PERSISTENT HIGH LIQUIDITY, OWNERSHIP STRUCTURE AND FIRM PERFORMANCE: INDIAN EVIDENCE

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Abstract

The paper investigates the characteristics and performance of the persistent high liquidity firms in India in the backdrop of ownership concentration. Empirical evidence reveals that the persistent high liquidity firms consistently post superior performance, have better growth prospect and resort to less debt financing. Ownership structure has no influence on the performance of such firms. Consistent with trade off theory we find that persistent cash holding as a policy beyond a certain period may hinder performance. Industry-and- size matched comparison firms with non-persistent liquidity tend to overinvest having a negative impact on performance. Ownership concentration adversely impacts performance of such firms.

Keywords: India, Persistent High Liquidity Firms, Ownership Structure, Firm Performance, Agency Theory, Concentrated Shareholding, Industry-And- Size-Matched Comparison Firms
JEL Classification: G 30, G 32

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1. INTRODUCTION

The paper investigates the characteristics and performance of the persistent high liquidity firms in India in the backdrop of ownership concentration for a five year period including one year prior to and one year succeeding the consistent high liquidity holding period.

Why some firms hold large amount of liquid assets in the form of cash and marketable securities is a matter of considerable debate and deliberation among the investors, analysts, economists and financial press. Does ownership structure play any role in high cash holding? The general argument in favour of high liquidity is – external financing is costlier than internal financing as such it is better to retain high liquidity for financing capital expenditure. But high liquidity gives rise to agency cost. Does high concentration of ownership mitigate (or enhance) agency cost of high liquidity firms? Capital expenditure of such firms is financed internally and thus the manager can avoid scrutiny of the external fund providers. This may prove costly as lack of monitoring may lead to overinvestment, wasteful expenditure and empire building.

Kim *et al.* (1998), Opler *et al.* (1999), Harford (1999), Ozkan and Ozkan (2004), and more recently Lee and Powell (2011) have documented firm characteristics and motives behind holding high liquidity. High liquidity is generally linked to trade off, agency and pecking order theories with the trade-off theory receiving more empirical support. In the US context Mikkelson and Partch (2003) observe that policy of persistent high cash holding supports investment without hindering performance. Lee *et al.* (2011) in Australian context find that 'transitory' excess cash firms earn higher risk adjusted return compared to 'persistent' excess cash.

Whatever little study that has been conducted - is based on the data set of developed market economies. In emerging market like India with features like collateral security and private agreement based debt finance being largely provided by the government controlled public sector banks, service sector contributing a major share in GDP, public sector undertakings (PSUs) still playing a crucial role in mining and heavy industry where the central government continues to remain the majority shareholder and so on, the consequence of holding substantial liquidity on firm performance is not known. Such study is important as it is found that some firms including index heavyweights and fortune 500 companies like Infosys, Hindustan Unilever (HUL) etc. persistently hold high liquidity in their balance sheet. Infosys holds over 50% of the total assets in cash and cash equivalents with the corresponding figure for HUL being 35%.

The current paper sought to investigate: i) the characteristics and determinants of firm's holding excess liquidity consecutively for 3 years or more in predominantly collateral security based negotiated bank finance system in India and ii) the performance of such persistent high liquidity firms in relation to industry and size matched comparison firms in the context of ownership structure as literature on corporate governance and agency documents significant role of shareholding pattern on financing decisions and firm performance (Schleifer and Vishny, 1986; Schleifer and Vishny, 1997; Cho, 1998; Demsetz and Villalonga, 2001, Harford *et al.*, 2008).

Our sample of 46 persistently high liquidity firms is taken from BSE 500 list of Bombay Stock Exchange after excluding banks and finance companies. BSE 500 consists of top 500 publicly traded firms in terms of free-float adjusted market capitalization. The persistent high liquidity firms refers to companies that maintain a ratio of cash and marketable securities exceeding 15% of the total assets at the end of each of the three fiscal years from 2008 to 2010. We compare sample firms' operating performance from 2007 through 2011 –that is one year prior to continuous high liquidity holding period till one year succeeding with the performance of the industry and sized matched firms. Our comparison is based on methodologies that control for the combined determination of high liquidity and operating performance. Based on our empirical results we also sought to explain the factors in the light of the motives and firm characteristics that may explain differences in performance of high liquidity firms.

Our results and analysis highlight that the operating performance of firms with high liquidity is consistently better than the performance of comparison firms matched by industry and size during our study period. When we control for variability of earnings, unexplained cash, past performance, size, capital expenditure, leverage, growth opportunities and ownership concentration that determine level of cash holding, we record no unusual characteristics of persistent high liquidity firms and our results are generally consistent with the trade-off theory. An interesting insight is - such firms perhaps find difficulty in meeting market expectation of growth. The performance of high liquidity firms is neither enhanced nor hindered by ownership concentration. Consistent with our argument, in a collateral security based negotiated bank finance system in India, we find that industry and size matched comparison firms with concentrated shareholding tend to overinvest that may hinder performance.

