

# The Impact of Foreign Institutional Ownership on Corporate Cash Holdings in Japan

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## Abstract

This study attempts to revisit the agency explanation of cash holdings and explores if outsider-investor dominance, such as foreign institutional ownership, leads to a reduction in the level of liquid assets that can be easily appropriated by the self-interested managers. To investigate this, we build on previous studies and attempt to develop a methodology in order to target the setting where cash reserves are more prone to generate agency conflicts between managers and shareholders. The results suggest that foreign institutional investors cause a decline in cash balances of firms only in the presence of a higher propensity of wasteful managerial behavior. With respect to the value of cash, the findings show that marginal value of cash is greater in firms with high foreign ownership suggesting that foreign investors are effective in monitoring the firms in which they hold equity stakes. In terms of the usage of excess cash reserves, it was found that firms with a decline in their cash reserves negatively impact the operating performance of firms which is suggestive of inefficient ways of cash deployment. However, the negative impact of decline in excess cash on operating performance is reversed if firms have larger presence of foreign institutional investors. We find no significant evidence on the impact of investment horizon of foreign institutional block-holders and stable shareholders on cash holdings. Overall, the results presented in this study support the premise that Japanese corporate governance improved with the increased equity ownership by foreign institutional investors.

Keywords: Corporate governance; Foreign Institutional Ownership; Cash Holdings

## 1. Introduction

The aim of this paper is to examine whether increase in foreign equity ownership is associated with improvements in the quality of corporate governance by revisiting the agency explanation of cash holdings for a sample of Japanese firms. We predict that if increase in the equity ownership by foreign institutional investors is related to improvements in the quality of corporate governance, it should impact the cash holdings behavior in such a way that firms are able to respond to its capital needs in a timely and value maximizing manner.

The traditional Japanese corporate governance, characterized by its unique relationship-oriented corporate ownership structure, have distinctive features that played a significant role in the cash holding decisions of firms. The corporate ownership structure was mostly dominated by banks and stable cross-shareholders, and main banks used to have close business relationships with client firms within *keiretsu* and acted as the provider of capital and governance (Prowse, 1992; Aoki, Patrick, and Sheard, 1994; Morck and Nakamura, 1999; Kaplan and Minton, 1994; Kang and Shivdasani, 1995; Hoshi, Kashyap, and Scharfstein, 1990). Japanese firms are often described as cash rich and it is evident from the literature that compared to other countries, firms in Japan not only hold considerably higher levels of cash but also demonstrate a greater persistence in the cash holdings (Rajan and Zingales, 1995; Pinkowitz and Williamson, 2001; Dittmar et al. 2003; Pinkowitz et al. 2012). The higher cash balances of Japanese firms are considered as an outcome of the conventional relationship based corporate governance structure. Pinkowitz and Williamson (2001) provide evidence that firms in Japan hold high cash reserves due to high main-bank power. In addition, Kang and Stulz (2000) find that despite of increased availability of capital, firms with main bank ties substantially invest less than other firms. Weinstein and Yafeh (1998) argue that even though firms with main bank ties have easy access to capital, the performance and growth of those firms were suboptimal as compared to firms with no close relations with the main bank. Similarly, Hiraki et al. (2003) find that main bank borrowing negatively impacts the firm value. Low firm performance and decreased value suggest that firms in Japan held cash in excess of their capital needs.

However, the deregulation of financial markets in the early 2000s resulted in weakening of main bank influence. For instance, due to the Act on “Limitation on Shareholding by Banks and Other Financial Institutions” issued in 2001, banks drastically reduce their shareholdings. Coupled with the reduction in barriers for foreign investors to enter the Japanese market during this period, the decreased bank ownership has led to a substantial increase in foreign equity ownership during this period. According to Tokyo Stock Exchange (TSE), while the bank share ownership fell from 16.3% (1991) to 2.7% (2011), equity ownership by foreign institutional investors dramatically increased from 5.4% to 22.8% and became one of the major shareholders of Japanese firms. Since large institutional investors have incentives and potential abilities to monitor and confront firm’s management (Shleifer and Vishny, 1986; Kang and Stulz, 1997; Gillan and Starks, 2003; Hamao, Kutsuna, and Matos, 2011), increase in foreign ownership, especially with the legally strong shareholders’ rights, may have affected the cash holdings behavior of firms. As suggested by recent literature on the role of institutional investors (for example, see Ferreira and Matos, 2008; Aggarwal et al., 2011), foreign investors may play a special role in improving corporate governance and thus their increased equity acquisition may have led to mitigate free cash flow problems by forcing managers to disgorge excessive cash.

In testing the impact of foreign institutional ownership, we use multiple measures to capture their monitoring incentives. First one is the fraction of the firm’s total shares outstanding owned by foreign institutional investors, which is common in the literature. In addition, we use several alternative measures of investment horizon (ownership stability) of foreign block-holders, since the incentive and ability of investors to engage in improving governance practices are more likely to increase with their investment horizon. Bushee (1998) shows that compared to transient owners, institutions with long-term investments more actively monitor the firms. Stable owners have greater incentives to engage in monitoring for longer and ongoing basis, and therefore they may be able to bring about improvements in the quality of corporate governance (Elyasiani and Jia, 2010; Attig, Cleary, Ghoul, and Guedhami, 2010). In addition, whether the long-term (stable) foreign institutional investors have a more significant effect on governance is likely to be especially an interesting

question in the Japanese setting, given the presence of traditional “stable” institutional investors. Using Japanese data, Shinozaki, Moriyasu, and Uchida (forthcoming) find that stable shareholders who receive benefits from long-term business relations have a negative effect on governance, whereas firms mainly owned by arms-lengths investors including foreign institutions adopt good governance practices. Coupled with identifying their incremental impact on the governance of firms from strong shareholder protection market, this study adds new evidence to the literature by investigating how foreign shareholders with longer investment horizons affect corporate governance.

The empirical analyses reveal several significant findings. We find that foreign institutional investors cause a decline in cash balances of firms only in the presence of higher propensity of wasteful behavior. With respect to the value of cash, our findings show that marginal value of cash is greater in firms with high foreign ownership, suggestive of increased and effective monitoring by foreign investors. We use further analysis to obtain stronger evidence on whether foreign ownership is associated with efficient usage of excess cash. Firms with a decline in their cash reserves negatively impact the operating performance of firms which is suggestive of inefficient ways of cash usage. However, the results show that this negative impact on operating performance is reversed if firms have larger presence of foreign institutional investors. We find no significant evidence on the impact of investment horizon of foreign institutional block-holders and stable shareholders on cash holdings.

This paper proceeds as follows. Section 2 provides an overview of the previous literature and develops the hypothesis. Section 3 describes the research design and variables. Section 4 presents sample, data, and empirical results. Section 5 concludes.

## 2. Hypothesis Development

Previous literature on the relation between agency problems and cash shows that corporate governance is a significant determinant of cash holdings where improved corporate governance is related to either lower or higher cash reserves. Dittmar et al. (2003) provide evidence of a negative relation between corporate governance and cash holdings. They show that in countries with weaker

investor protection, firms hold more cash as compared to firms in countries with less agency problems. Similarly, using indicators for country and firm level agency problems, Kalcheva and Lins (2007) show that strong corporate governance is associated with lower cash holdings. The rationale for negative association between agency problems and cash is based on the prediction that poorly monitored managers accumulate cash and have the propensity to waste free cash flows through inefficient and value decreasing investment decisions (Jensen, 1986). Harford et al. (1999) provide evidence of such managerial tendency in the presence of cash stockpiles and report that managers in firms with greater likelihood of agency conflicts spend cash on unnecessary acquisitions that adversely affects the value. Furthermore, with strong corporate governance, shareholders can put pressure on corporate managers to disgorge excessive cash that can enable either, overinvestment in negative NPV projects, or used by entrenched managers for their private benefits (Jensen, 1986; LLSV, 2000). Pinkowitz et al. (2006) find that because of the ability of entrenched managers to inefficiently use cash resources, value of cash is lower for firms in countries with poor governance. In addition, they also present evidence that shareholders value dividends more in such firms. In a similar vein, using data for U.S. firms, Dittmar and Smith (2007) report that value of cash is lower for firms with weaker governance structure. This is because managers in firms with poor governance waste cash on less profitable projects and negatively impact the firm value. In contrast, Harford et al. (2008) report a positive association and show that firms with strong corporate governance hold high cash reserves. They show that empowered shareholders allow managers to hold high cash reserves in order to avoid the costs associated with underinvestment. Although, they present a positive association between governance and cash holdings, the value implications presented in their study are in line with that reported in other studies, that is, poor governance and higher cash reserves destroy firm value.

