Cash Holding or Net Debt : What Matters for Firms' Financial Policies ? Evidence from India

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Abstract

The paper examined the relevance and determinants of cash holding and net debt for firms' financial policies. The sample was constructed from Eikon database of Thomson Reuters considering 500 largest market capitalization firms listed on the National Stock Exchange of India (NSE). Initially, firm level determinants were examined separately for firms' cash holding and net debt. Then, four subsamples were formed based on the twofold criterion of firms' debt level and cash flows. These subsample firms were categorized as financially-constrained firms, no cash hedging firms, growth firms, and declining firms. Firm level determinants for cash holding and net debt were examined separately for all the four subsamples. For the complete sample of the firms, larger number of independent variables demonstrated statistically significant relationship with net debt than cash holding. The results confirmed that for financially constrained firms, net debt was more relevant for firms' financial policies than cash holding. Negative relationship between firm size and cash holding was ubiquitous, signifying economy of scale for cash holding. Relevance of cash holding and net debt was analogous for declining firms. The findings revealed that growth firms placed relatively more emphasis on net debt ; whereas, no-cash hedging firms gave more weightage to cash holding.

Keywords : **cash holding, net debt, financially constrained firms, cash flows**

JEL Classification : C1, G1, G3

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Cash is the most liquid asset of a firm. Essentially, a firm's cash holding is a function of its working capital policy. However, it has been observed that firms generally hold more cash than their working capital requirements. Many firms hold very large cash reserves as a fraction of their total assets. Higher cash holding serves as a source of internal funding and reduces cost of financial distress, besides ensuring liquidity for the firms. On the other hand, higher cash holding leads to lower firm profitability on account of zero or very low returns earned on these liquid assets. There are two main benefits of holding cash. First, a firm saves transaction costs to raise funds and does not have to liquidate assets meant for long term usage to make routine payments ; second, the firm can use liquid assets to finance investment opportunities if external sources of funding are limited or unreasonably expensive.

The rationale for corporate cash holding has been postulated in three existent theories, namely the trade-off theory, the pecking order theory, and the agency cost theory. The trade-off theory proposes that there exists an optimal level of cash holding for every firm ; this optimal level is achieved by holding cash at a level such that marginal benefit of holding cash equals marginal cost of cash holding. Of course, the optimal cash levels vary substantially across different industries and are influenced by the eccentricities of firms. The pecking order theory

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postulates an alternative view of corporate cash holding. As per the pecking order theory, a firm uses retained earnings as the most preferred source of financing followed by debt and external equity. As a firm maintains surplus internal funds, it accumulates cash and uses the accumulated cash to pay back debt. On the contrary, when a firm is deficient in internal funds, it first reduces its cash holding, then raises debt, and eventually raises external equity.

The agency cost theory suggests that managers and shareholders may hold different perspectives regarding cost and benefit of cash holding. Managers have greater preference for cash as it reduces a firm's risk and facilitates managerial discretion. Availability of excess cash reserves may lead managers to take decisions which are desirable for them but are not in the best interest of the shareholders. The traditional valuation approach considers the cash holding of the firm as negative of its debt outstanding because cash balances can be effortlessly utilized in debt repayment. In contrast to the traditional view, several recent studies support the distinction of independent cash holding in a firm's financial policies. Since nearly all the firms hold cash, more than their working capital requirement, several studies have been conducted to understand the firms' motivations for cash holding. However, explicit studies on the relevance of cash holding and net debt for firms' financial policies in the context of emerging markets are scant. The present study contributes to the emerging market literature by examining the relevance of firms' cash holding and net debt for their financial policies. Net debt is calculated by subtracting cash and marketable securities from the total debt of a firm.

Review of Literature

Literature in finance primarily records four motives for cash holding by firms namely, transaction motives (Baumol, 1952 ; Reddaway, 1964), precautionary motives (Opler et al., 1999), speculative motives (Ramirez, 2010), and tax (Foley et al., 2007). Reddaway (1964) postulated the transaction cost motive and precautionary motive behind firms' cash holding. Miller and Orr (1966) developed the basic structure for computing the optimum cash balance as a function of the opportunity cost of holding cash and cash required for operations. Hypothetical models suggested by Jensen and Meckling (1976), Myers (1977), and Myers and Majluf (1984) suggested that firm-level opportunity costs arise out of suboptimal investments due to insufficient liquidity. Myers and Majluf (1984) claimed that firms hold a certain level of cash to meet the need for capital expenditures because raising external financing is more expensive than utilizing internally-generated funds in the presence of asymmetric information. Therefore, firms are likely to experience difficulty in raising capital in circumstances characterized by higher information asymmetry. However, managers and shareholders assess the costs and benefits of holding cash differently. Managers have a greater preference for cash because it reduces firm-level risk and increases managerial discretion. This preference for cash can lead managers to place too much importance on the precautionary motive for holding cash. On the other hand, shareholders' assessment of cash holding stems from the firms' operational requirements only. Therefore, agency cost theory provides an account of why firms with high agency costs of managerial discretion hold too much cash from the perspective of shareholder wealth maximization (Pinkowitz et al., 2006).

