Article

Organization Capital and Corporate Governance

Jaeseong Lim

E. Craig Wall Sr. College of Business Administration, Coastal Carolina University, Conway, SC 29528, USA; jlim1@coastal.edu

Abstract: Management with high organization capital, which can be seen as an indicator of superior internal governance, can be expected to exhibit a preference for cash reserves to safeguard assets and mitigate the risk of underinvestment. However, external parties may see high cash reserves as a risk factor for the agency problem. Strong external governance can mitigate the preference of management with high organization capital for cash reserves. The empirical analyses show a positive association between the organization capital of U.S.-listed firms and their cash reserves when controlling for multiple variables. Furthermore, through employing the hostile takeover threat index, I reveal the disciplinary effects of strong external governance. This study adds to the existing literature investigating corporate governance that is useful in corporate decision making.

Keywords: corporate governance; cash holdings; agency problems

1. Introduction

In the context of the contemporary knowledge economy, the role of organization capital is pivotal in the field of managerial accounting; it has a positive influence on overall operational efficiency and productivity (Li et al. 2018a; Hasan and Cheung 2018; Youndt et al. 2004), managers' optimistic expectations for future sales (Venieris et al. 2015), and post-recession performance (McKinsey Global Institute 2002). While organization capital has attracted the attention of scholars, little research has been devoted to exploring the relationship between organization capital and corporate governance. This paper aims to address this research gap by enhancing our understanding of the relationship between corporate governance and organization capital.

Organization capital, defined as a firm's self-developed intangible resource, is considered an essential element for managerial performance (Lev and Radhakrishnan 2005; Lev et al. 2009). Evenson and Westphal (1995) defined organization capital as "the knowledge used to combine human skills and physical capital into systems for producing and delivering want-satisfying products". Typical examples of organization capital include institutional methods regarding employee aptitude for projects, training programs, and human resources allocation (Prescott and Visscher 1980).

I propose that organization capital could be a potential indicator of internal corporate governance systems. According to Eisfeldt and Papanikolaou (2013), there is a positive association between organization capital and the managerial quality score developed by Bloom and Van Reenen (2007). Of the 18 components of this managerial quality score, 15 that deal with monitoring, targets, and incentives can be interpreted as internal corporate governance measures. This implies that organization capital could serve as an indicator of internal corporate governance systems.

Many previous studies have investigated corporate cash holdings in evaluating the role of corporate governance (Dittmar et al. 2003; Ivalina and Lins 2007; Harford et al. 2008; Yun 2009), as cash holdings are frequently subjected to scrutiny and control within corporate governance frameworks. Ample cash reserves can be a buffer against future shocks (Opler et al. 1999; Ozkan and Ozkan 2004; Chen and Chuang 2009; Pinkowitz et al. 2013; Lozano and Yaman 2020) as well as a means of safeguarding assets and mitigating the risk

of underinvestment (Duchin 2010; Kim and Bettis 2014; La Rocca and Cambrea 2019). Firms with superior internal governance, exemplified by superior managerial quality, should harness the advantages of holding cash reserves. Therefore, I suggest that management, possessing high organization capital that can be seen as an indicator of superior internal governance, exhibits a preference for cash reserves.

Furthermore, I examine the disciplinary role of external governance. Because there is an information asymmetry between external parties and managers (Stein 1989; Edmans 2011), high cash holdings might prompt concerns from external parties regarding agency problems. Indeed, cash reserves can easily be exploited for the private purposes of managers and, as a result, could induce moral hazards (Jensen 1986; Myers and Rajan 1998). Under strong external governance, managers may feel pressured to reduce cash reserves by, for example, increasing dividends or implementing share repurchases. I propose that strong external governance can mitigate the preference of management with high organization capital for cash reserves.

My study demonstrates that firms with high organization capital grow more cash holdings. Additionally, I test the role of external governance by using the hostile takeover threat index provided by Cain et al. (2017). The threat of a hostile takeover exposes managers to the risk of being replaced, which is one of the strongest external governance mechanisms used to discipline managerial actions (Shleifer and Vishny 1997; Bertrand and Mullainathan 2003; Atanassov 2013). I find that when a more pronounced threat of a hostile takeover exists, the positive association between organization capital and cash reserves is significantly attenuated. Overall, my findings support my hypotheses.

My research contributes to the existing literature in the following ways. First, this paper expands the existing literature regarding organization capital in that high organization capital is associated with higher stock returns (Eisfeldt and Papanikolaou 2013), high-quality auditors (Lim and Qin 2019), less-accurate analyst forecasts (Kim et al. 2021), and a higher degree of product market competition (Shin and Lee 2023). Although organization capital has been the subject of scholarly studies, little research has been dedicated to understanding the interplay between organization capital and corporate governance. My paper aims to fill this research gap by showing that organization capital can serve as an internal governance mechanism, which is a critical complement to existing corporate governance literature.