Based on our empirical results we can conclude that the persistent high liquidity does not impact operating performance adversely irrespective of ownership structure whereas comparison firms with concentrated shareholding tend to overinvest that impacts performance unfavorably. Despite suboptimal performance, the comparison firms meet the hindsight growth expectation of the investors.

The remainder of the chapter is organized as follows. Section 2 discusses literature and Indian perspective. Section 3 describes sample data. Section 4 details empirical results and Section 5 concludes with summary of findings.

2. REVIEW OF LITERATURE AND INDIAN PERSPECTIVE

2.1. Review of Literature

There are two significant divergent theoretical views as regards high liquidity. Myers and Majluf (1984) argue that in presence of information asymmetry, firms would hold high liquidity to finance future investment. On the other hand high liquidity is considered to have the potential of creating agency cost as argued by Easterbook (1984) and Jensen (1986).

Liquidity enables a firm to avoid floatation cost of equity comprising of underwriting, legal and other related expenses. If borrowing is resorted to then apart from upfront cost there is periodical interest cost. All these costs are direct costs. Smith (1977) and Mikkelson and Parch (1986) find significant direct cost of financing. According to Froot *et al.* (1993), firm value is found to be more in case of high liquidity as capital expenditure remains insulated from cash flow volatility. Indirect cost of debt finance consists of problem that arises from conflict of interest between bondholder and stock holder as pointed out by Jensen and Meckling (1976) and information asymmetry indicated by Myers and Majluf (1984). Armstrong *et al.* (2011) document a positive relation between information asymmetry and cost of capital in excess of standard risk factors when markets are imperfect. A firm can avoid these costs if there exists sufficient liquidity to finance capital expenditure. Blanchard *et al.* (1994) and Harford and Haushalter (2000) argue that managers employ high, transitory cash in a manner that enables to derive private benefit at the cost of stockholders' wealth. Kim *et al.* (1998) develop a model supported by empirical result that predicts liquidity as an increasing function of – cost of external financing, the variance of future cash flows and return on future investment opportunities. Harford (1999) documents that cash-rich firms are more likely to make value decreasing acquisitions. Thus high liquidity give rise to agency problem as it give liberty to the entrenched manager to spend money on costly perquisites, unproductive investment and so on because of lack of control by the fragmented individual shareholders. On broader level Dittamar and Mahrt – Smith (2007) record that the stockholders assign a lower value to an additional dollar of liquidity reserve when agency problems are likely to be greater. One way of addressing agency problem that may arise from surplus liquidity is through concentrated shareholding (Schleifer and Vishny, 1997). The interest of the large shareholders being more aligned, they can force the management to take such strategic decision in matter of liquidity so that their interest remains protected. Schleifer and Vishny (1986) suggest that block holders mitigate the free-riding problem, perform a monitoring function and reduce the scope of managerial opportunism. Alternatively, large shareholders can also act to promote self-interest (Shleifer and Vishny, 1997) or reduce managerial initiative (Burkart, *et al.*, 1997) or may cause under-diversification (Demsetz and Lehn,1985) – all may be value destroying. Ozcan and Ozcan (2004) record a significant relation between managerial ownership (used as proxy for ownership concentration) and cash holding for UK companies. We posit that ownership concentration may be related to high liquidity at two levels. In the first level there may exist relation between high liquidity and ownership concentration and then such relation may favourably or adversely impact firm performance. Harford, Mansi and Maxwell (2008) on relation between governance and profitability where ownership concentration is taken as a measure of managerial incentive - document that there exists limited evidence to suggest that excess cash alters the overall relation between the two.

2.2. Indian Perspective

In India, public sector commercial banks and financial institutions play a major role in providing short term

and long term finance to the private corporate sector and such financing is highly collateral security based. As collateral security leads to easier and cheaper access to finance, there is a scale effect. We expect inverse relation between liquidity and asset size. In such a system, the interest of the block shareholders being more aligned to firm – for bank borrowing they (block shareholders) either mortgage their personal property or property of the associate companies of which they are the principal shareholder-managers or stand guarantor for repayment of loan. This aspect reduces overall cost of debt as provision of adequate collateral security addresses agency conflicts between shareholders and debtholders (Jensen and Meckling, 1976) besides scale effect. As ownership concentration leads to easier access to external borrowing with reduced cost, the tendency of liquidity accumulation would be less. But the reduced cost of borrowing may also encourage the entrenched managers to overinvest leading to reduced liquidity with suboptimal performance. Our argument is consistent with the model of Kim *et al. (*1998) and 'managerial entrenchment' hypothesis.

