that the firm has large cash holding and opportunities of suitable investment that can solve problem of underinvestment issues. Pinkowitz, Stulz and Williamson (2006) found that firm performance and cash holding relationship is much weaker in countries where shareholder has low protection compared to other countries where investor protection is high. To avoid raising capital from external sources, firms normally keep large amount of cash balances because they provide benefit of financial flexibility and does not carry any agency cost (Myers & Majluf, 1984). On the other hand, Jensen (1986) argues that large amount of cash balances carries agency costs and does not have any financial flexibility, hence firms maintains only minimal cash balances. Based on the arguments given in empirical literature we can claim that cash balances carry both agency costs and provide financial flexibility. Since maintaining large cash balances is not uniformly beneficial therefore, investors will put pressure on firm managers to limit the amount of cash balances in order to mitigate agency costs but at the same time will encourage managers to maintain enough cash balances that can help fund unexpected capital needs that may arise. Fukuda (2011) demonstrates that cash holding of firms with big investment opportunities are valued highly, though fiscal restraints such as capital market access and debt ratios shown none of relationship amongst cash and corporates performance.

## 2.4 Variables of study

### 2.4.1 Leverage

Leverage of the firms is proportion between total debt to the total assets and it shows the degree to which company total assets are financed by total debts (Mwangi et al., 2014). Jensen and Meckling (1976) posit that agency costs are the costs which happen consequently to clashes of interest and clashes between shareholder and manager of firm. According to shareholders point of view, debt financing is considered as a vital tool to develop and monitor management and reduce unrelated expenditures. Jensen and Ruback (1983) also propose that excess cash reserve available to manage will be used for his personal objective instead of increasing the wealth of shareholder. Furthermore, higher leverage is the main reason of creating agency problem between debtor and creditor that reveals a strong association amongst leverage and firm performance (Fama & French, 2000). It has been shown that studies from outside Africa gives conflicting results and findings on the relationship between firm profitability and financial leverage. For instance, Hasan et al., (2014) and Nunes and Sequeira (2008) argue there is insignificant relationship between the performance of firm and financial leverage whereas Khalid et al., (2014) and Singapurwoko and El-Wahid (2011) discovered a positive correlation amongst profitability and leverages.

#### 2.4.2 Firm size

Frank and Goyal (2003) suggest that it is easier for large size firms to increase finance from creditors, a positive relationship is anticipated amongst firm size and leverage (Wald 1999; Buferna et al., 2005). Headd and Kirchoff (2007) argue that in absence of development and low growth rate generally tend to cause failure of firms. This is not compulsory that new settled firm show growing tendency but that adult and entrenched firm too indicate higher growing rate (Honjo & Haranda, 2006; Coad 2009). Cowling (2004) study inferred that there is critical positive relation between profitability and total sale. However, opposite conclusion was given by Jang and Park (2011) and asserted that firm size has negative effect on profitability of company. Furthermore, Davidsson et al., (2009) argued that firms that are profitable but growing at a lower rate have a better chance to the desired level of high growth and high profitability. Moreover, the chances of such firms performing poorly are considerably less on both performance dimensions as compared to firms that start with the configuration low profitability and higher growth.

#### 2.4.3 Intangible assets

As per, Lönnqvist and Mettänen (2002), intangible assets have no physical existence but that caused boost in revenue generation and company value that generally based on resources of organization and employee's skills to utilize them. Liu Bin, Han and Chuang (2009) select listed firms on Shanghai Stock Exchange to investigate the relation between intangible assets and business performance. Result indicates that intangible assets are significantly related to firm performance. Dou Zhibin (2007) in his research on car manufacturers in China found out an inverse relationship between intangible assets and business performance.

#### 2.5 Evidence from Pakistan

Azmat (2014) analyzed the cash holding determinants in Pakistani organizations. It was found that there is a concave relationship between cash holdings and firm value, which confirms that an optimal cash level exists that, maximizes firm value. Additionally, negative effect on firm value was predicted in case of deviations from optimal cash level. Developing firms hold more cash when external funding is more expensive because entrepreneurs want to get benefit from the potential venture (Shah, 2011). Similarly, Afza and Adnan (2007) suggest that for the objective of reinvestment firms must keep certain level of cash, or to pay as dividend payments to the shareholders. There results reveal that size and cash flow of Pakistani non-financial company's effect cash level significantly whereas investment opportunities, leverage, dividend payments and liquid assets are trivially linked. These results demonstrate that in Pakistan corporate firms hoard higher volume of cash to invest in such projects that cause in agency issues for firms.

### 3.0 Methodology

In this section discussion has taken place regarding to description of the variables and measurement criteria of variables along with the statistical methods used in this research.

#### 3.1 Data and Sample

This study sample comprised of non-financial KSE listed companies for the time period of (2010- 2014). During sample selection, companies related to the financial sector and insurance sector were not selected. The reason of not selecting such companies was due to difference of

profit and capital structure from non-financial sector companies. After applying these two screens to the population, we ended up with 163 firms and 815 observations as sample. The sources of the data used in the study involve data collected from annual reports of the listed firms.