In addition to examining the internal governance mechanism, this study provides a more comprehensive picture by also exploring the impact of external governance. Previous researchers have argued that firms with strong corporate governance exhibit lower levels of cash reserves (Dittmar et al. 2003; Ivalina and Lins 2007; Yun 2009), whereas an opposing standpoint asserts that firms with weaker corporate governance maintain lower levels of cash reserves (Harford et al. 2008). To mitigate the controversy surrounding the relationship between corporate governance and cash reserves, it is important to explore two distinct subgroups of corporate governance. Accordingly, this study examines the influence of both internal and external corporate governance mechanisms, seeking to offer clarity and resolution to the controversies identified in previous studies.

My research also contributes to the literature on corporate decision making. Organization capital can enhance managers' optimistic expectations for future sales (Venieris et al. 2015) and improve firm innovation (Francis et al. 2021). However, the intangible nature of organization capital can exacerbate problems, such as information asymmetry between managers and external parties. Indeed, previous studies have investigated corporate strategies for addressing these challenges (Berk et al. 2010; Kim et al. 2022; Venieris et al. 2015; Farooque 2021). It is important to explore corporate cash-holding decisions since they can contribute to better corporate risk management. My study adds to the existing literature investigating organization capital that is useful in cash-holding decisions.

This paper is organized as follows. Section 2 describes the prior literature and development of hypotheses. The data and empirical models are illustrated in Section 3. Section 4 presents empirical results. Section 5 provides robustness tests. Finally, Section 6 concludes.

2. Literature Review and Development of Hypotheses

2.1. Organization Capital and Managerial Performance

Organization capital, which is a firm's self-developed intangible resource, has a positive impact on managerial performance. Organization capital is defined by Evenson and Westphal (1995) as "the knowledge used to combine human skills and physical capital into systems for producing and delivering want-satisfying products". In today's knowledge economy, intangible resources, such as organization capital, play a crucial role in companies' growth (Zingales 2000). One example of organization capital can be seen in an oil company, which has multiple processes, including refinery R&D projects, production, delivery systems, and sales strategies. To efficiently manage these processes, the oil company must acquire multifaceted skills and knowledge pertaining to employee recruitment, resource allocation, and training across diverse corporate functions. Given that these processes extend beyond individual projects, organization capital encompassing a wide range of managerial elements within the organization is systematically developed.

The prior literature suggests that organization capital has the potential to significantly affect the growth and progress of a corporation. Organization capital can cultivate key talents (Black and Lynch 2005), be the source of mergers and acquisition (M&A) synergy (Li et al. 2018a, 2018b), and result in higher performance and thus higher expected future compensation for key employees (Atkeson and Kehoe 2005; Eisfeldt and Papanikolaou 2013). By utilizing organization capital, a firm can achieve higher overall operational efficiency. For instance, Li et al. (2018a) demonstrate that organization capital is positively associated with operational efficiency measures. Within the context of medium-sized manufacturing firms, Attig and El Ghoul (2018) reported that organization capital is related to a reduced cost of equity financing. Martín-Oliver and Salas-Fumás (2012) find that organization capital positively impacts the economic value of Spanish banks. Corporations that invest more heavily in organization capital during market recessions have better post-recession performance, as reported by McKinsey Global Institute (2002). Based on these findings, it can be inferred that organization capital has the potential to improve overall managerial performance across various dimensions.

2.2. Organization Capital and Cash Holdings

Eisfeldt and Papanikolaou (2013) demonstrate that organization capital is positively associated with the managerial quality score developed by Bloom and Van Reenen (2007), which can be interpreted as a measure of internal governance. Among the 18 components of this managerial quality score, 15 that deal with monitoring, targets, and incentives, can be interpreted as internal governance measures. This implies that organization capital could serve as an indicator of internal corporate-governance systems.

Corporate governance frameworks typically place a strong emphasis on monitoring and controlling cash holdings; therefore, previous researchers have often investigated corporate cash holdings in evaluating the role of corporate governance (Dittmar et al. 2003; Ivalina and Lins 2007; Harford et al. 2008; Yun 2009). Holding cash reserves can serve as a buffer against future uncertainties (Opler et al. 1999; Dittmar et al. 2003; Ozkan and Ozkan 2004; Chen and Chuang 2009; Pinkowitz et al. 2013; Lozano and Yaman 2020). Countries with a high level of uncertainty avoidance tend to maintain higher levels of cash holdings (El-Halaby et al. 2021).