Based on the preceding arguments, the higher levels and greater persistence of cash holdings in Japan can be considered as an outcome of the relationship-based conventional Japanese governance structure where the main-bank was the primary monitor and disciplinarian of firms. Main banks along with stable cross-shareholdings, between firms and banks or among non-financial firms, play a central

role in the corporate governance mechanisms of firms in Japan (Prowse, 1992; Aoki et al. 1994; Morck and Nakamura, 1999). Rajan and Zingales (1995) show that compared to other countries, Japanese firms considerably hold higher levels of cash. Pinkowitz and Williamson (2001) find that Japanese firms hold excessive amounts of cash due to high main bank power as well as absence of other monitoring forces. Their justification for the higher cash holdings is linked to rent appropriation by the main-banks through interest payments where firms were persuaded to use large amount of bank-financed capital. Furthermore, results presented in previous research are coherent with the view that in relationship-based governance structure, firms with main bank ties held large cash reserves in excess of that needed for operations and investments, suggesting that cash levels were above the optimal level and thus negatively affected the firm value. Consistent with the main bank rent extraction hypothesis, Weinstein and Yafeh (1998) argue that even though firms with main bank ties have easy access to capital, the performance and growth of those firms were suboptimal as compared to firms with no close relations with the main bank. Similarly, Hiraki et al. (2003) find that main bank borrowing negatively impacts the firm value. Low firm performance and decreased value suggest that firms in Japan held cash in excess of their capital needs. This can be also be supported with the evidence presented in Kang and Stulz (2000). They find that despite of increased availability of capital, firms with main bank ties substantially invest and perform less than firms with no main bank relations. This raises concerns regarding the efficacy of the traditional relationship-based corporate governance structure in Japan. Since firms with higher excess cash reserves have better performance and improved value if the quality of corporate governance in place is good (Dittmar and Smith, 2007).

However in the late 1990s, with a sharp increase in the ownership by foreign investors and weakening of main bank power, Japanese governance structure changed considerably. Since, foreign investors can actively drive changes in corporate governance practices through direct or in-direct interventions (Gillan and Starks, 2003), increased foreign ownership led to a change in the previously relationship-based governance to a more shareholder based governance structure. With fewer business relations with the firms they invest, foreign investors that are typically large institutional investors, critical of managerial decisions and have incentives to be involved in monitoring. Foreign investors

play a special role in improving corporate governance (Ferreira and Matos, 2008; Aggarwal et al. 2011) and thus have the potential to mitigate agency conflicts associated with cash reserves through increased monitoring and control.

With the transition from relationship-based governance to a shareholder based governance structure, foreign investors may have impacted the cash holdings behavior of Japanese firms. We hypothesize a negative relation and expect that firms with increased foreign ownership experience a decline in their cash ratio. In addition, this study directly tests for the agency explanation for the decrease in cash holdings. First, we target the cash reserves that are more prone to generate agency conflicts between shareholders and managers, and expect that cash significantly declines for firms with cash balances that are more likely to be opportunistically used by the managers. That is, if increased foreign ownership is indeed related to any improvement in the quality of corporate governance, it will lessen the agency conflicts associated with liquid assets in excess of firms' capital needs and therefore, prevents the misappropriation of cash. Second, this study further examines the notion that change in cash is associated with agency problems and investigate the value of cash holdings. Since managers in firms with poor governance have the propensity to waste liquid assets, the value of cash holdings is lower for firms with weaker corporate governance (Pinkowitz et al. 2006; Dittmar and Smith). Unlike before, where firms had close relations with main bank along with coordinated cross-holdings and held significantly higher amounts of cash, we expect that increase in foreign institutional ownership enhances the value of cash holdings.

### 3. Research Design

#### 3.1. Main Regression Model

To measure the impact of foreign institutional ownership and investment horizon of foreign institutional block-holders on cash holdings, this study builds on Opler et al. (1999) and Bates et al. (2012) to investigate the agency explanations for the changes in cash holdings. We examine whether the shareholder based governance, expressed by substantial changes in Japanese corporate ownership

structure, drives changes in the previously higher levels of cash holdings. Specifically, this research examines whether increased presence of foreign institutional investors, their investment horizon, and stable shareholders are related to the change in a firm's cash position. To do so, we employ panel regressions with change in cash holdings as the dependent variable. Change in cash is measured from year t-1 to year t. The following equation describes the regression:

$$\begin{aligned}
 CASH_{i,t} = & \alpha_0 + \beta_1 Owners_{ip_{i,t-1}}(InvestHorizon_{i,t}) + \beta_2 SIZE_{i,t} + \beta_3 MTOB_{i,t} + \beta_4 CFLOW_{i,t} \\
 & + \beta_5 NWC_{i,t} + \beta_6 RD_{i,t} + \beta_7 DIV_{i,t} + \beta_8 CAPEX_{i,t} + \beta_9 LVRGE_{i,t} + \beta_{10} CVOLAT_{i,t} \\
 & + YearDum + FirmFixedEffects + \varepsilon_{i,t}
 \end{aligned}$$

Following previous literature, we measure cash holdings as the ratio of year-end cash and marketable securities to year-end net assets, where net assets are calculated as total assets less cash and marketable securities. The dependent variable  $\Delta CASH$  thus represents the ratio of cash to net assets from year t-1 to t. The independent variable, ownership, is categorized into ownership by foreign institutional investors (*FOWN*) and stable shareholders (*STABLEOWN*). Foreign ownership is measured as the percentage of shares held by foreign institutional investors while stable shareholder ownership is estimated as the percentage of shares held by banks, insurance companies, and non-financial corporate block-holders.

We also compare and analyze the impact of foreign institutional block-holders with longer investment horizons on cash holdings. We use two measures to distinguish between large foreign institutional shareholders with short-term and long-term investment horizons. The first measure is the institutional ownership persistence (*IOP*). Following Elyasiani and Jia (2010), this study defines IOP for foreign institutional block-holders (*FOWNIOP*) in a firm as the ratio of their average ownership proportion to the standard deviation of the ownership proportion over a 5 year period including the sample year. We measure IOP by using interim data<sup>1</sup> for the individual foreign institutional block-holders<sup>2</sup> in a specific firm. For instance, IOP for each foreign institutional investor in 2008 is calculated using 10 interims, from the first fiscal interim of 2004 to the second interim of 2008. The

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<sup>1</sup> Quarterly data for individual investors is not available in the Major Shareholders Database.

<sup>2</sup> Investors among the top 30 largest shareholders.



value of IOP is high if an investor's shareholding is stable across a 5 year period. IOP for a firm is then calculated as the average IOP across all the foreign institutional block-holders in the firm. For the second measure of investment horizon, we follow Bohren et al. (2005) and Elyasian and Jia (2010), and use the maintain-stake-points duration method. The maintain-stake-points duration measure (*FOWNSTAKES*) is the number of interims in which a foreign institutional investor is among the largest shareholders of a specific firm out of 10 interims. If foreign institutional investor holds a high proportion of shares for many interims during a 5 year period including the sample year, the *FOWNSTAKES* measure will be high. Maintain-stake-points duration for a firm is calculated as the average maintain-stake-point durations across all the foreign institutional block-holders.