Opler et al. (1999) reported that firms with high cash-flow volatility tend to hold more liquid assets. Kim et al. (1998) reported that firms with higher fraction of non-cash liquid assets tended to hold lesser cash reserves. Using sample of firms from BRIC countries, Al-Najjar (2013) provided evidence that dividend policy affected firms' cash holding. Cheung (2016) investigated the impact of firms' corporate social responsibility (CSR) activities on their cash holdings. The findings suggested that firms engaged in CSR activities are likely to hold relatively lower cash because they face lower idiosyncratic risk due to higher social capital with stakeholders. The findings of Faulkender and Wang (2006) also supported economies of scale in firms' cash holdings.

The literature also supports competitive motives behind firms' higher than normal cash holdings. Baskin (1987) proposed that higher cash holdings facilitate firms to rapidly capture new opportunities of product market expansion. Leverage is another key determinant of firms' cash holdings as cited by extant literature. Ferreira and Vilela (2004) reported that cash holdings by firms were negatively affected by their leverage. Ozkan and Ozkan (2004) found that quality of firms' cash flows was vital in determining their cash holdings. Examining the sample of Swiss non-banking and non-finance firms, Drobetz and Gruninger (2007) found that firms' operating cash flows were positively related to their cash holdings.

Literature seems to confirm that firms' cash holdings are vital to firms' strategic and financial decisions, and that firms' cash policies are influenced by the firms' value, growth opportunities, leverage, business risk, competitive market, and their access to the capital market. An alternative view to this proposition is that cash holdings are not relevant to firms' financial policies ; indeed, firms target to optimize their net debt level. Net debt is defined as debt minus cash holdings. This view is consistent with the pecking order or financing hierarchy model. Opler et al. (1999) also supported this alternative proposition. He reported that most of the variables that are empirically associated with high cash levels can also be recognized with low leverage. Therefore, findings that cash holdings are relevant to a firm's financial policies provide an incomplete assessment of the firm's policies towards cash and debt.

Acharya et al. (2007) reported that financially-constrained firms with high hedging necessities demonstrated strong propensity to accumulate cash while keeping their debt positions unchanged. Firms with large but predictable investment opportunities can line up external funding well in advance ; whereas, firms with smaller investment requirements can manage their funding requirements without setting aside sizeable cash holdings. De and Banerjee (2017) reported that the financing behavior of the BSE 500 firms was explained by the pecking order theory in the pre - recession period and trade off theory during the post - recession period. Bates et al. (2018) studied the upsurge in the value of corporate cash holdings. They claimed that such an upsurge was essentially driven by the investment prospects and cash-flow volatility. Using a firm-industry model which fits the firms in two segments, non R&D intensive and R&D intensive firms, Begenau and Palazzo (2017) reported that the share of new economy firms in U.S. public markets increased substantially, and these new economy firms arrived with increasingly higher cash balances.

Firm's cash holdings deviate across the world depending on whether or not the economy in which the firm operates has a strong financial system and a well-organized and efficient capital market. Most of the studies cited in the literature have examined the cash holdings of firms operating in developed economies with strong financial systems, regulators, and thriving capital markets. However, much work has not been done in the context of emerging markets in general, and India in particular.

In the context of India, Maheshwari and Rao (2017) examined cash holding factors for Indian firms. Jagannathan and Suresh (2017) studied the nature and determinants of capital structure of service sector firms in India. They confirmed the adherence to pecking order theory by the examined firms. Kumar et al. (2018) proposed a conceptual framework to study the different dimensions of cash flow management practices and its linkages with cash flow forecasting practices and perceived business performance. Anand et al. (2018) studied the effect of macroeconomic factors on cash holdings and promptness of correction of cash holdings to a target level in the Indian context. Using a sample of non-banking, non-financial Indonesian firms, Joshi (2019) investigated the relevance of cash holding and net debt for firms' financial policies. Nusrathunnisa and Duraipandian (2019) examined the applicability of Linter's basic, cash flow, and segregated cash flow models for dividend payment pattern of Indian banking sector firms.