In addition to this precautionary motive, there are other motives for firms to hold cash. These include the transaction motive (e.g., Mulligan (1997)), in which firms hold cash to avoid the transaction costs associated with converting a non-cash asset into cash; the tax motive, in which the cash ratios of multinational firms are kept high to avoid taxes for the repatriation of foreign earnings (Foley et al. 2007); and the agency motive (e.g., Jensen (1986)), which views cash holdings as a result of the agency problem. In line with this logic, Dittmar et al. (2003) and Harford et al. (2008) find that firms with a greater agency problem tend to hold greater cash balances.

Moreover, cash reserves can provide financial flexibility for making strategic investments that have long-term payoffs. When it comes to funding new projects, having corporate cash reserves is often the favored choice, as it is seen as a way to avoid raising expensive external capital (Myers and Majluf 1984; Bates et al. 2009; Denis and Sibilkov 2010). Cash reserves can be strategically valuable to safeguard assets and mitigate the risk of underinvestment (Duchin 2010; Kim and Bettis 2014; La Rocca and Cambrea 2019). Firms with superior internal governance, exemplified by superior managerial quality, should harness the advantages of holding cash reserves. Therefore, I suggest that management, possessing high organization capital that can be seen as an indicator of superior internal governance, exhibits a preference for cash reserves. I therefore construct the following hypothesis describing the positive influence of organization capital on cash reserves.

Hypothesis 1. *There is a positive association between organization capital and cash reserves.*

2.3. Disciplinary Role of External Governance

Due to its intangibility, organization capital is likely to intensify information asymmetry between external parties and company managers. The intangible nature of organization capital poses a greater challenge for external parties, resulting in an information asymmetry between those external parties and company managers (Stein 1989; Edmans 2011). For example, financial analysts, who play a significant role in external governance, may struggle to accurately evaluate the value created by organization capital. Idiosyncratic risk, which reflects information asymmetry (Rajgopal and Venkatachalam 2011) and makes up around 85 percent of the variation in a firm's stock returns (Daphne et al. 2007; Goyal and Santa-Clara 2003), is closely associated with organization capital (Hasan and Cheung 2023).

In the presence of information asymmetry, external parties have concerns about moral hazards that may arise from the accumulation of substantial cash reserves. According to the agency theory proposed by Jensen (1986), high levels of corporate cash reserves can raise concerns from external parties. Indeed, cash reserves pose a high risk of being misused by managers for their personal interests, potentially compromising the interests of shareholders (Myers and Rajan 1998). Firms with high cash holdings tend to experience negative outcomes such as lower shareholder value (Lee and Powell 2011), poor earnings quality (Sun et al. 2012), lower accrual quality (García-Teruel et al. 2009), reduced financial statement comparability (Habib et al. 2017), and a propensity for aggressive real activities management (Greiner 2017).

In the context of strong external governance, managers may experience external pressure to reduce cash holdings through actions such as increasing dividend payments or engaging in stock repurchases (Dittmar et al. 2003; Ivalina and Lins 2007; Yun 2009). Thus, I expect that strong external governance can mitigate the preference of management with high organization capital for cash reserves. To summarize,

Hypothesis 2. *The positive relation between organization capital and cash reserves is weaker for firms with strong external governance.*

3. Methodology
3.1. Data

I obtain corporate financial statement information using the Compustat annual database. For external governance, I use the hostile takeover threat index from Cain et al. (2017). The definitions of cash holdings, organization capital, hostile takeover threat, and control variables are presented in Abbreviations. All variables are winsorized at the 1st and 99th percentiles. After eliminating firm-year observations with insufficient data in the database to calculate variables in my empirical investigations, my final baseline sample consists of 70,317 firm-year observations from January 1987 through December 2016.

3.2. Variables

Following Almeida et al. (2004), and Brown and Petersen (2011), the cash ratio (CASH) of each firm is measured as the cash and marketable securities divided by the total book value of assets. To measure organization capital (OC), I use the model by Eisfeldt and Papanikolaou (2013). By taking the sum of the deflated flows from sales, general, and administrative (SG&A) expenditure, this model can measure the organization capital. The underlying reason for this is that, at market equilibrium, the sum of the present value of all expenditures for an asset should be equal to the present value of the asset. Considering that SG&A expenditure contains information expenditures and labor costs such as employee wages, training cost, and consulting fees (Lev and Radhakrishnan 2005), the deflated flows from SG&A expenditure can be used for measuring the value of organization capital.