There exists variations when it comes to selecting a proxy for measuring ownership concentration. In measuring concentration on firm performance, Demsetz and Lehn (1985) use fraction of shares held by the five largest shareholders as a measure of concentration of ownership structure as they are more likely to control professional management Morck *et al.* (1988) and Cho (1998) focus on fraction of shares owned by the management consisting of board members, CEO and top management as measure of concentration. In India from the control point of view shareholders are divided broadly into two distinct groups – promoters and non-promoters. According to the market regulator Securities Exchange and Board of India (SEBI), - the promoter has been defined as a person or persons who are in overall control of the company or persons, who are instrumental in the formulation of a plan or programme pursuant to which the securities are offered to the public and those named in the prospectus as promoters[7]. As per the companies law[8] of India - one equity share carries one vote. Over fifty percent holding of equity shares directly or indirectly through pyramidal holding or cross holding gives direct right to determine composition of board and legal control though cash flow right may be different. CEO and other executive directors of the firms may either be direct representatives of the promoters or acting merely in the professional capacity subject to the direction and control of promoters. Hence, shareholding by the promoters can be taken as proxy for concentration impacting liquidity. We explore the role of ownership concentration in Indian context at two levels – a) as a determinant of liquidity and 2) the performance of high liquidity vis-à-vis comparison firms with high ownership concentration.

3. SAMPLE AND DATA

We study the characteristics and performance of firms that appear to have a policy of holding high liquidity persistently. Our study period covers a 5 year period from fiscal year (FY) 2007 to 2011. We use Bloomberg database for collecting financial data of BSE 500 companies. For data on ownership structure we use *Prowess* database of CMIE (Centre for Monitoring Indian Economy). We exclude banking, finance and financial service companies from the sample and as we make a balanced panel having continuous data for 5 years, the sample size gets reduced to 263 firms. We define persistent high liquidity firms as those that maintain a ratio of cash and marketable securities exceeding 15% of the total assets at the end of each of the fiscal years from 2008 to 2010. Our definition leaves us with a sample of 46 persistent high liquidity firms out of 263 firms. Then we sought to find out how the cash is utilized subsequently in 2011-12. Further, when we consider 4 consecutive years from 2007 to 2010 we come across 41 firms having high liquidity. The set of high liquidity 41 firms is a subset of 46 sample firms of 2008-10 reinforcing our intuition that there are firms that maintain high liquidity perhaps as a matter of financial policy.

Our set of comparison firms is matched to 46 sample firms by size and industry classification according to ICB (Industry Classification Bench mark) not having persistent high liquidity. For each of sample firms, we identify comparison firm/s belonging to the same industry as per ICB, the total assets (proxy for size) of which at the end of 2010 are within 70% - 130% of the sample firms' total assets from 217 (263 *minus* 46) remaining firms. Following the process we identify 83 such size and industry matched firms not having persistent liquidity.

Table 1 shows that the median ratio of cash and marketable securities to operating asset (= Total Assets - Cash & Marketable Securities) of persistently high liquidity firms in 2008 is 42% and the same had gone up to 49% in 2010. Conversely the said ratio for industry and sized matched non-persistent cash firms (comparison firms) is 9% and has marginally gone down to 7% in 2010.

Using the data from Bloomberg we identify the main sources of high liquidity of the sample firms from 2008 to 2010. For the sample firms' source of liquidity comes mainly from cash inflow from operations. 79% of the total cash flow in 2008-10 of the persistent high liquidity firms is from operation and that of comparison firms is 46%. Table 1 reveals median value of inflow from operation of persistent cash firms is higher than that of comparison firms and the difference is statistically significant. Ratio of cash inflow from investment (net asset sales) to total cash flow is negligible – in total only 2% in case of persistent high liquidity firms and 0.02% for comparison firms in 2008-10. Proportion of cash flow from financing in 2008-10 for persistent high liquidity firms is 19% and that of comparison firm is 53%. Table 1 show that median value of proportion of cash inflow from financing for persistent high liquidity firm is lower than comparison firms and the difference is significant statistically. We posit that principal source of high liquidity of the sample firms come from operations and not from asset sales or financing. We also make an attempt to find the persistent high liquidity firms according to lines of business as classified by ICB. The percentage of liquidity holding is considerably high in case of industrial firms (26%), technology firms (24%), basic materials (19%) and consumer goods firms (13%).