The present paper examines the determinants of cash holding and net debt for Indian firms considering cross section data for 500 firms for the most recent year ending March 2019. Initially, firm level determinants are examined independently for firms' cash holdings, leverage, and net debt. As the literature suggests, a firm's

financial position, that is, whether the firm is financially constrained or not, or firms are characterized by high or low growth rate impact a firm's decision regarding their cash holdings and net debt, and the sample firms are classified under four sub-samples based on two fold criteria of firm's net-debt level (negative or positive) and firm's cash flows (high or low). The study fills the gap in the literature by studying relevance of cash holding and net debt for Indian firms by classifying them into financially constrained, no cash hedging, high growth, and low growth firms.

Research Methodology

Sample

The cross-section sample has been built from Thomson Reuters's database Eikon using 500 largest market capitalization Indian firms for the year ending March 2019. The sample includes firms from all the sector-classification of the database with the exception of finance and banking firms. Descriptions of the firm level variables used in the study are provided in Table 1.

Apart from the firm level financial variables, three dummy variables are used in the study, namely, dummy for dividend payment, dummy of foreign exchange impact, and dummy of ESG (environment, social, governance) engagements. These variables are dichotomous and take value of 1 if the firm confirms certain activity, otherwise they take value of 0.

Firm-level determinants are examined separately for firms' cash holdings, financial leverage, and net debt for the entire sample of 500 firms. Then, four subsamples are formed based on two criteria, (a) the firms' debt level, that is, negative or positive ; and (b) firms' cash flows, that is, high or low. These four subsamples are named positive debt – high cash flow, positive debt – low cash flow, negative debt – high cash flow, and negative debt –

Table 1. ***Definitions of the Variables Used in the Study***

Variable	Definition
Cash Holding	Cash plus marketable securities divided by total assets.
Net Debt	(Debt – Cash plus marketable securities) divided by total assets.
Firm Size	Log of total assets.
MKTB	Market value of the firm divided by its book value.
Cash Flow	Net income after tax plus depreciation divided by total assets.
Net Working Capital	Current assets (net of cash) minus current liabilities divided by total assets.
LEV	Total debt divided by total assets.
CAPEX	Capex divided by total assets.
Strategic Holding	Percent of strategic ownership.
Cost of Debt	Weighted cost of short term debt plus weighted cost of long term debt (Thomson Reuters).
Cost of Equity	Cost of equity based on capital asset pricing model.
Div Dummy	Takes value of 1 if the firm has paid dividend, otherwise, takes value of 0.
FX Impact Dummy	Takes value of 1 if exchange rate impacts the firm's cash, otherwise, takes value of 0.
ESG Dummy	Takes value of 1 if the firm has an ESG score in Thomson Reuters Eikon database; otherwise takes value of 0.

low cash flow. Firms with positive debt and low cash flow are considered financially constrained, while firms having negative debt and high cash flow are considered financially unconstrained or not cash hedging firms. Firms with positive debt and high cash flow can be characterized as growth firms, while the firms having negative debt and low cash flow can be characterized as no-growth firms. There are 187 financially constrained firms, 63 no cash-hedging firms, 63 high growth firms, and 187 low growth firms in the sample.

Model Specification

Multiple regression analysis has been conducted using a firm's cash holding, leverage, and net debt as the dependent variable, and firm-level financial and non-financial variables as independent variables. Various firm-level financial and non-financial variables that may influence the cash holding of a firm are identified from the literature and are used in the multiple regression as control variables. Correspondingly, regression analysis has been conducted for cash holdings and net debt for four subsamples namely financially constrained, no cash-hedging, high growth, and low growth firms.

$$Cash\ Holding = \beta_0 + \beta_1 (Firm\ Size) + \beta_2 (MKTB) + \beta_3 (Cash\ flow) + \beta_4 (NWC) + \beta_5 (LEV) + \beta_6 (CAPEX) + \beta_7 (Strategic\ Holding) + \beta_8 (Cost\ of\ Debt) + \beta_9 (Cost\ of\ Equity) + \beta_{10} (Div) + \beta_{11} (FX\ Impact) + B_{12}(ESG) \quad \ldots. (1)$$

$$Leverage = \beta_0 + \beta_1 (Firm\ Size) + \beta_2 (MKTB) + \beta_3 (Cash\ flow) + \beta_4 (NWC) + \beta_5 (CAPEX) + \beta_6 (Strategic\ Holding) + \beta_7 (Cost\ of\ Debt) + \beta_8 (Cost\ of\ Equity) + \beta_9 (Div) + \beta_{10} (FX\ Impact) + \beta_{11} (ESG) \quad \ldots. (2)$$

$$Net\ Debt = \beta_0 + \beta_1 (Firm\ Size) + \beta_2 (MKTB) + \beta_3 (Cash\ flow) + \beta_4 (NWC) + \beta_5 (CAPEX) + \beta_6 (Strategic\ Holding) + \beta_7 (Cost\ of\ Debt) + \beta_8 (Cost\ of\ Equity) + \beta_9 (Div) + \beta_{10} (FX\ Impact) + \beta_{11} (ESG) \quad \ldots. (3)$$