Based on the model of Eisfeldt and Papanikolaou (2013), the value of organization capital at a specific year can be determined using the following equation:

$$V_{i,t} = (1 - \delta)V_{i,t-1} + SGA_{i,t}/CPI_t \tag{1}$$

In this equation, for each firm i and year t, V stands for the value of organization capital. δ is a constant depreciation rate of organization capital. SGA represents SG&A expenditure. To calculate the deflated value of SG&A expenditure, I utilize the consumer price index (CPI). Following the prior literature, I choose to use the value of 15% for δ. Any missing data in SG&A expenditure are converted to the value of zero.

To complete Equation (1), a firm i's initial value of organization capital must be determined. Based on the perpetual inventory model of Eisfeldt and Papanikolaou (2013), I estimate each firm i's initial value of organization capital using the equation below:

$$V_{i,0} = SGA_{i,1}/(g + \delta) \tag{2}$$

g indicates the mean real growth rate of firm-level SG&A expenditure. Consistent with Eisfeldt and Papanikolaou (2013), I choose g as 10%. I divide the organization capital by its book value of total assets (OC) and use OC in my baseline regressions.

Following Opler et al. (1999), Almeida et al. (2004), and Brown and Petersen (2011), I control for Tobin's Q (Q), cash flows (CF), net working capital (NWC), and capital expenditure (CAPEX). Considering that a certain portion of cash flows can be retained as cash reserves, cash flows are associated with cash reserves. Net working capital substitutes cash reserves, implying a negative relation between net working capital and cash reserves. As firms have more investment opportunities proxied by Tobin's Q, they tend to hold more cash. Capital expenditure, as a payment for acquisitions, can reduce cash reserves.

Consistent with Frésard and Salva (2010), I include firm size (SIZE), and dividends (DIV). Firm size might be negatively associated with the cash ratio. Thanks to the economies of scale, larger firms have lower transaction costs for converting a non-cash asset into cash, which can reduce the motive for cash reserves (Mulligan 1997; Bates et al. 2009). DIV is a dummy variable that is equal to 1 if a firm paid dividends in each year, and 0 otherwise. Paying dividends can reduce the cash reserves of a firm.

Additional control variables are net new long-term debt (N_DEBT), and acquisition (ACQ), which could be determinants of corporate cash reserves (Harford et al. 2008; Harford et al. 2014). The measurements of variables are described in Abbreviations.

3.3. Empirical Model: Hypothesis 1

To further check Hypothesis 1 empirically, I conduct the following regression:

$$CASH_{i,t+n} = \alpha + \beta\, OC_{i,t} + \lambda\, Controls_{i,t} + Year + Industry + \varepsilon_{i,t} \tag{3}$$

where, for firm i and year t, CASH is corporate cash reserves; OC denotes organization capital scaled by total book value of assets; Controls include Tobin's Q (Q), cash flows (CF), net working capital (NWC), capital expenditure (CAPEX), firm size (SIZE), dividends (DIV),

net new long-term debt (N_DEBT), and acquisition (ACQ). The definitions of the variables are given in Abbreviations. I also include year-fixed effects (Year) and industry-fixed effects (Industry) to account for time and industry trends. Standard errors are heteroscedasticity-robust in all the specifications and are clustered at the firm level.

3.4. Empirical Model: Hypothesis 2

Hypothesis 2 suggests that strong external governance disciplines managers and, thus, it can weaken the positive relation between organization capital and cash holdings. To empirically test my hypothesis, I run the following regression model:

$$\text{CASH}_{i,t+n} = \alpha + \beta_1 \, \text{OC}_{i,t} + \beta_2 \, \text{OC}_{i,t} \times \text{HTT}_{i,t} + \lambda \, \text{Controls}_{i,t} + \text{Year} + \text{Industry} + \varepsilon_{i,t} \quad (4)$$

where, for firm i and year t, CASH represents corporate cash holdings; OC is organization capital scaled by total book value of assets; and HTT denotes hostile takeover threat index from Cain et al. (2017). When faced with a stronger threat of hostile takeover, the firm's HTT acquires a higher value. Controls, Year, Industry, and standard errors are described in Equation (3) in Section 3.3.

4. Empirical Results

4.1. Descriptive Statistics

Table 1 reports the 25th percentile, mean, median, 75th percentile, and standard deviation for cash reserves, organization capital, and other control variables used in my analyses. The median organization capital (OC) is 0.184, representing 18.4% of total assets. Considering the mean value of total assets at \$2033.942 million, the mean sample firm holds \$402.72 million in cash reserves (CASH), equivalent to 0.198 of the total assets.

Table 1. Univariate statistics for sample firms.