This study also controls the effect of firm characteristics that are previously found to be associated with corporate cash holdings. Consistent with Opler et al. (1999), we include several firm-level control variables that are motivated by precautionary and transaction costs motives of cash holdings. The control variables include firm size (*SIZE*), market to book ratio (*MTOB*), the ratio of cash flow from operations to net assets (*CFLOW*), net working capital deflated by net assets (*NWC*), ratio of research and development expenditures to net sales (*RD*), dividend dummy that takes the value of one if firm pays dividends (*DIV*), capital expenditures to net assets (*CAPEX*), firm leverage (*LVRGE*), and firm's cash flow volatility over a period of five years (*CVOLAT*). To provide strong evidence of causality and better control for unobserved firm characteristics and year-specific effects, we estimate the cash holdings equation using firms and year fixed effects.

## 4. Empirical Results

### 4.1. Sample and Descriptive Statistics

This study uses a sample that consists of firms listed on Tokyo Stock Exchange. We obtain firm-specific financial information and shareholdings data for both stable domestic shareholders and foreign institutional shareholders from Nikkei Economic Electronic Database System Financial Quest (NEEDS FQ). Individual data for large stable domestic shareholders and foreign institutional block-

holders is obtained from the Top 30 Major Shareholders Database in NEEDS FQ. For the impact of ownership type on cash holdings, regressions were estimated using data from 2004 through 2012. However, this study reports results for the investor horizon of foreign institutional block-holders for the period 2008 to 2012 due to data limitations. Financial firms, utility firms, and firms with unavailable data were dropped from the sample. This restricts the sample of this study to 16,898 firm-years from 2,177 non-financial firms. In order to control for the effect of outliers, firm level ratios were winsorized at 1% and 99% levels. Table 1 presents summary statistics for cash holdings, ownership variables, investment horizon of foreign block-holders, and controls variables for the period 2004-2012. The correlation among the variables employed is presented in Table 2. In general, the variables are not highly correlated. The largest correlation is between foreign institutional shareholders (*FOWN*) and firm size (*SIZE*) ( $\rho=0.556$ ). However, the results remain unchanged after removing firm size and using the size-adjusted foreign institutional ownership.

#### 4.2. Foreign Institutional Ownership, Stable Ownership, and Changes in Cash Holdings

In column (1) of Table 3, regression results for the impact of foreign institutional ownership on change in level of cash holdings are reported. The estimated coefficient on foreign ownership (*FOWN*) is in accordance with the predicted sign and suggests that there is a negative relation between foreign ownership and subsequent changes in cash holdings, Japanese corporate cash reserves significantly declined in the period characterized by increased foreign ownership. In other words, firm's cash management practices may have changed due to the transition in the governance structure. Control variables have their expected signs. In contrast, stable shareholders (*STABLEOWN*) have no effect on the level of cash reserves, as shown in column (2). This association can be attributed to the decline in the previously high monopoly power exercised by banks that affected the cash holding behavior of Japanese firms in the 1970s and 1980s.

Table 1 Descriptive Statistics

This table presents the summary statistics for cash holdings, ownership variables, and determinants of cash holdings in the sample. Net asset in denominator of variables is calculated as total assets minus cash and marketable securities. Cash is defined as the sum of cash, deposits, and marketable securities to net assets. Foreign ownership is measured as ratio of shares owned by foreign investors to number of shares issued at the end of period. Stable domestic block-holders is the ratio of sum of shareholding by banks, insurance companies, and corporations. Foreign IOP and foreign stakes are the measures of investment horizon of foreign institutional block-holders. Firm size is the natural logarithm of total assets. Market-to-book ratio is the ratio of market value of total assets to book value of total assets. Cash flow from operations is defined as the ratio of earnings before interests and taxes plus depreciation and amortization less interests, taxes, and common dividends to net assets. Net working capital is the ratio of current assets minus current liabilities calculated without cash, deposits, and marketable securities to net assets. R&D is the ratio of research and development expenses to sales. Dividend dummy is an indicator variable if firms pay dividends in the current fiscal year. Capital expenditure equals to annual change in fixed assets plus depreciation charges to net assets. Leverage is measured as the ratio of total debt to total assets. Cash flow volatility is the five years standard deviation of firm's cash flow. ROA equals operating income to totals assets. PPE is the ratio of plant, property, and equipment to net assets.

	N	Mean	Std. Dev	25th Percentile	Median	75th Percentile
Cash Holdings	16,898	0.192	0.362	0.051	0.112	0.220
Foreign Institutional Shareholders	16,898	0.098	0.112	0.014	0.057	0.150
Stable Domestic Block-Holders	16,898	0.310	0.173	0.179	0.290	0.427
Foreign IOP (Investment Horizon)	10,012	0.158	0.133	0.000	0.189	0.259
Foreign Stakes (Investment Horizon)	10,012	2.378	2.427	0.000	2.000	4.000
Firm Size	16,898	10.812	1.415	9.873	10.672	11.655
Market-to-Book	16,898	1.158	0.514	0.854	1.022	1.293
Cash Flow from Operations	16,898	0.061	0.057	0.030	0.054	0.085
Net Working Capital	16,898	0.031	0.187	-0.088	0.039	0.156
R&D Expenditures	16,898	0.018	0.033	0.000	0.003	0.024
Dividend Dummy	16,898	0.466	0.499	0.000	0.000	1.000
Capital Expenditures	16,898	0.034	0.080	0.000	0.028	0.067
Leverage	16,898	0.479	0.209	0.318	0.480	0.641
Cash Flow Volatility	16,898	0.025	0.030	0.009	0.016	0.029
ROA	16,613	0.048	0.090	0.022	0.041	0.072
PPE	16,613	0.294	0.185	0.158	0.273	0.406

Table 2 Correlation Matrix

Net asset in denominator of variables is calculated as total assets minus cash and marketable securities. Cash is defined as the sum of cash, deposits, and marketable securities to net assets. Foreign ownership is measured as ratio of shares owned by foreign investors to number of shares issued at the end of period. Stable domestic block-holders is the ratio of sum of shareholding by banks, insurance companies, and corporations. Firm size is the natural logarithm of total assets. Market-to-book ratio is the ratio of market value of total assets to book value of total assets. Cash flow from operations is defined as the ratio of earnings before interests and taxes plus depreciation and amortization less interests, taxes, and common dividends to net assets. Net working capital is the ratio of current assets minus current liabilities calculated without cash, deposits, and marketable securities to net assets. R&D is the ratio of research and development expenses to sales. Dividend dummy is an indicator variable if firms pay dividends in the current fiscal year. Capital expenditure equals to annual change in fixed assets plus depreciation charges to net assets. Leverage is measured as the ratio of total debt to total assets. Cash flow volatility is the five years standard deviation of firm's cash flow. ROA equals operating income to totals assets. PPE is the ratio of plant, property, and equipment to net assets.