Analysis and Results

Table 2 provides the summary statistics for the variables used in the study for the sample firms. The sample is fairly balanced in terms of leverage, valuation, and working capital cycle. The sample includes both dividend paying as well as non-dividend paying firms. There are firms in the sample having no strategic holdings as well firms having 100% strategic holding.

Table 3 presents the results of the regression for firms' cash holding, financial leverage, and net debt on firm level financial and other variables. In the first column of the table, results are presented for firms' cash holding as a dependent variable ; in the second column, results are presented for leverage as a dependent variable ; and in the third column, net debt is the dependent variable.

For firms' cash holding regression, the following independent variables are statistically significant: Capital expenditure, cost of debt, cost of equity, dividend dummy, ESG dummy, firm's leverage, net working capital, firm size, and strategic holding. Capex, cost of debt, cost of equity, leverage, net working capital, and firm size have negative slope coefficients. A negative coefficient of firm size indicates that smaller firms hold more cash as percent of their total assets in comparison to larger firms. This result is in line with the existing literature which suggests that there exist economies of scale in cash and liquidity management. Contrary to this, negative coefficient of leverage is in contrast to the earlier findings of studies, indicating precautionary motives behind firm's cash holding. Negative coefficient of working capital indicates that firms having higher non-cash working

Table 2. ***Summary Statistics of Dependent and Independent Variables for the Sample Firms***

	Mean	Minimum	25%	Median	75%	Maximum	Count
Capital Expense	0.0400	0.0000	0.0105	0.0284	0.0577	0.3263	500
Cash Holding	0.1912	0.0015	0.0639	0.1399	0.2829	0.8213	500
Cost of Debt	0.0502	0.0000	0.0291	0.0592	0.0714	0.1243	500
Cost of Equity	0.1369	0.0000	0.1096	0.1353	0.1659	0.2720	500
Div Dummy	0.4740	0.0000	0.0000	0.0000	1.0000	1.0000	500
ESG Dummy	0.1580	0.0000	0.0000	0.0000	0.0000	1.0000	500
Firm Size	24.4959	21.4852	23.2949	24.3023	25.4349	29.7307	500
FX Sensitivity Dummy	0.2420	0.0000	0.0000	0.0000	0.0000	1.0000	500
Market-to-Book Ratio	3.8376	0.0000	1.1739	2.7124	5.1879	48.6288	500
Net Debt	0.0527	–0.8211	–0.2221	0.0007	0.2845	4.4073	500
Net Working Capital	–0.0436	–7.6263	–0.0996	0.0000	0.1153	0.3936	500
Operating Cash Flow	0.0775	–2.7540	0.0426	0.0889	0.1360	0.5136	500
Strategic Holding	0.6029	0.0000	0.5072	0.6303	0.7464	1.0000	500
Leverage	0.2439	0.0000	0.0158	0.1535	0.3659	4.5306	500

Table 3. ***Heteroscedasticity – Consistent Regression Results for Cash Holding, Leverage, and Net Debt on Firm Level Financial and Other Variables***

	OLS Cash Holding	OLS Leverage	OLS Net Debt
Adjusted R^2	0.4235	0.0850	0.6978
F-Statistics	31.5575	1.4803	105.7522
Prob (Wald *F*-Statistics)	0.0000	0.0001	0.0000
C	1.6252	–0.4206	–2.6543
	11.0977***	–0.9461	–10.8554***
Capex	–0.5541	–0.2608	1.1427
	–4.2022***	–0.7910	4.1626***
Cash Flow	–0.1082	–0.6951	–1.3984
	–1.1071	–1.7378*	–24.1343***
Cost of Debt	–0.7284	0.0541	1.9475
	–2.9257***	0.1707	4.4974***
Cost of Equity	–0.4633	–0.6371	1.3151
	–2.8125***	–0.9488	4.2570***
Dividend Dummy	0.0003	0.6010	–0.0007
	1.6987*	1.8920*	–1.9135**
ESG Dummy	0.0949	–0.0011	–0.1510
	4.9374***	–1.6722*	–3.7567***
FX Impact Dummy	0.0156	–0.0481	–0.0094
	1.1353	–1.0416	–0.4024
Leverage/Cash Holding	–0.1940	–0.0402	----------
	–3.6596***	–1.2958	