**Table-1.1 Meaning and abbreviation of variables.**

Variable	Name of Variable	Measurement of Variables
<b>Dependent Variable</b>		
	ROA	ROA is net profit divided by total assets. It measures the performance of firm <i>i</i> at time <i>t</i> .
<b>Independent Variables</b>		
	CASH HOLDING	CASH as cash and cash equivalent to total assets.
<b>Control Variables</b>		
	LEVERAGE	(LEV) is measured as total debt divided by shareholder equity.
	SIZE OF FIRM	The size (SIZE) is calculated as the natural logarithm of gross sales.
	Intangible	Intangible (INT) is the ratio of intangible assets to total assets

### 3.2 Empirical Model

The panel regression model has used in this study which enhance the sample and supports the examination of complex models (Greene, 2006; & Wintoki, 2007). Fixed effects estimation is mostly used for panel data analysis (Gujarati, 2004), which allows controlling for unobserved heterogeneity. However, it's revealed in Hausman test that if the probability value is lower than level of significant 1%, 5%, or 10%, then null hypothesis will be reject (Chen, 2008).

$$Pit = \beta_0 + \beta_1CASH_{it} + \beta_2LEV_{it} + \beta_3S_{it} + \beta_4INT_{it} + \epsilon_{it}$$

Pit dependent variable and representing firm performance through variable (ROA) that is used as indicators of performance.  $\beta_0$  is used for representation of constant.  $\beta_1$  is representing the firm *i* is cash holding at time *t*,  $\beta_2$  is representing firm *i* leverages at time *t*.  $\beta_3$  is representing firm *i* size at time *t*.  $\beta_4$  is representing firm *i* intangible assets at time *t*.  $\epsilon_{it}$  is used for error term of firm *i* at time *t*.

### 4.0 Results and discussion

Descriptive statistics are used to describe the basic features of the data in a study. Table 4.2.1 provides descriptive statistics for the sample firm. The sample comprises on 163 Pakistani firms listed on Karachi stock exchange from the year 2010 to 2014. It included the mean, median, standard deviation. The cash holding mean value consists of -4.603% of total assets on average. In Pakistan, the minimum cash holding range is -49.21% and maximum range of holding cash is 64.619% of total assets. The median of cash is 5.9%, and S.D is 14% that is much closer to mean value. The value of skewness is negative -21.4%. The mean of financial leverage tells that the

long-term debts show 64.9766% of total assets in Pakistan firm. The minimum range of firm leverages is -21% and firm highly levered shows 53.16% of total assets. The median of financial leverages is 60.19%, S. D is 59.96%. The mean value of intangible assets is 0.62% of total assets. In this study maximum range of company's intangible assets is 28% of total assets and the minimum value is 0%. Median of intangible is 0% where S. D is 2.88%. The mean size value consists of 18% of total assets on average. Minimum size of the firm is 11.82%, and maximum value is up to 24%. Median of size is 17.20% and S.D is 3.039. The average mean value of ROA is 5.6% of total assets. Minimum and maximum value of ROA is from -12% to 7.44%. The median of ROA 4.7% is and S.D is 13.9. The mean value of ROE is 14% and its minimum and maximum value is -38% to 46% of total assets. Median of ROE is 12.7% and S.D is 50.03%.

**Table no. 4.2.1**

<i>Variables</i>	<i>Mean</i>	<i>Median</i>	<i>Maximum</i>	<i>Minimum</i>	<i>Std. Dev.</i>
<b>CASH</b>	0.005	0.005	0.646	-0.492	0.145
<b>LEVERAGE</b>	0.649	0.601	12.163	-0.212	0.599
<b>INTANGIBLE</b>	0.006	0.000	0.282	0.000	0.028
<b>SIZE</b>	18.021	17.203	24.628	11.082	3.039
<b>ROA</b>	0.056	0.047	0.744	-1.207	0.139
<b>ROE</b>	0.147	0.127	4.602	-3.899	0.500

Table 4.2.2 shows the result of fixed effects regression. In which explanatory variables and their signs with significance level are shown. The significance levels at 5%. The total numbers of observations included are 815. The variable (CASH) has shown a positive relation with the firm performance of the sampled firms (Table 2). The probability of cash is 0.0054 which showed a significant relation amongst cash and firm performance whereas the result of coefficient indicates that one-unit increase in the percentage of cash holding (CASH) increase the firm performance by 0.13847 units.