[7] www.sebi.gov.in

[8] The Companies Act 1956

Table 1. Median Cash Holding and Sources of Cash Inflow with Persistent High Liquidity Firms Vis-à-Vis Non-Persistent Liquidity Size and Industry Matched Comparison Firms

Firm Characteristics (Median)	*Sample Firms*	*Comparison Firms*	*p*– value of statistical difference between Sample firms and Comparison Firms (Wilcoxon rank sum test)
	Firms Having Persistent High Liquidity during 2008-10 (n=46)	Non-Persistent Liquidity Firms Matched with Sample Firms by Industry and Size (n=83)	
Cash and marketable Securities/ Operating assets (Total Assets *minus* Cash and Marketable Securities) in 2008.	0.42	0.09	0.00*
Cash and Marketable Securities / Operating Assets in 2010	0.49	0.07	0.00*
Proportion of Cash Inflows from Operation in 2008-10	1.00	0.67	0.00*
Proportion of Cash Inflows from Investment (Asset Sales net off Asset Purchase) in 2008-2010	0.00	0.00	0.00*
Proportion of Cash Inflows from Financing in 2008-10	0.00	0.30	0.00*

** indicates significance at 1%*

The financial position including liquidity of the both persistent high liquidity and comparable firms at the end of 2010 and beyond is the result of cash accumulation from earlier years. We device and list possible determinants of liquidity in Table 2. They are size (operating assets), operating performance or profitability (operating income scaled by operating assets), riskiness of operating income (standard deviation of operating income scaled by operating assets), growth opportunities (market to book value of equity), leverage (long term debt scaled by operating asset), concentration of stock holding (promoters shareholding) institutional shareholding and diffuseness of shareholding (that is- non-promoter-non-institutional miscellaneous shareholding). We measure operating asset as total asset minus cash and marketable securities and operating income as earnings before interest and tax.

Table 2. Median of Financial Determinants and Ownership Structure of the Persistent High Liquidity and of size-and-industry matched comparison firms with non-persistent liquidity

Firm Characteristics (Median)	*Sample Firms*	*Comparison Firms*	*p*– value of statistical difference between Sample firms and Comparison Firms (Wilcoxon rank sum test)
	Firms Having Persistent high Liquidity during 2008-10 (n=46)	Non-Persistent Liquidity Firms Matched with Sample Firms by Industry and Size (n=83)	
Operating Assets in 2010 (Rs. million)	22342.45	27929.00	0.81
Average Operating Income/Operating Assets from 2007 to 2010	0.24	0.15	0.00*
Standard Deviation of Operating Income/ Operating Asset from 2007-10	0.05	0.03	0.00*
Market Value / Book Value of equity in 2010	3.98	2.02	0.00*
Long term Debt/ Operating Asset in 2010	0.01	0.22	0.00*
Promoters Stock holding in 2010	0.60	0.51	0.03
Institutional Stock holding in 2010	0.24	0.23	0.80
Misc. (non-promoters– non institutional) Shareholding 2010	0.14	0.22	0.00*

**and ** denote significance at 1% and 5% respectively*

Median values of profitability, riskiness of operating income, growth opportunities and promoters (insider) shareholdings of persistent high liquidity firms are higher than the median values of comparison firms and the difference is statistically significant. Median value of leverage is significantly lower for high liquidity firms. The results are intuitively appealing. The high value firms have superior operating income and at the same time variability of their earning is also more. Such firms have better growth prospects and take less debt. Size (operating asset) and proportion of institutional shareholding do not appear to play significant role in determining liquidity. Non-promoter shareholding representing diffuseness is more in case of comparison firms. The fact that high liquidity firms has higher median value of promoters shareholding is corroborated by the fact that 71% of the firms has promoters shareholding exceeding 50% whereas 50% of the comparison firms have promoters

shareholding exceeding 50%. In case of 30% (of 71%), the central government as promoter holds more than 50% of equity share capital indicating 21% of the high liquidity firms is government controlled whereas the corresponding percentage of comparison firms is 4%. Overall the firms with higher concentration of ownership have higher liquidity consistent with the finding of Harford *et. al.* (2008), and Ozkan *et. al.* (2004). Institutional shareholders are non-promoters as they do not participate in day-to-day management though their representatives may be there on the board as non-executive director.

Following the result of firm characteristics reported in Table 2, we formulate regression model by combining high liquidity sample firms and industry and size matched comparison firms. In the model cash and marketable securities scaled by total assets of 2010 is taken as measure of liquidity (endogenous variable) – and as financial determinant variables of liquidity natural log of operating asset (LNOA), average operating income scaled by operating assets 2007-10 (OI/OA) , standard deviation of operating income scaled by operating asset 2007-10 (STDOI), market-to- book value of equity (MV/BV), long term debt scaled by operating asset (LTD/OA), proportion of promoters shareholding (PSH), proportion of institutional and misc. shareholding (NPSH) have respectively been used as proxy independent variables for size, operating performance, operating risk, growth opportunities, leverage, concentration, and diffuseness of stock holding . Before conducting regression we report the correlation among the determinant independent variables in Table 3.