	N	25th Percentile	Mean	Median	75th Percentile	Standard Deviation
CASH	70,317	0.032	0.198	0.114	0.293	0.217
OC	70,317	0.033	0.561	0.184	0.702	0.876
HTT	56,205	0.073	0.135	0.112	0.171	0.084
Q	70,317	1.066	2.122	1.474	2.329	1.943
CF	70,317	0.001	0.011	0.074	0.124	0.245
NWC	70,317	−0.035	0.078	0.062	0.202	0.202
CAPEX	70,317	0.018	0.062	0.039	0.078	0.070
SIZE	70,317	3.523	5.137	4.986	6.630	2.211
DIV	70,317	0.000	0.373	0.000	1.000	0.484
N_DEBT	70,317	−0.016	0.025	0.000	0.021	0.159
ACQ	70,317	0.000	0.020	0.000	0.004	0.056

Note: The variables are defined in Abbreviations.

Table 2 shows the correlation between the sample variables. I observe that the correlation coefficient between organization capital (OC) and Tobin's Q (Q) is significantly positive (0.254). This result provides an indication that firms with high organization capital may have greater growth opportunities. Consistent with my Hypothesis 1, organization capital (OC) and cash holdings (CASH) are positively correlated (0.201) and significant.

Table 2. Correlation matrix.

	CASH	OC	HTT	Q	CF	NEC	CAPEX	SIZE	DIV	N_DEBT	ACQ
CASH	1.000										
OC	0.201 *	1.000									
HTT	−0.192 *	−0.137 *	1.000								
Q	0.363 *	0.254 *	−0.118 *	1.000							
CF	−0.273 *	−0.360 *	0.153 *	−0.257 *	1.000						
NWC	−0.245 *	−0.060 *	0.111 *	−0.215 *	0.292 *	1.000					
CAPEX	−0.200 *	−0.029 *	−0.024 *	0.007	0.075 *	−0.137 *	1.000				
SIZE	−0.229 *	−0.419 *	0.269 *	−0.184 *	0.331 *	−0.074 *	0.022 *	1.000			
DIV	−0.205 *	−0.172 *	0.297 *	−0.071 *	0.185 *	0.021 *	0.023 *	0.366 *	1.000		
N_DEBT	−0.071 *	−0.052 *	−0.023 *	−0.014 *	−0.010 *	0.001	0.149 *	0.066 *	0.015 *	1.000	
ACQ	−0.111 *	−0.070 *	−0.008	−0.040 *	0.052 *	−0.024 *	−0.082 *	0.136 *	0.024 *	0.358 *	1.000

Note: * denotes significance at the 0.01 level.

4.2. Impact of Organization Capital on Cash Reserves

In Table 3, I rank all observations into 10 groups based on the magnitude of organization capital in each year between 1987 and 2016. The results in Table 3 present that the level of median cash reserves is greater as organization capital increases. The median cash ratio of the group with the lowest organization capital is 0.0663 as opposed to 0.2899 for the group with the highest organization capital. Consistent with my Hypothesis 1, firms with high organization capital are likely to build more cash reserves.

Table 3. Median cash reserves for organization capital deciles.

Organization Capital Ranking	Median Organization Capital	Median Cash Reserve	Obs.
Lowest	0.0040	0.0663	7044
2	0.0181	0.0808	7029
3	0.0359	0.0844	7035
4	0.0665	0.0910	7029
5	0.1135	0.0987	7030
6	0.1918	0.1030	7035
7	0.3428	0.1220	7033
8	0.6280	0.1455	7031
9	1.0938	0.1970	7033
Highest	2.3919	0.2899	7018

Note: Observations are annually ranked into 10 groups based on the magnitude of organization capital.

Table 4 shows the empirical results of estimating Equation (3). Column 1 of Table 4 presents a significant and positive relationship between organization capital and one-year forward cash holdings, indicating that firms with greater organization capital tend to accumulate more cash holdings. In Columns (2) and (3), I replace one-year forward (t + 1) cash holdings by two-year (t + 2) and three-year (t + 3) forward cash holdings, respectively. The coefficient of organization capital remains positively significant in Columns (2) and (3), implying that the positive effect of organization capital on subsequent cash holdings is persistent over three years. Based on my empirical results together, I find that organization capital is associated with more corporate cash holdings in the following years, which advocates for my Hypothesis 1.

Table 4. Organization capital and cash holdings.