	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>	<i>11</i>	<i>12</i>
1. Cash Holdings	1											
2. Foreign Institutional Shareholders	0.038	1										
3. Stable Domestic Block-Holders	-0.119	-0.351	1									
4. Firm Size	-0.194	0.556	-0.111	1								
5. Market-to-Book	0.152	0.325	-0.170	0.125	1							
6. Cash Flow from Operations	0.234	0.156	-0.033	-0.017	0.343	1						
7. Net Working Capital	-0.016	0.085	-0.006	-0.046	-0.115	-0.005	1					
8. R&D Expenditures	0.113	0.225	-0.094	0.143	0.111	0.016	0.197	1				
9. Dividend Dummy	-0.085	0.034	-0.013	0.115	0.203	0.007	0.084	-0.075	1			
10. Capital Expenditures	-0.005	0.069	-0.015	0.067	0.176	0.294	-0.040	0.018	0.132	1		
11. Leverage	-0.273	-0.200	0.108	0.143	-0.038	-0.272	-0.495	-0.206	-0.050	-0.098	1	
12. Cash Flow Volatility	0.388	-0.007	-0.132	-0.305	0.230	0.102	-0.035	0.110	-0.181	-0.001	-0.103	1

Results shown in column (3) and column (4) suggest that stable foreign institutional block-holders have no significant impact on changes in cash holdings. The coefficients on both measures of investment horizon are statistically insignificant. This is suggestive of the argument that the level and length of commitment by foreign block-holders have no impact on how firms manage their liquid assets. To further explore the agency view of changes in cash holdings, we use two variables that capture the effectiveness of firm's monitoring. For each year we divide the sample into quintiles on the basis of foreign institutional ownership and stable ownership. The first variable *MONITORED*, a proxy for the increased monitoring by independent foreign institutional investors, is measured as the combination of the highest quintile of foreign ownership (high foreign ownership) and lowest quintile of stable ownership (low presence of stable investors). The second variable *ENTRENCHED*, representing managerial entrenchment as an outcome of lack of effective monitoring, is measured by combining the lowest quintile of foreign investors (low foreign ownership) with the extreme high quintile of stable shareholders (high stable ownership). Column (5) of Table 3 reports results for well monitored firms. In line with the previous findings, the finding posit that increased monitoring causes a subsequent decline in the level of cash reserves, as evidenced by negative and significant coefficient on *MONITORED*. On the other hand, we find no evidence of firms with a higher likelihood entrenched managers to have any significant impact on cash holdings behavior, the coefficient on *ENTRENCHED* is statistically insignificant.

#### 4.3. Free Cash Flow Problems and Changes in Cash Holdings

Next, we investigate whether foreign equity ownership leads to a reduction in the level of liquid assets that can be easily appropriated by the self-interested managers. Jensen (1986) proposes that firms with agency problems have larger free cash flows, that is, they hold cash in excess of profitable investment opportunities. To explore the wasteful managerial tendency, we build on Jensen (1986) and attempt to target the setting where cash reserves are more prone to generate agency conflicts. We directly investigate the agency explanation for the change in cash holdings by targeting the cash that is more prone to generate agency problems between managers and shareholders.

Table 3 Foreign Institutional Ownership, Stable Ownership, and Changes in Cash Holdings

This table shows estimates of the impact of foreign ownership, stable ownership, and investment horizon of foreign block-holders on changes in corporate cash holdings. Change in cash holdings from period t-1 to t is the dependent variable across all models. Cash is defined as the sum of cash, deposits, and marketable securities to net assets. Independent variables include foreign ownership (FOWN) is measured as ratio of shares owned by foreign investors to number of shares issued at the end of period. Stable domestic block-holders (STABLEOWN) is the ratio of sum of shareholding by banks, insurance companies, and corporations. Foreign IOP (FOWNIOP) and foreign stakes (FOWNSTAKES) are the measures of investment horizon of foreign institutional block-holders. Monitored (MONITORED) equals one if firm is mainly owned by foreign institutional investors. Entrenched (ENTRENCHED) equals one if firm is mainly owned by stable domestic block-holders. Firm size (SIZE) is the natural logarithm of total assets. Market-to-book ratio (MTOB) is the ratio of market value of total assets to book value of total assets. Cash flow (CFLOW) from operations is defined as the ratio of earnings before interests and taxes plus depreciation and amortization less interests, taxes, and common dividends to net assets. Net working capital (NWC) is the ratio of current assets minus current liabilities calculated without cash, deposits, and marketable securities to net assets. R&D (RD) is the ratio of research and development expenses to sales. Dividend dummy (DIV) is an indicator variable if firms pay dividends in the current fiscal year. Capital expenditure (CAPEX) equals to annual change in fixed assets plus depreciation charges to net assets. Leverage (LVRGE) is measured as the ratio of total debt to total assets. Cash flow volatility (CVOLAT) is the five years standard deviation of firm's cash flow. All models report estimates of firm fixed-effects regressions with year dummies. All ratios are winsorized at the 1% and 99% levels. t-statistics are presented in brackets.

Dependent Variable ( $\Delta Cash$ )	(1)	(2)	(3)	(4)	(5)	(6)
$FOWN_{(t-1)}$	-0.0465*** (-3.500)					
$STABLEOWN_{(t-1)}$		-0.0121 (-1.402)				
$FOWNIOP_{(t)}$			-0.00334 (-0.323)			
$FOWNSTAKES_{(t)}$				-0.0001 (-0.152)		
$MONITORED_{(t-1)}$					-0.00522* (-1.692)	
$ENTRENCHED_{(t-1)}$						-0.00162 (-0.520)
$SIZE_{(t)}$	0.0554*** (15.17)	0.0536*** (14.82)	0.110*** (15.56)	0.110*** (15.56)	0.0538*** (14.86)	0.0535*** (14.79)
$MTOB_{(t)}$	0.00699*** (3.230)	0.00645*** (2.986)	0.0120*** (3.057)	0.0120*** (3.055)	0.00671*** (3.101)	0.00650*** (3.011)
$CFLOW_{(t)}$	0.403*** (24.42)	0.404*** (24.49)	0.404*** (17.98)	0.404*** (17.99)	0.404*** (24.49)	0.404*** (24.47)
$NWC_{(t)}$	-0.225*** (-28.90)	-0.225*** (-28.88)	-0.323*** (-27.67)	-0.323*** (-27.67)	-0.225*** (-28.88)	-0.225*** (-28.88)
$RD_{(t)}$	-0.0248 (-0.645)	-0.0245 (-0.638)	0.0672 (0.732)	0.0670 (0.730)	-0.0249 (-0.646)	-0.0243 (-0.631)
$DIV_{(t)}$	0.0139*** (4.480)	0.0138*** (4.447)	0.0122** (2.010)	0.0122** (2.010)	0.0140*** (4.521)	0.0140*** (4.491)
$CAPEX_{(t)}$	-0.251*** (-31.66)	-0.250*** (-31.58)	-0.300*** (-27.37)	-0.300*** (-27.37)	-0.251*** (-31.60)	-0.250*** (-31.59)
$LVRGE_{(t)}$	-0.0625*** (-6.274)	-0.0583*** (-5.892)	-0.103*** (-6.013)	-0.103*** (-6.007)	-0.0593*** (-5.984)	-0.0584*** (-5.899)
$CVOLAT_{(t)}$	0.0272 (0.714)	0.0252 (0.662)	0.0168 (0.290)	0.0166 (0.286)	0.0256 (0.671)	0.0253 (0.664)
Observations	16,898	16,898	10,012	10,012	16,898	16,898
R-squared	0.146	0.146	0.197	0.197	0.146	0.145
Year-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Firm-Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

\*, \*\*, \*\*\*: Significant at the 10%, 5%, and 1% levels, respectively.

To identify firms with cash reserves that can be opportunistically used by managers, this study follows Demircug and Maksimovic (1998) and Leuz et al. (2008) to introduce the “free cash flow problem<sup>3</sup>” variable. Free cash flow problem is calculated as the maximum internally financed growth rate less the median growth rate in the industry and shows higher values for firms whose internally generated amounts of cash flows are in excess of investment opportunities and thus are more likely to generate agency conflicts. We include free cash flow problem in my analysis by splitting the sample into firms with low free cash flow problems and high free cash flow problems. Low free cash flow problem (LOW FCF PROB) is the lowest quintile whereas high free cash flow problem (HIGH FCF PROB) represents the highest quintile of one year lagged free cash flow problem variable. Firms in the highest quintile are those that have higher amounts of cash in excess of investment opportunities. We investigate whether increased foreign ownership mitigate free cash flow problems by forcing managers to disgorge cash holdings in excess of their capital needs. We report the results in Table 4.