Table 3. Correlation Matrices Among Financial Determinants (Variables) of Liquidity

Determinants	*LNOA*	*OI/OA*	*STDOI*	*MV/BV*	*LTD/OA*	*PSH*	*NPSH*
LNOA	1						
OI/OA	-0.12	1					
STDOI	-0.17	0.70	1				
MV/BV	0.05	0.070	0.07	1			
LTD/OA	0.10	-0.36	-0.13	-0.19	1		
PSH	-0.10	0.05	0.16	0.30	-0.04	1	
NPSH	0.06	-0.05	-0.18	-0.30	0.04	-0.99	1

Table 3 reveals that there appears to exist a high correlation between operating income (OI/OA) and variability of income (STDOI) confirming the intuition that firms with high but variable income may tend to hold higher amount of cash and liquid financial assets. Further we find that there exists near- perfect negative correlation between promoters shareholding (PSH) and non-promoters shareholding (NPSH). Upon regressing PSH on all other independent variables we get a variance inflation factor (VIF) of 42.01 (maximum permissible being 10) revealing the severity of multicollinearity problem if both PSH and NPSH are included in the same regression model. Also, the coefficients between NPSH and other determinant variables are found to be almost same as the coefficients between those variables and PSH with the exception of having just opposite sign, as such, we only take promoters shareholding for estimating the impact of ownership concentration on cash holding in our regression models as we expect diffuseness will have just an opposite effect. However, later on we shall formulate a regression model considering diffuseness (NPSH) as determinant in measuring performance of comparison firms as robustness test of our model.

Though OI/OA and STDOI are highly correlated, VIFs (2.28 and 2.17 respectively) reveal that if both the variables are included in the same regression the results will not be adversely impacted by multicollinearity, nevertheless, we formulate two separate regression models to assess how operating income and variability of income separately impact liquidity holding behavior of the sample firms. In the first model (Regression 1) we exclude STDOI and in the second model (Regression 2) we exclude OI/OA.

Table 4. Regression 1 - Financial Determinants Other Than Standard Deviation of Operating Income on Cash Holding

Determinant	*Coefficient*	*t-statistics*
Constant	0.226	2.254**
Natural log of operating asset 2010	-0.019	-1.748***
Average Operating Income/ Operating Asset 2007-2010	0.547	6.494*
Market Value/ Book Value 2010	0.004	2.418**
Long Term Borrowing/Operating Asset 2010	-0.002	-0.033
Promoter Shareholding 2010	0.021	0.30
Adjusted R^2	0.319	
F- statistics	13.015	

, ** and * indicate significance at 1%, 5% and 10% level respectively*

Table 5. Regression 2 - Financial Determinants Other Than Operating Income scaled by Operating Asset on Cash Holding

Determinant	*Coefficient*	*t-statistics*
Constant	0.249	2,594*
Natural log of operating asset 2010	-0.013	-1.24
Standard Deviation of Operating Income/ Operating Asset 2007- 2010	1.394	7.339*
Market Value/ Book Value 2010	0.003	2.376**
Long Term Borrowing/ Operating Asset 2010	-0.099	-1.736***
Promoter Shareholding 2010	-0.032	-0.464
Adjusted R^2	0.364	
F- statistics	15.676	

, ** and * indicate significance at 1%, 5% and 10% level respectively*

The results of regression reported in table 4 and 5 are consistent with the univariate analysis of Table 2 in respect of all determinants except ownership structure. Regression results show that probably concentration and diffuseness of ownership have no direct role in determining liquidity when high liquidity and comparison firms matched by industry and size are combined together. The degree of explained variation in liquidity measured by R^2 is more in case of regression 2 (Table 5). The result is intuitively more appealing because variation of operating income should actually have a dominant role in following conservative liquidity policy. Also in respect of size and leverage the result is more consistent with univariate analysis reported in Table 2.

3. EMPIRICAL RESULTS

3.1. Operating Performance of High liquidity Firms

In Table 6 we report the operating performance of persistent high liquidity firms and size and industry matched comparison firms from 2007 through 2011 – that is one year prior to continuous high liquidity holding period till one year succeeding. In 2011 we find that 85% of the firms continue with high liquidity and only 6% firms have substantial reduced liquidity (cash and marketable securities being less than 10% of total assets) once again confirming our view that persistent high liquidity is adopted by certain category of firms across industry group as a matter of policy. Columns 2 and 3 of the table respectively represent the median of operating income scaled by operating assets of the persistent high liquidity firms and size and industry matched comparison firms.

Table 6. Median of operating income scaled by operating assets of firms with persistent high liquidity and of size-and-industry matched comparison firms with non-persistent liquidity

Fiscal Year	*Sample Firms*	*Comparison Firms*	p– value of statistical difference between Sample firms and Comparison Firms (Wilcoxon rank sum test)
	Firms Having persistent high Liquidity during 2008-10 (n=46)	Non-Persistent Liquidity Firms Matched with Sample Firms by Industry and Size (n=83)	
2007	0.217	0.131	0.00*
2008	0.223	0.121	0.00*
2009	0.212	0.983	0.00*
2010	0.186	0.113	0.00*
2011	0.185	0.117	0.00*

** indicates significance at 1%.*

Table 6 clearly demonstrates that high liquidity firms perform better than the comparison firms for all the years under study including a year prior to and a year subsequent to such persistent liquidity. But at the same time it is worth noting that the performance has steadily declined after 2008 perhaps indicating there is an optimality of liquidity at some point in time. The finding supports the 'trade off' theory of cash. The recurrent underperformance of the comparison firms compared to high liquidity firms probably indicates problem of overinvestment and 'empire building' of such firms. The over-investment may be attributable to easier access to finance because of private nature of negotiated financial arrangement with banks based on collateral security. In the next section we sought to analyze the impact of cash holding on performance more rigorously.