	(1) CASH (t + 1)	(2) CASH (t + 2)	(3) CASH (t + 3)
OC	0.0109 (4.991) ***	0.0083 (3.601) ***	0.0061 (2.465) **
Q	0.0235 (25.496) ***	0.0211 (21.347) ***	0.0194 (18.052) ***
CF	−0.0090 (−1.135)	−0.0292 (−3.317) ***	−0.0361 (−3.810) ***
NWC	−0.2167 (−21.056) ***	−0.2100 (−19.071) ***	−0.1992 (−16.744) ***
CAPEX	−0.4971 (−25.209) ***	−0.4482 (−21.286) ***	−0.4105 (−18.272) ***
SIZE	−0.0151 (−15.034) ***	−0.0145 (−13.721) ***	−0.0143 (−12.759) ***
DIV	−0.0300 (−9.616) ***	−0.0311 (−9.355) ***	−0.0316 (−8.923) ***
N_DEBT	0.0296 (5.876) ***	0.0227 (4.094) ***	0.0185 (3.232) ***
ACQ	−0.4292 (−30.390) ***	−0.3901 (−25.766) ***	−0.3600 (−22.360) ***
Industry-fixed effects	Yes	Yes	Yes
Year-fixed effects	Yes	Yes	Yes
N	70,317	62,032	54,871
Adj. R-sq	0.350	0.340	0.329

Note: Standard errors are robust to both clustering at the firm level and heteroscedasticity. The t-statistics are reported in parentheses. ** and *** denote significance at the 5% and 1% (two-sided) level, respectively.

4.3. Hostile Takeover Threat

Under the threat of a hostile takeover, managers of the target firm could be replaced if shareholders accepted a tender offer from a bidder, which would result in acquiring control of the target firm. The threat of being replaced can motivate managers to maximize shareholders' benefits. In this sense, the threat of a hostile takeover is considered one of the strongest external governance mechanisms (Shleifer and Vishny 1997; Bertrand and Mullainathan 2003; Atanassov 2013).

In Equation (4), the variable of interest is the intersection between organization capital and hostile takeover index (OC × HTT), which captures the influence of a hostile takeover threat on the sensitivity of cash holdings to organization capital. Table 5 shows that the coefficients of OC × HTT on cash holdings are significantly negative, implying that the positive relation between organization capital and cash holdings is weaker for firms with a stronger threat of hostile takeover. This is consistent with Hypothesis 2 and proves the disciplining role of the external governance.

Table 5. Hostile takeover threat.

	(1) CASH (t + 1)	(2) CASH (t + 2)	(3) CASH (t + 3)
OC	0.0116 (4.299) ***	0.0081 (2.879) ***	0.0066 (2.161) **
OC × HTT	−0.0646 (−2.918) ***	−0.0443 (−2.010) **	−0.0415 (−1.806) *
HTT	−0.1151 (−5.080) ***	−0.0895 (−3.830) ***	−0.0792 (−3.242) ***
Q	0.0229 (23.394) ***	0.0202 (19.405) ***	0.0184 (16.377) ***
CF	−0.0142 (−1.665) *	−0.0335 (−3.581) ***	−0.0434 (−4.337) ***
NWC	−0.2274 (−19.849) ***	−0.2175 (−17.963) ***	−0.2043 (−15.864) ***
CAPEX	−0.5372 (−23.498) ***	−0.4825 (−19.806) ***	−0.4423 (−17.059) ***
SIZE	−0.0132 (−10.991) ***	−0.0130 (−10.311) ***	−0.0127 (−9.566) ***
DIV	−0.0263 (−7.562) ***	−0.0292 (−7.966) ***	−0.0302 (−7.746) ***
N_DEBT	0.0273 (4.787) ***	0.0218 (3.543) ***	0.0186 (2.949) ***
ACQ	−0.4429 (−28.926) ***	−0.4011 (−24.202) ***	−0.3760 (−21.162) ***
Industry-fixed effects	Yes	Yes	Yes
Year-fixed effects	Yes	Yes	Yes
N	56,205	50,487	44,878
Adj. R-sq	0.355	0.342	0.330

Note: Standard errors are robust to both clustering at the firm level and heteroscedasticity. The t-statistics are reported in parentheses. *, **, and *** denote significance at the 10%, 5%, and 1% (two-sided) level, respectively.

5. Additional Tests

5.1. Change Regression

By employing a change regression, this study captures yearly changes in both the dependent and independent variables, yielding a more robust understanding of the incremental effects of organization capital on corporate cash holdings. The removal of bias stemming from time-invariant omitted variables allows for the estimation of influences in a more accurate manner. The following model is used to estimate a change regression:

$$\Delta CASH_{i,t+n} = \alpha + \beta\, \Delta OC_{i,t} + \lambda\, \Delta Controls_{i,t} + Year + Industry + \varepsilon_{i,t} \quad (5)$$

where, for firm i, $\Delta CASH$ denotes the first difference in corporate cash holdings between year t + 1 and the previous year t; ΔOC is a change organization capital scaled by the total book value of assets in year t from previous year t − 1; and Controls include control variables which are defined in Abbreviations. All control variables are changes in year t from year t − 1. I also include year-fixed effects (Year) and industry-fixed effects (Industry). In my tests, standard errors are heteroscedasticity-robust and are clustered at the firm level.