Market-to-Book Ratio	–0.0020	0.0021	0.0026
	–1.4883	1.1611	1.1273
Net Working Capital	–0.0776	–0.1003	–1.2363
	–2.3682**	–1.1625	–7.2404***
Firm Size	–0.0534	0.0333	1.0464
	–8.5003***	1.8627*	10.2364***
Strategic Holding	0.0568	–0.1062	–0.0877
	1.8868**	–1.3499	–1.6704*

Note. (*$p < 0.10$, ** $p < 0.05$, *** $p < 0.01$).

capital to their total assets are less likely to hold higher cash balance. Negative coefficients of cost of debt and cost of equity seem incomprehensible as it indicates that firms facing higher cost of debt on account of low credit worthiness and having higher cost of equity due to volatile nature of their stock prices tend to hold less cash. Yet again, this result is in contrast to the precautionary motive of cash holding. Negative coefficient of capex indicates that firms allocating higher percentage of their earnings in capital expenditures have lower cash balances.

Dividend dummy, ESG dummy, and strategic holding have positive slope coefficients. Significant positive coefficients of these variables indicate that dividend paying firms ; firms engaged in environmental, social, and good governance practices ; and firms with larger strategic holdings tend to hold more cash as percent of their total assets. Positive coefficient of dividend dummy indicates that firms having higher cash holdings have lesser capital expenditures to make due to lower growth opportunities, and therefore, these firms are better placed to pay higher dividends. Also, firms with better social, environmental, and governance practices tend to be more conservative firms, and thus, hold more cash. Similarly, firms with higher strategic holding tend to conserve cash for strategic commitments like potential acquisitions and market expansion.

For the firms' leverage regression, only four independent variables namely, operating cash flow, dividend dummy, ESG dummy, and firm size are statistically significant. Dividend dummy and firm size have positive slope coefficients, and operating cash flow and ESG dummy have negative coefficients. Positive coefficient of dividend dummy though seems counter intuitive as highly leveraged firms find it difficult to pay dividends, however, it indicates that firms paying dividend finance their growth opportunities using debt. Also, larger firms tend to have higher leverage than the smaller firms as larger firm size reduces cost of financial distress. It is quite natural for firms with higher operating cash flows to keep lower leverage. Also, ESG firms' management being more conservative tends to have lower leverage.

Column 3 of Table 3 presents the results of regression for net debt, which is calculated by subtracting firms' cash holding from its total debt divided by firms' total assets. For net debt, capex, operating cash flow, cost of debt, cost of equity, dividend dummy, ESG dummy, net working capital, firm size, and strategic holding are statistically significant. Capex, cost of debt, cost of equity, and firm size have positive slope coefficients ; whereas, operating cash flow, dividend dummy, ESG dummy, net working capital, and strategic holding have negative slope coefficients. Positive coefficient of capex for net debt is analogous to its negative coefficient for firms' cash holding. Here, a positive coefficient confirms that firms having higher capital expenditures tend to finance their expansion plans using debt, after exhausting their cash holding. Positive coefficients of cost of debt and cost of equity are also analogous to their negative coefficients for cash holding. However, results for cost of equity and cost of debt are more profound for net debt as it confirms that funding becomes expensive for firms having lower cash balances but higher debt. Positive coefficient of firm size to net debt indicates that larger firms have better debt bearing capacity, and can easily substitute cash holding with debt.

Negative coefficients of ESG and dividend dummy indicate that higher net debt is negatively related to firms'

dividend paying capacity as well as their engagement with ESG activities. Negative coefficient of operating cash flow to the net debt confirms that firms earning lower operating cash flows tend to have positive net debt. Also, firms having lower non-cash working capital tend to have higher positive debt. Negative coefficient of strategic holding indicates that firms having higher strategic holding keep their net debt on a tight rein by increasing their cash holdings.

Net debt is apparently more relevant for firms' financial policies as its regression model has higher adjusted *R*-squared (0.6978) than cash holding (0.4235). Furthermore, a larger number of independent variables demonstrate statistically significant relationship with net debt than cash holding. There are quite a few variables like capex and cost of capital that confirm the analogous relationship for both cash holding and net debt. Other independent variables do not demonstrate such analogous association with cash holding and net debt. Consequently, it is not coherent to accept substitutability of cash holding and net debt. To investigate the matter further, the sample has been divided into four subsamples based on the two-fold criterion ; first, firms' debt level, that is, negative or positive ; and second, firms' cash flow, high or low.