3.1. Effect of Unexplained Liquidity on Operating Performance of the Subsequent Period

In this section we make our analysis in two stages following the process suggested by Mikkelson and Parch (2003) though our choice of exogenous variables is not same. In the first stage we estimate the normal liquidity by regression 2 dropping promoters' shareholding from the model. More specifically the estimate of normal liquidity under the first stage regression is:

$$Cash\ \&\ Marketable Securities_i / Total Assets_i = \beta_1 + \beta_2 LNOA_i + \beta_3 STDOI_i + \beta_4 MV_i / BV_i + \beta_5 LTD_i / OA_i + \xi_i \quad (1)$$

The exogenous variables in the model have the same meaning as defined in earlier section.

The regression is estimated separately on the sample of high liquidity firms as well as the comparison firms matched by size- and industry.

In the second stage we regress the operating performance measured by operating income scaled by operating asset of 2011 on the residual or unexplained value of liquidity – that is prediction error obtained from first stage regression taking average operating performance 2007 – 2010 ($\frac{\overline{OI}}{OA}$) and promoters shareholding (PSH) as control variables. The second stage regression equation is:

$$OperaingIncome_i / operatingasset(2011)_i = \delta_1 + \delta_2 predictionerror_i + \delta_3 \frac{\overline{OI_i}}{OA_i} + \delta_4 PSH_i + \varepsilon_i \quad (2)$$

The results of the first and second stage regression are reported in Table 7.

Table 7. Two Stage OLS Regression Showing the Relation between Operating Performance and Unexplained Cash Holding

Variables	***Sample Firms***	***Comparison Firms***
	Firms Having persistent high Liquidity during 2008-10	Non-Persistent Liquidity Firms Matched with Sample Firms by Industry and Size
Panel A: Endogenous Variable :Cash & Marketable Securities/ Total Assets 2010 (First Stage)		
Constant	0.527 (4.193)*	0.099 (1.230)
Natural Log of Operating Assets 2010	-0.033 (-2.168)**	-0.003 (-0.369)
Standard Deviation of Operating Income/ Operating Asset 2007- 2010	0.816 (3.665)*	1.127 (3.906)*
MarketValue/Book Value 2010	0.001 (1.029)	0.003 (0.619)
Long Term Borrowing/ Operating Asset 2010	0.178 (1.497)	-0.068 (-1.384)
Adjusted R^2	0.326	0.184
F-Statistics	6.458	5.625
Panel B: Endogenous Variable : Operating Income/Operating Assets 2011(Second Stage)		
Constant	0.452 (0.971)	0.061 (2.477)**
Prediction error of Cash& Marketable Securities /Total Assets in 2010 from first stage regression	0.107 (0.917)	0.033 (0.419)
Average Operating Income/ Operating Asset 2007-10	0.707 (10.176)*	0.682 (9.091)*
Promoters Shareholding	-0.019(-0.290)	-0.067 (-1.561)
Adjusted R^2	0.699	0.499
F-Statistics	35.771	28.256

*Figures in the parentheses represent t value. * and ** indicate significance at 1% and 5% level respectively.*

The second stage OLS regression in panel B reveals that operating performance of 2011 has no relation with the unexplained cash holding obtained from the first stage regression both in case of persistent high liquidity firms and the comparison firms. Operating performance is related to that of prior period signifying continuance of performance for both categories of firms. The relation between operating performance and concentration of ownership is negative but statistically insignificant.

4.3. Impact of Cash Flow from Operation and Investment on subsequent operating performance of the Persistent High Liquidity Firms

Our next test on operating performance examines how cash flow form operation and capital expenditure impact subsequent performance of the high liquidity firms vis-à-vis the comparison firms and whether promoters' shareholding plays a role in such performance. Another important aspect in the analysis is whether actual performance meets the growth expectation of the high liquidity firms reflected in market-to-book value of the previous period. We develop a model where we regress operating performance of 2011 on average free cash flow 2007-10 and capital expenditure 2007-10 both scaled by operating assets, market-to book value 2010 as proxy for growth expectation, natural log of operating assets 2010 for size, average of cash & marketable securities scaled by operating asset 2007-10 and promoters shareholding 2011 as control variables separately on persistently high liquidity firms and industry and size matched comparison firms. The result is reported in Table 8.