The results of the change regressions are presented in Table 6. The observed significantly positive coefficient of change in organization capital for subsequent changes in

corporate cash holdings is consistent with the preceding primary results and strengthens the support for my hypothesis.

Table 6. Change regression analysis.

	ΔCASH
ΔOC	0.0078 (2.693) ***
ΔQ	0.0025 (3.825) ***
ΔCF	−0.0001 (−0.026)
ΔNWC	0.0511 (6.510) ***
ΔCAPEX	−0.0513 (−4.473) ***
ΔSIZE	−0.0264 (−9.255) ***
ΔDIV	0.0033 (1.583)
ΔN_DEBT	−0.0037 (−1.119)
ΔACQ	0.0382(5.494) ***
Industry-fixed effects	Yes
Year-fixed effects	Yes
N	55,833
Adj. R-sq	0.018

Note: Standard errors are robust to both clustering at the firm level and heteroscedasticity. The t-statistics are reported in parentheses. *** denotes significance at the 1% (two-sided) level.

5.2. Effect of Recessionary Periods

In times of economic downturn, such as the periods of 2001–2002 and 2007–2010, firms often encounter financial constraints, which thereby impact their corporate cash-holding decisions. To further ensure the robustness of the results, I conduct an additional analysis specifically for the years 2001–2002 and 2007–2010, which are covered in the sample period of my study.

The results presented in Table 7 are in line with the earlier reported results. The results presented in Column (1) of Table 7 indicate a significant and positive association between organization capital and one-year-forward cash holdings, confirming Hypothesis 1. The coefficient of the intersection between organization capital and the hostile takeover index is negatively significant in Column (2), providing additional support for my Hypothesis 2. Overall, my findings continue to hold during the recessionary periods.

Table 7. Effect of recessionary periods.

	(1) CASH (t + 1)	(2) CASH (t + 1)
OC	0.0231 (5.318) ***	0.0338 (3.753) ***
OC × HTT		−0.3704 (−2.672) ***
HTT		−0.1821 (−4.499) ***
Q	0.0230 (15.066) ***	0.0226 (10.083) ***
CF	−0.0034 (−0.306)	0.0143 (1.073)
NWC	−0.2292 (−14.011) ***	−0.2717 (−13.278) ***
CAPEX	−0.6420 (−16.676) ***	−0.6927 (−13.979) ***
SIZE	−0.0198 (−14.150) ***	−0.0178 (−9.336) ***
DIV	−0.0524 (−11.179) ***	−0.0425 (−6.843) ***
N_DEBT	0.0851 (5.992) ***	0.0799 (4.282) ***
ACQ	−0.5603 (−20.175) ***	−0.5574 (−15.679) ***
Industry-fixed effects	Yes	Yes
Year-fixed effects	Yes	Yes
N	13,497	8483
Adj. R-sq	0.406	0.385

Note: Standard errors are robust to both clustering at the firm level and heteroscedasticity. The t-statistics are reported in parentheses. *** denotes significance at the 1% (two-sided) level.

6. Discussion and Conclusions

This paper highlights the contributions of incorporating the context of organization capital when investigating corporate governance. Although organization capital has garnered considerable research interest, little research has been dedicated to understanding the interplay between organization capital and corporate governance. To fill this gap, I examine whether high organization capital can be seen as an indicator of superior internal governance. Furthermore, this paper investigates the role of external governance to provide a more comprehensive picture of corporate governance mechanisms. In sum, my research addresses corporate governance, shedding light on both internal and external aspects, and expanding the existing literature.

Controlling for multiple variables, I find that (i) firms with high organization capital tend to hold more cash reserves and (ii) the positive relation between organization capital and cash reserves becomes weaker as the external governance becomes stronger, thereby supporting my hypotheses.

The findings of this study carry managerial implications and have potential social impacts for the following reasons. Exploring corporate cash-holding decisions is important since they can contribute to improved corporate risk management. Interestingly, previous research has shown contradictory results between corporate governance and cash-holding decisions. The presence of contradictory empirical findings underscores the need for a thor-

ough exploration and a comprehensive understanding of the relationship. Identifying how corporate cash holdings are influenced by both internal and external corporate governance mechanisms may address some of the controversies in the literature. My findings imply that, in relation to cash-holding decisions, corporate managers need to be cognizant of the disciplinary effects of external governance and prompting active engagement with external parties to showcase their robust internal governance practices. These implications have the potential to generate social impacts through the enhanced communication between corporate managers and external parties.