In column (1) of Table 4, regression results for firms that are in the lowest quintile of free cash flow problem (LOW FCF PROB) are presented. The coefficient on foreign institutional ownership is negative but insignificant, depicting that they have no effect on change in cash holdings for firms with low free cash flow problems. However based on the results reported in column (2), it was found that, as predicted, foreign institutional ownership prompts a decline in cash holdings for firms with high free cash flow problems (HIGH FCF PROB). The coefficient on foreign institutional ownership is negative and significant. This shows that foreign investors cause a decline in cash reserves that are more prone to generate agency conflicts. On the contrary, evidence shown in column (3) suggests that stable shareholders negatively and significantly impact change in cash holdings in firms with low free cash flow problems. In addition, in high free cash flow problem firms, stable shareholders have no significant effect. The results so far are consistent with the predictions of this study and support the agency motive for the decrease in cash holdings. For the investment horizon of

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<sup>3</sup> In line with Demircug and Maksimovic (1998) and Leuz et al. (2008), we measure the maximum growth rate that can be backed by internally generated funds, as  $ROA / (1 - ROA)$  minus median industry growth rate.

foreign institutional block-holders, as shown in Table 5, we find no evidence of a significant impact of both measures on changes in cash holdings in low and high free cash flow problem firms.

Table 4 Foreign Institutional Ownership, Stable Ownership, and Free Cash Flow Problems

This table shows estimates of the impact of foreign ownership, stable ownership, and investment horizon of foreign block-holders on changes in corporate cash holdings based on firms' free cash flow problems. Change in cash holdings from period t-1 to t is dependent variable across all models. Cash is defined as the sum of cash, deposits, and marketable securities to net assets. Independent variables include foreign ownership (FOWN) is measured as ratio of shares owned by foreign investors to number of shares issued at the end of period. Stable domestic block-holders (STABLEOWN) is the ratio of sum of shareholding by banks, insurance companies, and corporations. Firm size (SIZE) is the natural logarithm of total assets. Market-to-book ratio (MTOB) is the ratio of market value of total assets to book value of total assets. Cash flow (CFLOW) from operations is defined as the ratio of earnings before interests and taxes plus depreciation and amortization less interests, taxes, and common dividends to net assets. Net working capital (NWC) is the ratio of current assets minus current liabilities calculated without cash, deposits, and marketable securities to net assets. R&D (RD) is the ratio of research and development expenses to sales. Dividend dummy (DIV) is an indicator variable if firms pay dividends in the current fiscal year. Capital expenditure (CAPEX) equals to annual change in fixed assets plus depreciation charges to net assets. Leverage (LVRGE) is measured as the ratio of total debt to total assets. Cash flow volatility (CVOLAT) is the five years standard deviation of firm's cash flow. All models report estimates of firm fixed-effects regressions with year dummies. All ratios are winsorized at the 1% and 99% levels. t-statistics are presented in brackets.

Dependent Variable( $\Delta Cash$ )	(LOW FCF PROB)	(HIGH FCF PROB)	(LOW FCF PROB)	(HIGH FCF PROB)
$FOWN_{(t-1)}$	-0.0315 (-1.159)	-0.0904*** (-2.623)		
$STABLEOWN_{(t-1)}$			-0.0366** (-1.964)	-0.0177 (-0.733)
$SIZE_{(t)}$	0.0667*** (8.839)	0.0928*** (8.215)	0.0665*** (8.827)	0.0877*** (7.866)
$MTOB_{(t)}$	0.0246*** (4.636)	0.00255 (0.614)	0.0242*** (4.555)	0.00173 (0.418)
$CFLOW_{(t)}$	0.229*** (6.919)	0.521*** (12.79)	0.231*** (6.999)	0.522*** (12.81)
$NWC_{(t)}$	-0.161*** (-10.49)	-0.393*** (-17.64)	-0.162*** (-10.58)	-0.392*** (-17.56)
$RD_{(t)}$	0.143 (1.577)	-0.0366 (-0.436)	0.147 (1.627)	-0.0395 (-0.470)
$DIV_{(t)}$	0.00518 (0.964)	0.0330* (1.805)	0.00509 (0.947)	0.0324* (1.773)
$CAPEX_{(t)}$	-0.197*** (-12.94)	-0.447*** (-21.39)	-0.197*** (-12.91)	-0.447*** (-21.36)
$LVRGE_{(t)}$	-0.0755*** (-3.722)	-0.0376 (-1.314)	-0.0759*** (-3.742)	-0.0274 (-0.960)
$CVOLAT_{(t)}$	0.0507 (0.698)	0.0614 (0.602)	0.0486 (0.670)	0.0671 (0.657)
Observations	4,226	4,221	4,226	4,221
R-squared	0.111	0.253	0.111	0.252
Year-Fixed Effects	Yes	Yes	Yes	Yes
Firm-Fixed Effects	Yes	Yes	Yes	Yes

\*, \*\*, \*\*\*: Significant at the 10%, 5%, and 1% levels, respectively.



#### 4.4. The Impact of Foreign Institutional Ownership on the Value of Cash Using Excess Returns

To further explore the agency explanation of changes in the level of cash, this study examines whether a change in cash holdings leads to a change in the firm value and how foreign institutional ownership impacts this value. To do this, this research employs the cash valuation model of Faulkender and Wang (2006), we estimate the following regression:

$$\begin{aligned}
 r_{i,t} - RB_{i,t} = & \beta_0 + \beta_1 \frac{Cas_{i,t}}{MV_{i,t-1}} + \beta_2 \frac{Earnings_{i,t}}{MV_{i,t-1}} + \beta_3 \frac{NetAssets_{i,t}}{MV_{i,t-1}} + \beta_4 \frac{RD_{i,t}}{MV_{i,t-1}} \\
 & + \beta_5 \frac{Interest_{i,t}}{MV_{i,t-1}} + \beta_6 \frac{Dividends_{i,t}}{MV_{i,t-1}} + \beta_7 L_{i,t} + \beta_8 \frac{Cas_{i,t-1}}{MV_{i,t-1}} + \beta_9 \frac{Cas_{i,t-1}}{MV_{i,t-1}} \\
 & \times \frac{Cas_{i,t}}{MV_{i,t-1}} + \beta_{10} LVRGE_{i,t} \times \frac{Cas_{i,t}}{MV_{i,t-1}} + \varepsilon_{i,t}
 \end{aligned}$$

Where  $X_{i,t}$  represents change in X from t-1 to t. The dependent variable excess return,  $r_{i,t} - RB_{i,t}$ , is the difference between firm's return  $r_{i,t}$  during fiscal year t and return of firm's benchmark portfolio  $RB_{i,t}$  during fiscal year t. Benchmark portfolios are Fama and French (1993) size and book to market portfolios. For the measurement of benchmark portfolios<sup>4</sup>, we consider firms whose fiscal year ends in March each year. This is because more than 80% of the firms listed on Tokyo Stock Exchange have their fiscal year ending in March. For robustness, we also use returns of Tokyo Stock Price Index (TOPIX) as benchmark to estimate the excess return. The independent variable is cash holdings (*Cash*) at time t. In line with Faulkender and Wang (2006) we control other variables that represent changes in firm's financial policy, profitability, and investment. The control variables include earnings before extraordinary items (*Earnings*), net assets (*Net Assets*), research and development expenditures (*RD*), interest expenses (*Interest*), common dividends (*Dividends*), and market leverage (*LVRGE*). Except leverage, all variables are deflated by the one year lagged market value of equity. Since both dependent and independent variables are deflated by the one year lagged market value, the coefficient on change in cash therefore measures the dollar change in shareholder

<sup>4</sup> Fama and French (1993) 25 size and book-to-market portfolios are formed at the end of June each year. However, in the case of Japan, the portfolios are created from September in year t till August in year t+1.

value resulting from one dollar change in firm's cash reserves (Faulkender and Wang, 2006; Dittmar and Smith, 2007).