Table 4 presents the results of regression for financially constrained firms and no cash hedging firms. For financially constrained firms, results of cash holding regression indicates that operating cash flow, cost of debt, ESG dummy, FX dummy, market to book value, and net working capital have statistically significant coefficients. All the independent variables excluding net working capital have positive coefficients. Positive coefficients of cash flow, ESG dummy, and market to book value confirm that firms having higher operating cash flows and market to book value, and firms having higher probability of engagement in ESG activities have a tendency to hold more cash. Similarly, firms facing considerable foreign exchange impact on their operations tend to hold more cash for precautionary motives. Value of adjusted *R*-square (0.3571) for financially constrained firms' cash holding regression is considerably lower than the value of adjusted *R*-square (0.8074) for net debt regression, which confirms the fact that for financially constrained firms, net debt is more relevant for firms' financial policies than cash holding. Negative coefficient of non-cash net working capital confirms that financially constrained firms having higher net working capital are required to hold less cash. Therefore, for financially constrained firms, non-cash working capital serves as a substitute for cash holding.

Coefficients of operating cash flow, cost of debt, FX impact dummy, and market to book value have negative values, which diverge from the positive coefficients of these variables for cash holding. However, positive coefficients for cash holding and negative coefficients for net debt are notionally equivalent to each other. Negative coefficient of net working capital for net debt is inconsistent with its negative coefficient for cash holding. This implies that firms having higher non-cash working capital tend to have lower net debt, which might result from either keeping lower debt levels or holding higher cash. Since the substitutability of non-cash working capital and cash holding is already proven, the results indicate that more liquid firms having higher working capital tend to have lower debt levels.

For no-cash hedging subsample – categorized as negative net debt and high operating cash flow firms, the value of adjusted *R*-square for both the dependent variables namely, cash holding as well as net debt is quite low (0.1585 and 0.1102, respectively), indicating low relevance of cash holding and net debt for these firms. For cash holding, capex, cost of equity, leverage, market to book value, firm size, and net working capital are statistically significant. All of these statistically significant variables have negative coefficients for cash holding, indicating that firms with higher capex, cost of equity, leverage, and market to book value tend to hold less cash. These results are similar for three independent variables namely capex, cost of equity, and net working capital for the firms under the financially constrained category. However, coefficient of market to book value is contrary between financially constrained firms and no cash hedging firms. For financially constrained firms, higher cash holding generates higher market valuation ; whereas, for non-cash hedging firms, higher cash holding is associated with lower market valuation.

Table 4. ***Heteroscedasticity – Consistent Regression Results for Cash Holding and Net Debt on Firm Level Financial and Other Variables for Financially Constrained and No-Cash Hedging Firms***

	Financially Constrained Firms Positive Debt – Low Cash Flow		No Cash Hedging Firms Negative Debt –High Cash Flow	
	OLS Cash Holding	**OLS Net Debt**	**OLS Cash Holding**	**OLS Net Debt**
Adjusted R^2	0.3571	0.8074	0.1585	0.1102
F-Statistics	9.6103	71.9244	1.9734	1.6982
Prob (Wald *F*-Statistics)	0.0000	0.0000	0.0136	0.0171
C	1.0302	–0.9462	1.4061	–1.3179
	5.7619***	–2.6759***	2.5378	–2.2328**
Capex	–0.0419	0.3106	–1.1528	1.1162
	–0.5166	1.0743	–1.8433*	1.8407*
Cash Flow	0.1361	–1.3589	0.2310	–0.0418
	1.9012**	–40.9087***	0.4147	–0.0719
Cost of Debt	0.4242	–1.3685	0.4441	0.5770
	2.3153**	–2.0301**	0.6271	0.7938
Cost of Equity	–0.1311	0.9941	–1.0483	1.3320
	–1.2513	3.0654***	–1.6280*	2.0070**
Dividend Dummy	–0.0001	–0.0001	0.0001	–0.0001
	1.4833	–0.7835	0.2484	–0.2924
ESG Dummy	0.0720	–0.0250	0.0216	–0.0013
	3.7847***	–0.4803	0.3542	–0.0189
FX Impact Dummy	0.0280	–0.0666	0.0133	–0.0020
	2.2906**	–2.1388**	0.2710	–0.0382
Leverage/Cash Holding	0.0719	---------	–0.8319	--------
	1.3769	–2.3463**		
Market-to-Book Ratio	0.0011	–0.0056	–0.0045	0.0045
	3.0861***	–2.2415**	–1.6906*	1.6839*
Net Working Capital	–0.0260	–0.0907	–0.2565	0.3706
	–3.2099***	–4.6382***	–1.7134*	2.4291**
Firm Size	–0.0397	0.0485	–0.0403	0.0316
	–5.2328***	3.5353***	–1.8557*	1.3216
Strategic Holding	–0.0167	0.0995	0.0663	–0.0052
	–0.6639	1.4283	0.7683	–0.0593