Table 8 reveals that free cash flow and capital expenditure of prior period influence subsequent performance of both - persistent high liquidity firms and comparison firms matched by industry and size. Cash holding is negatively related with performance for high liquidity firm and in case of comparison firms though the sign is negative but statistically insignificant. The result suggests optimum cash holding and is consistent with 'trade off' theory. Size built up by cumulative capital expenditure over the past years at some point becomes negatively related with the performance of comparison firms indicating problem of overinvestment. The overinvestment may be attributable to weakness in governance. The finding is consistent with that of Harford *et. al.* (2008) who observes that the spending decisions of the poorly governed firms are suboptimal as they spend cash flow and cash reserves quickly rather than allowing it to accumulate to provide future flexibility. Market-to-book value of the persistent high cash

firms though positively related to subsequent performance but is statistically insignificant indicating performance does not justify hindsight growth expectation of the market. Market to book value of the comparison firms is positively related to subsequent performance and the result is statistically significant. Bliss and Rosen (2001) and Harford and Li (2007) document even if the poorly governed firms destroy value but stockholders' wealth increase after capital expenditure, acquisition and CEO compensation. Consistent with the findings we record that hindsight growth prospect of comparison firms generated by cash flow and capital expenditure have been met by subsequent modest performance as compared to superior performance of the high liquidity firms. In the regression promoters shareholding of comparison firms is negatively related to performance. Promoters having control over the corporate resources through voting rights may indulge in overinvestment, empire building and so on that might lead to underperformance as compared to cash rich firms. To check the robustness of the model we estimate a regression replacing promoters' shareholding by non-promoters shareholding.

Table 8. Regression Showing Subsequent Performance on Prior Operating Cash Flow, Capital Expenditure Market-to-Book Value, Size, Liquidity and Promoters Shareholding

Variables	***Sample Firms***	***Comparison Firms***
	Firms Having persistent high Liquidity during 2008-10	Non-Persistent Liquidity Firms Matched with Sample Firms by Industry and Size
Endogenous Variable : Operating Income/Operating Assets 2011		
Constant	0.136 (1.170)	0.272 (4.233)*
Natural log of operating asset 2010	-0.006 (-0.485)	-0.019 (-2.909)*
Average of cash & marketable securities/ operating assets 2007-10	-0.139 (-5.296)*	-0.078 (-1.492)
Average of capital expenditure/ operating assets 2007-10	1.129 (8.159)*	0.348(3.061)*
Average of free cash flow/operating assets 2007-10	1.035(9.138)*	0.423 (5.657)*
Market Value/ Book Value 2010	0.002(1.450)	0.013 (3.712)*
Promoters Shareholding	-0.092 (-1.198)	-0.098 (-2.177)**
Adjusted R^2	0.644	0.520
F-statistics	14.577	15.815

*Figures in the parentheses represent t value. * and ** indicate significance at 1% and 5% level respectively.*

Table 9. Regression Showing Subsequent Performance on Prior Operating Cash Flow, Capital Expenditure, Market-to-Book Value, Size, Liquidity and Non-Promoters Shareholding

Variables	***Sample Firms***	***Comparison Firms***
	Firms Having persistent high Liquidity during 2008-10	Non-Persistent Liquidity Firms Matched with Sample Firms by Industry and Size
Endogenous Variable : Operating Income/Operating Assets 2011		
Constant	0.0.046 (0.390)	0.153 (2.609)*
Natural log of operating asset 2010	-0.006 (-0.465)	-0.014 (-2.079)**
Average of cash & marketable securities/ operating assets 2007-10	-0.140 (-5.276)*	-0.08653 (-1.616)
Average of capital expenditure/ operating assets 2007-10	1.131 (8.142)*	0.394 (3.454)*
Average of free cash flow/operating assets 2007-10	1.036 (9.105)*	0.432 (5.699)*
Market Value/ Book Value 2010	0.002(1.405)	0.0134 (3.453)*
Non-promoters Shareholding	0.084 (1.063)	0.081 (1.421)
Adjusted R^2	0.641	0.539
F-statistics	14.418	14.857

*Figures in the parentheses represent t value. * and ** indicate significance at 1% and 5% level respectively.*

The result reported in Table 9 is consistent with that of Table 8. As expected non-promoters shareholding has a positive relation with performance for high liquidity and industry- and size matched comparison firms but the result is not statistically significant. Consistent with the prediction of Demsetz *et. al* (1985) the result further indicates an optimum concentration (dispersion) of shareholding for both categories - high liquidity and comparable firms - not impacting performance.

4.4. Uses of Fund in Subsequent Year

In this part we document how high liquidity and comparison firms used liquidity in the subsequent period – that is in 2011. We also compare the growth rates. We are interested in finding whether the sample high liquidity firms reveal a superior performance in their investment and financing behavior.