Next, we follow the methodology used in Pinkowitz et al. (2006) where the authors split the firms based on the quality of corporate governance in place analyzed the cash valuation individually for each segment. In the case of this study however, we divide the sample based on the level of foreign institutional ownership, firms with high foreign ownership represented by highest quintile, and low foreign ownership represented by the lowest quintile. Similar methodology is followed in the case of stable ownership, and investment horizon of foreign institutional block-holders. The results obtained from the estimation of cross-sectional regressions are presented in Table 6. Column (1) and (2) present the first set of estimation results for the marginal value of cash model by looking at the sample with low ratio foreign institutional shareholding (*LOW FOWN*) and higher foreign shareholding (*HIGH FOWN*). The results indicate that foreign institutional investors play a significant role in increasing the marginal value of cash. The coefficient estimates corresponding to change in cash in firms with low foreign ownership is -0.0536 which is less than the coefficient on the change in cash in firms with high foreign ownership, 1.102. This suggests that the marginal value of cash increases with an increase in the equity ownership by foreign investors. The findings are consistent with Pinkowitz et al. (2006) and Dittmar and Smith (2007), and posits that value of cash is lower for firms with weaker corporate governance, expressed by lower foreign ownership. Surprisingly in column (3) and (4), firms with low stable ownership (*LOW STABLE*) and high stable equity ownership (*HIGH STABLE*) have similar results. The coefficient estimate of change in cash in firms with high stable ownership is greater than that from change in cash in firms with low stable ownership. To further investigate this issue, in accordance with the previous analyses of this study, we divide the sample based on the monitoring effectiveness, well monitored firms (*MONITORED*) and firms with a likelihood of the presence of entrenched management due to decreased monitoring (*ENTRENCHED*). The evidence suggests that marginal value of cash is greater for firms with increased monitoring by foreign institutional investors than firms with a greater probability of managerial entrenchment. In Table 7, we measure the excess return using TOPIX and repeat the analyses from Table 6. The results remain unchanged. Further, as shown in Table 8, we find no

evidence of a significant impact of investment horizon of foreign institutional block-holders on the marginal value of cash.

#### 4.5. The Impact of Use of Excess Cash on Operating Performance

Lastly, building on Dittmar and Smith (2007), this study investigates the performance effect of changes in excess cash holdings. Based on the findings of this study so far, increased presence of foreign institutional investors in Japan causes a subsequent decline in corporate cash holdings. We predict that if foreign equity ownership is indeed related to improvements in the quality of corporate governance, decrease in excess cash reserves should have a positive effect on firm's operating performance through its efficient deployment. It is thus hypothesized that firms experiencing declines in their excess cash reserves will have higher operating performance if they have high shareholding ratio by foreign institutional investors. Following Dittmar and Smith (2007), we investigate the effect of excess cash holdings on operating performance for a sample of firms that had positive excess cash in year t-1 which declined in the year t-1. Our objective is to examine how the decline in excess cash reserves from the previous periods, coupled with foreign institutional ownership, impact firm performance. We estimate a regression of industry adjusted return on assets (ROA) on excess cash reserves foreign institutional ownership in year t-1, and an interaction of foreign ownership and excess cash reserves. The regression model is as follows:

$$\begin{aligned} INDROA_{i,t} = & \alpha_0 + \beta_1 EXSCASH_{i,t-1} + \beta_2 Owners\ ip_{i,t-1} + \beta_3 EXSCASH_{i,t-1} \times Owners\ ip_{i,t-1} \\ & + \beta_4 PPE_{i,t} + \beta_5 SIZE_{i,t} + YearDum + FirmFixedEffects + \varepsilon_{i,t} \end{aligned}$$

Where the dependent variable is the industry adjusted return on assets (*INDROA*). This study follows the standard empirical model of cash holdings by Opler et al. (1999) and estimates the independent variable, excess (*EXSCASH*), as the residual of cash levels regression after controlling for years and firm fixed effects. We first estimate cash regression to measure the predicted cash levels, excess cash is then calculated as the difference between actual and predicted cash levels.

Table 5 Investment Horizon of Foreign Block-Holders and Free Cash Flow Problems

This table shows estimates of the impact of investment horizon of foreign block-holders on changes in corporate cash holdings based on firms' free cash flow problems. Change in cash holdings from period t-1 to t is dependent variable across all models. Independent variables include foreign IOP (FOWNIOP) and foreign stakes (FOWNSTAKES) are the measures of investment horizon of foreign institutional block-holders. Firm size (SIZE) is the natural logarithm of total assets. Market-to-book ratio (MTOB) is the ratio of market value of total assets to book value of total assets. Cash flow (CFLOW) from operations is defined as the ratio of earnings before interests and taxes plus depreciation and amortization less interests, taxes, and common dividends to net assets. Net working capital (NWC) is the ratio of current assets minus current liabilities to net assets. R&D (RD) is the ratio of research and development expenses to sales. Dividend dummy (DIV) is an indicator variable if firms pay dividends in the current fiscal year. Capital expenditure (CAPEX) equals to annual change in fixed assets plus depreciation charges to net assets. Leverage (LVRGE) is measured as the ratio of total debt to total assets. Cash flow volatility (CVOLAT) is the five years standard deviation of firm's cash flow. All ratios are winsorized at the 1% and 99% levels. t-statistics are presented in brackets.

Dependent Variable( $\Delta Cash$ )	(LOW FCF PROB)	(HIGH FCF PROB)	(LOW FCF PROB)	(HIGH FCF PROB)
<i>FOWNIOP</i> <sub>(t)</sub>	0.00615 (0.251)	0.0131 (0.445)		
<i>FOWNSTAKES</i> <sub>(t)</sub>			-0.00002 (-0.0472)	0.000455 (0.322)
<i>SIZE</i> <sub>(t)</sub>	0.115*** (7.624)	0.167*** (8.075)	0.115*** (7.634)	0.167*** (8.102)
<i>MTOB</i> <sub>(t)</sub>	0.0322*** (3.619)	0.0179*** (2.583)	0.0322*** (3.622)	0.0180*** (2.594)
<i>CFLOW</i> <sub>(t)</sub>	0.303*** (6.279)	0.360*** (6.559)	0.303*** (6.281)	0.360*** (6.569)
<i>NWC</i> <sub>(t)</sub>	-0.189*** (-7.966)	-0.603*** (-18.92)	-0.189*** (-7.969)	-0.602*** (-18.90)
<i>RD</i> <sub>(t)</sub>	0.154 (0.779)	-0.0892 (-0.338)	0.153 (0.778)	-0.0835 (-0.317)
<i>DIV</i> <sub>(t)</sub>	0.0222** (2.138)	-0.0416 (-1.175)	0.0222** (2.142)	-0.0415 (-1.170)
<i>CAPEX</i> <sub>(t)</sub>	-0.231*** (-10.59)	-0.502*** (-17.73)	-0.231*** (-10.59)	-0.501*** (-17.73)
<i>LVRGE</i> <sub>(t)</sub>	-0.0931*** (-2.773)	-0.140*** (-2.819)	-0.0934*** (-2.782)	-0.140*** (-2.823)
<i>CVOLAT</i> <sub>(t)</sub>	0.0673 (0.571)	-0.174 (-1.273)	0.0674 (0.571)	-0.173 (-1.272)
Observations	2,502	2,499	2,502	2,499
R-squared	0.142	0.345	0.142	0.345
Year-Fixed Effects	Yes	Yes	Yes	Yes
Firm-Fixed Effects	Yes	Yes	Yes	Yes

\*, \*\*, \*\*\*: Significant at the 10%, 5%, and 1% levels, respectively.