Note. (*$p < 0.10$, ** $p < 0.05$, *** $p < 0.01$).

The results are in line with the finance literature, which suggests that cash holding is relevant for financially constrained firms' valuation, but not for the firms having negative net debt and strong operating cash flows. For net debt, only five variables namely capex, cost of equity, market to book value, firm size, and net working capital have statistically significant coefficients, and all the coefficients have positive values except firm size. Negative coefficient of firm size for cash holding is ubiquitous, which signifies economy of scale for cash holding.

Table 5 presents results of regression for growth firms and declining firms. For growth firms which are characterized by positive debt and high cash flow, values of adjusted *R* - square for cash holding and net debt are

0.1030 and 0.1666, respectively. For cash holding, only four variables namely, dividend dummy, ESG dummy, net working capital, and firm size are statistically significant. Positive coefficients of dividend dummy and ESG dummy indicate that growth firms holding higher cash balances have higher probability of dividend payment and ESG engagements. Negative coefficient of net working capital is consistent with similar results for other sub-categories of firms. Negative coefficient of firm size for cash holding is again in line with similar results for other categories of firms, which demonstrate that larger firms can manage without holding higher cash balances as there is economy of scale in cash holding. Likewise, for growth firms' net debt regression, only two variables namely,

Table 5. ***Heteroscedasticity – Consistent Regression Results for Cash Holding and Net Debt on Firm Level Financial and Other Variables for Growth and Declining Firms***

	Growth Firms Positive Debt – High Cash Flow		Declining Firms Negative Debt – Low Cash Flow	
	OLS Cash Holding	**OLS Net Debt**	**OLS Cash Holding**	**OLS Net Debt**
Adjusted R^2	0.1030	0.1666	0.3563	0.3476
F-Statistics	1.5938	2.1274	9.5818	10.0102
Prob (Wald *F*-Statistics)	0.0318	0.0347	0.0000	0.0000
C	0.5714	–0.9572	1.5177	–1.5847
	2.9478***	–1.8829*	6.8964***	–6.7178***
Capex	–0.0644	–0.1973	–0.8325	1.1162
	–0.3367	–0.5604	–2.8681***	3.0016***
Cash Flow	–0.0127	–0.6763	–0.1482	0.1755
	–0.0415	–1.1956	–0.4620	0.4849
Cost of Debt	–0.1504	–0.4886	–0.6100	1.4716
	–0.5171	–0.7321	–1.5781	3.8855***
Cost of Equity	0.0270	0.5696	–0.4377	0.4943
	0.1729	1.3894	–1.6799*	1.7185*
Dividend Dummy	0.0007	–0.0017	0.0007	–0.0007
	1.8156*	–2.1380**	1.2865	–1.2361
ESG Dummy	0.0459	–0.0912	0.0869	–0.1045
	1.7465*	–1.4261	2.3284**	–2.6775***
FX Impact Dummy	0.0023	–0.0420	0.0267	–0.0076
	0.1864	–1.1749	1.1644	–0.3041
Leverage/Cash Holding	0.0102	----------	0.0070	----------
	0.1805	0.0476		
Market-to-Book Ratio	0.0009	0.0011	–0.0048	0.0043
	0.5169	0.4248	–5.0318***	3.9866***
Net Working Capital	–0.0876	–0.0164	–0.3956	0.3074
	–1.8854*	–0.1744	–5.0469***	3.8495***
Firm Size	–0.0203	0.0522	–0.0482	0.0519
	–2.5027**	2.5393***	–5.3916***	5.5170***
Strategic Holding	0.0068	–0.1116	0.1008	–0.1351
	0.1718	–1.3357	2.0235**	–2.4286**

Note. (* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$).

dividend dummy and firm size are statistically significant. Coefficient of dividend dummy is negative, while coefficient of firm size is positive. Negative coefficient of dividend dummy indicates that high growth firms having higher levels of net debt have lower probability of dividend payment. Positive coefficient of firm size to net debt is analogous to universal result of economies of scale for cash holding. Larger firms tend to have higher net positive debt as they hold relatively lesser cash balances.