Row 1 of Table 10 reports the median ratio of all investment expenditure scaled by operating asset. Row 2 reports the main component of investment

expenditure – namely capital expenditure scaled by operating asset. Though R&D expenditure is considered an important component of investment outlay we find Indian firms spend very less on this item. 46% of high liquidity firms and 53% of comparison firms have no R&D expenditure at all in 2011. Mean R&D expenditure of high cash firms scaled by operating asset is 0.6% and that of comparison firms is 0.2% only as such we do not report R&D expenditure separately.

Row 3 shows the net outflow of fund for financing activities and row 4 shows dividend payout ratio. Row 5 and 6 reveal relative growth of revenue and operating assets in 2011.

Table 10. Median Measures of Cash Outflow of 2011 for Investment and Financing Activities

Firm Characteristics (Median)	*Sample Firms*	*Comparison Firms*	*p– value of statistical difference between Sample firms and Comparison Firms (Wilcoxon rank sum test)*
	Firms Having Persistent high Liquidity during 2008-10 (n=46)	Non-Persistent Liquidity Firms Matched with Sample Firms by Industry and Size (n=83)	
Cash Outflow for Investment Activities 2011:			
1.all investment expenditure/Operating Asset	0.09	0.08	0.75
2. Capital Expenditure/Operating Asset 2011	0.07	0.08	0.54
Cash Outflow for Financing Activities 2011:			
3. All financing outflow/operating assets 2011	0.02	0	0.00*
4. Dividend Payout Ratio	0.24	0.12	0.00*
Growth 2011			
5.Relative Change in Operating Assets	1.23	1.19	0.16
6.Relative Change in Revenue	1.22	1.55	0.00*
7. Relative Change in Operating Income	1.17	1.14	0.85

** indicates significance at 1%.*

The median investment expenditure to operating asset of high liquidity firms is 9% and that of comparison firms is 8%, the difference is not significant statistically. All financing outflow to operating asset of high liquidity firms is 2% and that of comparison firms is 0% and the difference is significant. Dividend payout of high liquidity firms is 24% and that of comparison firm is just half, that is 12% and the difference is significant. Revenue growth of high liquidity firms being less than that of comparison firms coupled with insignificant growth of operating income may be an early sign of suboptimal use of stockpile of liquidity. The result is also consistent with the declining operating income of 2011 and 2010 reported in Table 6.

Persistent high liquidity firms use cash in financing activities that include repayment of debt and returning cash to equity shareholders through higher dividend payout – though payout is quite modest by global standard (Datta *et. al.*, 2012). On the whole high liquidity firms appear to follow a conservative debt policy and its investment is not significantly different from comparison firms.

4. SUMMARY OF FINDINGS AND CONCLUSIONS

In the paper we examine characteristics and performance of firms that hold more than 15% of their total assets in cash and marketable securities for each of the three consecutive years from 2008 through 2010. We find that the operating performance of the firms having persistent high liquidity is superior to industry and size matched comparison firms from one year prior (that is 2007) till one year succeeding (2011) such high liquidity. High liquidity enables the firms to depend less on debt, insulate them from variability of performance, afford higher dividend payout and have greater growth prospects in terms of market-to book value ratio. These characteristics allow them to follow persistent high liquidity policy though at times actual performance may not meet the high growth expectation by the market of the firms. Expectation management of the investors of such firms may be a problem. Though univariate analysis reveals that the firms with concentrated shareholding tend to hold more liquidity, multivariate analysis does not seem to confirm the result. Ownership concentration does neither enhance performance of high liquidity firms because of better 'alignment of interest' nor hinder performance attributable to 'managerial optimism' as predicted in corporate governance literature. Overall we find that excess liquidity supports conservative financial policy without hindering performance for some time. In the succeeding year after continuous three years or more of high liquidity we find that performance of the sample firms is negatively related to liquidity at the beginning – this indicates continuous liquidity beyond a certain point hinders performance and the finding is consistent with trade off theory. Some of our findings are consistent with evidence of Mikkelson and Parch (2003), Opler *et al.* (1999) and Lee and Powell (2011). On the other hand we find that performance of control firms is negatively related to asset size and ownership concentration- perhaps this scale effect is due to overinvestment - an indication of poor governance. Consistent with our argument, we posit that in a bank dominated debt system – high ownership concentration leads to overinvestment probably due to easier access to negotiated bank finance- that in turn, might adversely impact performance. This, as well might indicate 'cronyism' as large shareholders having considerable influence in political circle - may procure finance from public sector banks with relative ease. Promotion of self-interest of large shareholders may create a scale effect that is not

economically efficient as compared to high liquidity firms but nonetheless performance of the firms may otherwise fulfil the hindsight growth expectation of the market reflected in high market to book value of the firms. The findings support Bliss and Rosen (2001) and Harford and Li (2007).

Future research may further throw light more precisely as to how high liquidity can specifically address riskiness of operation in presence of various other governance parameter like independent directors, board size, managerial compensation and so on in addition to ownership structure.

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