Table 6 Impact of Foreign Ownership on the Value of Cash Using Excess Returns

This table shows estimates of the impact of foreign ownership and stable ownership on the value of cash holdings. The dependent variable in all models is the annual excess return of the firm relative to Fama & French (1993) 25 size and book-to-market portfolios.  $\Delta$  indicates the change from year t-1 to t. Independent variables include change in cash holdings (Cash) where cash is defined as the sum of cash, deposits, and marketable securities. Other independent variables include changes in earning (Earnings), net assets (Net Assets), R&D expenses (RD), interest expenses (Interest), common dividends (Dividends), leverage (Leverage) measured as long term plus current liabilities divided by the market value of equity plus total liabilities). All independent variables, except for foreign ownership, are normalized by one year lagged market value of equity. All ratios are winsorized at the 1% and 99% levels. t-statistics are presented in brackets. Superscripts \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1% confidence levels, respectively.

Dependent Variable (Excess Return)	(LOW FOWN)	(HIGH FOWN)	(LOW STABLE)	(HIGH STABLE)	(MONITORED)	(ENTRENCHED)
$\Delta Cash_{(t)}$	-0.0536 (-0.223)	1.102*** (5.349)	0.547** (2.477)	1.062*** (4.056)	1.208*** (3.695)	0.302 (0.928)
$\Delta Earnings_{(t)}$	0.746*** (8.145)	1.280*** (10.62)	1.242*** (10.63)	0.880*** (7.465)	1.190*** (6.839)	0.817*** (6.581)
$\Delta Net Assets_{(t)}$	0.0931*** (3.546)	0.262*** (6.537)	0.112*** (3.136)	0.0895*** (2.701)	0.151** (2.451)	0.0780** (2.257)
$\Delta RD_{(t)}$	-0.957 (-1.239)	-6.106*** (-9.502)	-5.448*** (-6.649)	-3.587*** (-4.102)	-8.383*** (-8.265)	-0.0536 (-0.0538)
$\Delta Interest_{(t)}$	-12.20*** (-5.812)	-22.62*** (-7.166)	-24.62*** (-8.437)	-7.930*** (-2.890)	-21.46*** (-4.706)	-8.257*** (-2.981)
$\Delta Dividends_{(t)}$	13.38*** (9.771)	22.10*** (14.30)	20.37*** (12.47)	16.37*** (9.701)	24.46*** (10.84)	12.75*** (7.159)
$CASH_{(t-1)}$	0.286*** (9.406)	0.335*** (8.407)	0.304*** (8.372)	0.480*** (12.73)	0.317*** (5.258)	0.265*** (6.212)
$LVRGE_{(t)}$	-0.355*** (-7.547)	-0.187*** (-5.368)	-0.274*** (-6.984)	-0.394*** (-8.044)	-0.184*** (-3.655)	-0.263*** (-4.097)
$CASH_{(t-1)} \times \Delta Cash_{(t)}$	0.0989 (0.661)	-0.480* (-1.848)	-0.0666 (-0.357)	1.292*** (6.336)	-0.938** (-2.557)	0.120 (0.574)
$LVRGE_{(t)} \times \Delta Cash_{(t)}$	0.392 (1.076)	-0.845** (-2.219)	-0.425 (-1.181)	-2.438*** (-5.515)	-0.750 (-1.275)	-0.377 (-0.730)
Observations	2,627	2,619	2,629	2,618	1,268	1,044
R-squared	0.157	0.262	0.222	0.175	0.273	0.181

\*, \*\*, \*\*\*: Significant at the 10%, 5%, and 1% levels, respectively.

Table 7 Impact of Foreign Ownership on the Value of Cash Using Excess Returns (*TOPIX*)

This table shows estimates of the impact of foreign ownership and stable ownership on the value of cash holdings. The dependent variable in all models is the annual excess return of the firm estimated as the difference between firm *i* stock return and return of Tokyo Stock Price Index (*TOPIX*).  $\Delta$  indicates the change from year *t-1* to *t*. Independent variables include change in cash holdings (*Cash*) where cash is defined as the sum of cash, deposits, and marketable securities. Other independent variables include changes in earning (*Earnings*), net assets (*Net Assets*), R&D expenses (*RD*), interest expenses (*Interest*), common dividends (*Dividends*), leverage (*Leverage*) measured as long term plus current liabilities divided by the market value of equity plus total liabilities). All independent variables, except for foreign ownership, are normalized by one year lagged market value of equity. All ratios are winsorized at the 1% and 99% levels. *t*-statistics are presented in brackets. Superscripts \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1% confidence levels, respectively.

Dependent Variable ( <i>Excess Return</i> )	( <i>LOW FOWN</i> )	( <i>HIGH FOWN</i> )	( <i>LOW STABLE</i> )	( <i>HIGH STABLE</i> )	( <i>MONITORED</i> )	( <i>ENTRENCHED</i> )
$\Delta Cash_{(t)}$	-0.0297 (-0.124)	1.130*** (4.903)	0.446* (1.908)	1.208*** (4.617)	1.108*** (3.037)	0.445 (1.417)
$\Delta Earnings_{(t)}$	0.788*** (8.673)	1.369*** (10.15)	1.296*** (10.49)	0.918*** (7.795)	1.241*** (6.397)	0.809*** (6.752)
$\Delta Net Assets_{(t)}$	0.0261 (1.003)	0.103** (2.301)	0.0419 (1.104)	0.0134 (0.404)	0.0226 (0.329)	0.0200 (0.598)
$\Delta RD_{(t)}$	0.535 (0.698)	-2.039*** (-2.834)	-2.363*** (-2.725)	-1.887** (-2.160)	-4.187*** (-3.702)	0.908 (0.943)
$\Delta Interest_{(t)}$	-5.098** (-2.447)	-8.818** (-2.496)	-16.45*** (-5.326)	1.606 (0.586)	-11.59** (-2.279)	-1.264 (-0.473)
$\Delta Dividends_{(t)}$	15.12*** (11.12)	24.18*** (13.98)	21.75*** (12.58)	18.99*** (11.26)	26.96*** (10.71)	14.73*** (8.571)
$CASH_{(t-1)}$	0.240*** (7.949)	0.235*** (5.260)	0.247*** (6.417)	0.386*** (10.26)	0.211*** (3.133)	0.194*** (4.712)
$LVRGE_{(t)}$	-0.288*** (-6.172)	-0.138*** (-3.532)	-0.216*** (-5.212)	-0.311*** (-6.357)	-0.113** (-2.010)	-0.191*** (-3.087)
$CASH_{(t-1)} \times \Delta Cash_{(t)}$	0.00882 (0.0594)	-0.337 (-1.158)	-0.0941 (-0.477)	1.223*** (6.007)	-0.875** (-2.139)	-0.110 (-0.545)
$LVRGE_{(t)} \times \Delta Cash_{(t)}$	0.411 (1.136)	-1.192*** (-2.797)	-0.442 (-1.161)	-2.668*** (-6.042)	-0.885 (-1.350)	-0.394 (-0.790)
Observations	2,627	2,619	2,629	2,618	1,268	1,044
R-squared	0.143	0.188	0.177	0.157	0.200	0.171

\*, \*\*, \*\*\*: Significant at the 10%, 5%, and 1% levels, respectively.