For declining firms, which are characterized by negative net debt and low operating cash flows, values of adjusted *R*-square for cash holding and net debt regression are 0.3563 and 0.3476, respectively, which are higher than similar values for growth firms and no cash hedging firms. These values are second to only financially constrained firms. For cash holding regression, capex, cost of equity, ESG dummy, market to book value, net working capital, firm size, and strategic holding are statistically significant. Out of these significant variables, capex, cost of equity, market to book value, net working capital, and firm size have negative slope coefficients. These results are consistent with similar findings for cash holding for other sub - categories of firms. Coefficient of strategic holding is positive, which indicates firms having high concentration of ownership with strategic stakeholders act more conservatively and thus hold higher cash balances.

Net debt regression for declining firms have the following significant variables – capex, cost of debt, cost of equity, FX impact dummy, market to book ratio, net working capital, firm size, and strategic holding. Out of these significant variables, ESG dummy and strategic holding have a negative coefficient, demonstrating that declining firms having higher net debt tend to have lesser engagement with ESG practices, and also a more conservative approach of the strategic stakeholders for holding net debt. Positive coefficients of other independent variables for net debt are consistent with similar findings for other sub - categories of firms.

Conclusion

For the complete sample of firms, a larger number of independent variables demonstrate statistically significant relationship with net debt than cash holding. Some variables like capex and cost of capital confirm analogous relationship for both cash holding and net debt. Other independent variables do not demonstrate such analogous association with cash holding and net debt. Consequently, it is not coherent to accept substitutability of cash holding and net debt. The results confirm that for financially constrained firms, net debt is more relevant for firms' financial policies than cash holding. The results are in line with the finance literature, which suggests that cash holding is relevant for financially constrained firms' valuation, but not for the firms having negative net debt and strong operating cash flows. Negative relationship between firm size and cash holding is ubiquitous, signifying economy of scale for cash holding. Relevance of cash holdings and net debt is analogous for declining firms. Growth firms place relatively more emphasis on net debt ; whereas, no-cash hedging firms give more weightage to the cash holdings.

Theoretical and Managerial Implications

The study confirms that both cash holding as well as net debt seem to be relevant for firms' financial policies. Firms' cost of capital, dividend payout, foreign exchange impact, size of capital expenditures, operating cash flows, and promoters' holding are the common determinants of cash holding and net debt. Cash holding is most relevant for financially constrained firms. Net debt appears to be the most relevant component of financial policy for low growth firms. No hedging firms are indifferent between cash holding and net debt. For financially constrained firms, higher cash holding generates higher market valuation ; whereas, for non-cash hedging firms, higher cash holding is associated with lower market valuation. Managers of financially constrained firms can channelize their excess cash flows in firms' cash holding for precautionary purposes and win confidence of the

capital market. In contrast, managers of the no cash hedging firms shall strive to utilize the firms' surplus cash holding for productive investments. The results also suggest a positive impact of cash holding in terms of enhanced ESG score for growth firms, declining firms, as well as financially constrained firms.

Limitations of the Study and Scope for Further Research

As the present study has undertaken an expanded sample of firms belonging to diverse industries, it does not capture any industry impact on cash holding. Further, industry specific research can be conducted to capture industry impact on firms' cash holding and net debt. Macroeconomic factors such as interest rate scenarios, availability of credit facility, and liquidity also influence the cash holding pattern of firms. Therefore, a panel data analysis using multi year data for cross section of firms will add another dimension of macroeconomic and policy influence on the firms' cash holding and net debt. The ongoing COVID-19 pandemic also provides the opportunity to test the precautionary motive of cash holding under realistic settings.

Author's Contribution

The major contribution of this study is to fill the gap in extant finance literature by examining relevance of cash holding and net debt for Indian non-finance/non-banking firms. The study finds that cash holding is the most relevant for financially-constrained firms. Net debt appears to be the most relevant element for low-growth firms. No-hedging firms are indifferent between cash holdings or net debt. This study establishes the validity of fact that more profitable firms generating sustainable cash flows are likely to hold more cash. Also, firms that face challenges in raising external capital, due to higher cost of capital, tend to accumulate greater cash to use it as internal equity, when required.

Conflict of Interest

The author certifies that he has no affiliations with or involvement in any organization or entity with any financial interest, or non-financial interest in the subject matter, or materials discussed in this manuscript.

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