**Fixed effects model**

**Table no. 4.2.2**

Dependent Variable: ROA

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.149564	0.074912	1.996519	0.0463
CASH	0.130847	0.047309	2.765816	0.0054
INTANGIBLE	-0.002303	0.337639	-0.006820	0.9946
LEVERAGE	-0.089959	0.009953	-9.038814	0.0000
SIZE	-0.001868	0.004128	-0.452487	0.6511

  

Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.701384	Mean dependent var		0.056831
Adjusted R-squared	0.624887	S.D. dependent var		0.139148
S.E. of regression	0.085223	Akaike info criterion		-1.906564
Sum squared resid	4.706439	Schwarz criterion		-0.942843
Log likelihood	943.9246	Hannan-Quinn criter.		-1.536671
F-statistic	9.168740	Durbin-Watson stat		2.054979
Prob(F-statistic)	0.000000			

The recent studies results reveal positive impact of cash holdings on performance. Morellec and Schürhoff (2011) and Martínez-Solano (2013) argue that during the competition in financial markets firms optimal cash holding level increase firm performance. Ferreira and Matos (2008) stated that institutional investors favor to invest in high-level cash holdings companies. As the firm value and corporate performance has a positive impact due to the presence of institutional investor. The variable (LEVERAGE) has negative and significant relation with the firm performance of the sampled firms (Table 2). The probability of leverages is 0.0000 which shows a vital relation amongst cash and firm performance whereas the result of coefficient indicates that one-unit increase in the percentage of leverages (LEVERAGE) decreases the firm performance by 0.089959 units. Furthermore, statistical result shows that there is a negative relationship between financial leverage and the profitability of the firm in Pakistani listed firms. Highly leverage companies generate low profits and companies with low leverage generate high profits. The main finding was in Pakistan the cost of debt is high. Tsuji (2013) studied the relation amongst firm capital structure and profitability in the Japanese machinery companies listed on TSE. The results showed that leverage has a negative relationship with profitability. A negative relation exists due to high financial cost because mostly firms are highly levered. As firm's access capital from outside sources such as bank or other financial institution, intern they must pay high-interest obligation that resultant to decrease in performance and profitability of the firm.

The variable (SIZE) has a negative and insignificant relationship with the firm performance of the sampled firms (Table 2). The probability of size is 0.6511 which shows the insignificant relationship between size and firm performance. Whereas the result of coefficient indicates that one-unit increase in percentage of size (SIZE) decreases the firm performance by 0.001868 units.

our results are similar to Goddard, Tavakoli and Wilson (2005). Reason of negative relationship between size and firm performance is lack of corporate governance, inappropriate audit, lack of management, the increment in debt financing.

The variable (INTANGIBLE) has negative and insignificant relationship with firm performance of the sampled firms (Table 2). Probability of intangible assets is 0.9946 which showed the insignificant relationship between intangible assets and firm performance. Whereas the result of coefficient indicates that one-unit increase in percentage of intangible assets (INTANGIBLE) decrease the firm performance by 0.002303 units. According to result of this study intangible asset is negatively related with firm performance. In Pakistan about 75% non-financial listed firms have no intangible assets in their balance sheet. However, remaining 25% non-financial listed firms holds few intangible assets. By this fact, it can be analyzed that there is no significant impact of intangible assets on firm's performance. Dou Zhibin (2007) investigated the relationship of intangible assets on performance of business. A sample of 27 listed companies in auto manufacturing had been taken from Shanghai and Shenzhen stock market and found negative relationship between intangible assets and firm performance.

## 5.0 Conclusion

This research examined cash holding reimbursements and associated inspirations to corporate performance. In this effort KSE non-financial listed companies were analyzed using panel data. The level of cash holding peaked in early 2000s when funds were available at low cost. Regarding to effects of cash holdings, it is explained that before the 2008 financial crisis, when investment opportunities were large, cash holdings had a positive effect on return on assets. However, this relationship changed after the 2008 when the effects of financial crisis were felt across the board. It is obscure that under an unexpected decline in the economy, conventional management of cash decline the market value of firms but in the long run, it will lessen financial suffering with low constrains and increasing investment to firms with less financial constraints as result of boost in large investment opportunities.

It is also concluded that large companies have less asymmetric information as compare to small firms. So small firms face more issues of external borrowing that are availed by them at excessive cost as compare to large firms. The presence of asymmetric information amongst investors and companies enhanced the cost of external finance. The asymmetric information problem is more perilous for companies in case if a firm has investment opportunities that can boost its value but come at a time when the firm found itself short of cash reserve allowing these opportunities to pass but if they have been taken could have proved very beneficial for the company. So, such Pakistani firms should hold appropriate level of cash in order to avail such opportunities when they arise. Secondly, firms hold large cash due to the restriction of financial institution to access external capital which available at inflated cost in form of interest. The research result provides support towards cash holdings trade-off theory. Transactional and precautionary motives play imperative role in describing factors of cash holding for Pakistani companies.



## Practical implication

Practically, the findings of the study are useful for all those firms that maintain an ideal cash reserve. Attempts should be made by managers to boost company's value through external funding, motivate manager through bonus share and incentives, so that company's performance can be enhanced. The study further reveals that conflict of interests are considered vital factor of corporate cash holdings. As reduction in cash holdings results in pressure to perform better and permits managers to invest in projects that boost company performance. In Pakistan firms are heavily dependent on cash for their investment and precautionary needs. It is imperative that the government must take steps to keep the economy stable so that firms will tend to invest more and hold less cash and ensure lower interest rates to increase access to finance for all types of firms. This will lower the cash dependency of manufacturing firms.

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