Table 8 Impact of Foreign Investment Horizon on the Value of Cash Using Excess Returns

This table shows estimates of the impact of investment horizon of foreign block-holders on the value of cash holdings. The dependent variable in all models is the annual excess return of the firm relative to Fama & French (1993) 25 size and book-to-market portfolios.  $\Delta$  indicates the change from year t-1 to t. Independent variables include change in cash holdings (Cash) where cash is defined as the sum of cash, deposits, and marketable securities. Other independent variables include changes in earning (Earnings), net assets (Net Assets), R&D expenses (RD), interest expenses (Interest), common dividends (Dividends), leverage (Leverage) measured as long term plus current liabilities divided by the market value of equity plus total liabilities). All independent variables, except for foreign ownership, are normalized by one year lagged market value of equity. All ratios are winsorized at the 1% and 99% levels. t-statistics are presented in brackets. Superscripts \*, \*\*, and \*\*\* indicate significance at 10%, 5%, and 1% confidence levels, respectively.

Dependent Variable (Excess Return)	(LOW FOWNIOP)	(HIGH FOWNIOP)	(LOW FOWNSTAKES)	(HIGH FOWNSTAKES)
$\Delta Cash_{(t)}$	0.456** (2.249)	0.372* (1.784)	0.456** (2.250)	0.233 (1.051)
$\Delta Earnings_{(t)}$	0.524*** (7.128)	0.885*** (9.569)	0.524*** (7.140)	1.130*** (11.41)
$\Delta Net Assets_{(t)}$	0.165*** (7.006)	0.155*** (5.197)	0.165*** (7.023)	0.120*** (3.741)
$\Delta RD_{(t)}$	-2.609*** (-4.178)	-5.854*** (-8.848)	-2.614*** (-4.189)	-5.643*** (-7.994)
$\Delta Interest_{(t)}$	-13.57*** (-6.867)	-13.23*** (-5.186)	-13.56*** (-6.871)	-10.25*** (-3.590)
$\Delta Dividends_{(t)}$	8.519*** (7.500)	7.681*** (6.394)	8.529*** (7.517)	7.478*** (5.743)
$CASH_{(t-1)}$	0.299*** (12.29)	0.229*** (8.441)	0.299*** (12.31)	0.260*** (9.019)
$LVRGE_{(t)}$	-0.207*** (-5.622)	-0.209*** (-6.338)	-0.209*** (-5.696)	-0.190*** (-5.375)
$CASH_{(t-1)} \times \Delta Cash_{(t)}$	0.135 (1.073)	-0.0957 (-0.591)	0.136 (1.083)	0.122 (0.698)
$LVRGE_{(t)} \times \Delta Cash_{(t)}$	-0.197 (-0.648)	-0.204 (-0.605)	-0.197 (-0.650)	-0.205 (-0.572)
Observations	1,808	1,413	1,813	1,359
R-squared	0.238	0.264	0.238	0.263

\*, \*\*, \*\*\*: Significant at the 10%, 5%, and 1% levels, respectively.

Ownership includes foreign institutional ownership and stable ownership. Other control variables are ratio of plant, property, and equipment to net assets (PPE) and firm size (SIZE). We report the results in Table 9. Based on the evidence presented in column (1), it was found that when firms use their cash reserves over the year t-1 to year t, the future operating performance is negatively affected. This is suggestive of an efficient usage of excess liquid resources. However, the results show that this negative impact on operating performance is reversed if firms have larger presence of foreign institutional investors, as evidenced by the interaction between excess cash and foreign ownership ( $FOWN \times EXCASH$ ). Similar results are reported by Dittmar and Smith (2007) while using data from the U.S. For stable shareholders, the results are suggestive of an inefficient use of excess cash balances, the coefficient on the interaction is negative and significant. We find similar results after we employ the *MONITOR* and *ENTRENCHED* variables in column (3) and column (4). Well monitored firms enhance their operating performance by efficiently utilizing the excess cash reserves.

## 5. Conclusion

This study attempts to revisit the agency explanation of cash holdings and explores if outsider-investor dominance, such as foreign institutional ownership, leads to a reduction in the level of liquid assets that can be easily appropriated by the self-interested managers. To investigate this, we build on previous studies and attempt to develop a methodology in order to target the setting where cash reserves are more prone to generate agency conflicts between managers and shareholders. The results suggest that foreign institutional investors cause a decline in cash balances of firms only in the presence of a higher propensity of wasteful managerial behavior. With respect to the value of cash, the findings show that marginal value of cash is greater in firms with high foreign ownership suggesting that foreign investors are effective in monitoring the firms in which they hold equity stakes.

In terms of the usage of excess cash reserves, it was found that firms with a decline in their cash reserves negatively impact the operating performance of firms which is suggestive of inefficient ways of



cash deployment. However, the negative impact of decline in excess cash on operating performance is reversed if firms have larger presence of foreign institutional investors. We find no significant evidence on the impact of investment horizon of foreign institutional block-holders and stable shareholders on cash holdings. Overall, the results presented in this study support the premise that Japanese corporate governance improved with the increased equity ownership by foreign institutional investors.

**Table 9 Impact of Use of Excess Cash on Operating Performance**

This table shows how foreign ownership and stable ownership affect operating performance through use of cash. The dependent variable across all models is the industry adjusted return on assets (ROA). Independent variables include excess cash (EXCASH) defined as the difference between actual and the predicted level of cash. Predicted cash is calculated following Opler et al. (1999) after controlling for year and industry effect. Foreign ownership (FOWN) is measured as ratio of shares owned by foreign investors to number of shares issued at the end of period. Stable domestic block-holders (STABLEOWN) is the ratio of sum of shareholding by banks, insurance companies, and corporations. Monitored (MONITORED) equals one if firm is mainly owned by foreign institutional investors. Entrenched (ENTRENCHED) equals one if firm is mainly owned by stable domestic block-holders. Control variables include firm size (SIZE) is the natural logarithm of total assets. Ratio of plant, property, and equipment to net assets (PPE). All ratios are winsorized at the 1% and 99% levels. t-statistics are presented in brackets. All models report estimates of firm fixed-effects regressions with year dummies.

Dependent Variable ( <i>Return on Assets</i> )	(1)	(2)	(3)	(4)
$EXCASH_{(t-1)}$	-0.0253*** (-3.416)	-0.00324 (-0.352)	-0.0213*** (-3.485)	-0.0162*** (-2.690)
$FOWN_{(t-1)}$	-0.00693 (-0.396)			
$FOWN_{(t-1)} \times EXCASH_{(t-1)}$	0.0831** (2.068)			
$STABLEOWN_{(t-1)}$		0.00575 (0.431)		
$STABLEOWN_{(t-1)} \times EXCASH_{(t-1)}$		-0.0505* (-1.803)		
$MONITORED_{(t-1)}$			0.00266 (0.533)	
$MONITORED_{(t-1)} \times EXCASH_{(t-1)}$			0.0326*** (2.920)	
$ENTRENCHED_{(t-1)}$				0.00468 (1.022)
$ENTRENCHED_{(t-1)} \times EXCASH_{(t-1)}$				0.00422 (0.253)
$PPE_{(t)}$	-0.0532*** (-4.004)	-0.0535*** (-4.024)	-0.0546*** (-4.117)	-0.0532*** (-4.000)
$SIZE_{(t)}$	-0.00256 (-0.747)	-0.00243 (-0.708)	-0.00272 (-0.796)	-0.00241 (-0.700)
Observations	3,490	3,490	3,490	3,490
R-squared	0.018	0.018	0.024	0.017
Year-Fixed Effects	Yes	Yes	Yes	Yes
Firm-Fixed Effects	Yes	Yes	Yes	Yes

\*, \*\*, \*\*\*: Significant at the 10%, 5%, and 1% levels, respectively.

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