It is important to discuss the results of this study in consideration of its limitations, which may lead to opportunities for future research. First, this study is limited by its focus on U.S.-listed firms and other countries should receive further exploration in future research. Second, constraints also arise from the limited data period of the hostile takeover index, as it does not encompass the most recent risks such as the COVID-19 pandemic. This could provide avenues for future research. Third, given the intangible nature of organization capital, it is recommended that future research investigates the implications of other intangible corporate resources when conducting analyses on corporate decision making.

Abbreviations

Variables	Definitions
CASH	Cash ratio, measured as cash and marketable securities divided by the book value of total assets.
OC	Organization capital divided by the book value of total assets proposed by Eisfeldt and Papanikolaou (2013).
HTT	Hostile takeover threat index from Cain et al. (2017).
Q	Tobin's Q, measured as the market value of equity minus the book value of equity plus the book value of total assets.
CF	Cash flows, proxied as (incomes before extraordinary items + depreciation)/book value of total assets.
NWC	Net working capital, calculated by (current assets − current liabilities − cash and marketable securities)/book value of total assets.
CAPEX	Capital expenditures scaled by book value of total assets.
SIZE	Firm size, measured by the natural logarithm of total assets.
DIV	Equal to 1 if a firm paid dividends, 0 otherwise.
N_DEBT	Net new long-term debt, estimated by net debt issuance divided by book value of total assets.
ACQ	Acquisition expenses scaled by book value of total assets.

References

Almeida, Heitor, Murillo Campello, and Michael S. Weisbach. 2004. The cash flow sensitivity of cash. *The Journal of Finance* 59: 1777–804. [CrossRef]

Atanassov, Julian. 2013. Do hostile takeovers stifle innovation? Evidence from antitakeover legislation and corporate patenting. *The Journal of Finance* 68: 1097–131. [CrossRef]

Atkeson, Andrew, and Patrick J. Kehoe. 2005. Modeling and measuring organization capital. *Journal of Political Economy* 113: 1026–53. [CrossRef]

Attig, Najah, and Sadok El Ghoul. 2018. Organization capital and the cost of equity financing in medium-sized manufacturing firms. *Contemporary Accounting Research* 35: 1616–44. [CrossRef]

Bates, Thomas W., Kathleen M. Kahle, and René M. Stulz. 2009. Why do U.S. Firms hold so much more cash than they used to? *The Journal of Finance* 64: 1985–2021. [CrossRef]

Berk, Jonathan B., Richard Stanton, and Josef Zechner. 2010. Human capital, bankruptcy, and capital structure. *The Journal of Finance* 65: 891–926. [CrossRef]

Bertrand, Marianne, and Sendhil Mullainathan. 2003. Enjoying the quiet life? Corporate governance and managerial preferences. *Journal of Political Economy* 111: 1043–75. [CrossRef]

Black, Sandra E., and Lisa M. Lynch. 2005. Measuring organization capital in the new economy. *SSRN Electronic Journal* 205–36. Available online: https://www.researchgate.net/publication/5135738_Measuring_Organizational_Capital_in_the_New_Economy (accessed on 18 July 2023).

Bloom, Nicholas, and John Van Reenen. 2007. Measuring and explaining management practices across firms and countries. *Quarterly Journal of Economics* 122: 1351–408. [CrossRef]

Brown, James R., and Bruce C. Petersen. 2011. Cash holdings and r&d smoothing. *Journal of Corporate Finance* 17: 694–709.

Cain, Matthew D., Stephen B. McKeon, and Steven Davidoff Solomon. 2017. Do takeover laws matter? Evidence from five decades of hostile takeovers. *Journal of Financial Economics* 124: 464–85. [CrossRef]

Chen, Yenn-Ru, and Wei-Ting Chuang. 2009. Alignment or entrenchment? Corporate governance and cash holdings in growing firms. *Journal of Business Research* 62: 1200–206. [CrossRef]

Daphne, Lui, Markov Stanimir, and Tamayo Ane. 2007. What makes a stock risky? Evidence from sell-side analysts' risk ratings. *Journal of Accounting Research* 45: 629–65.

Denis, David J., and Valeriy Sibilkov. 2010. Financial constraints, investment, and the value of cash holdings. *The Review of Financial Studies* 23: 247–69. [CrossRef]

Dittmar, Amy, Mahrt-Smith Jan, and Henri Servaes. 2003. International corporate governance and corporate cash holdings. *The Journal of Financial and Quantitative Analysis* 38: 111–33. [CrossRef]

Duchin, Ran. 2010. Cash holdings and corporate diversification. *The Journal of Finance* 65: 955–92. [CrossRef]

Edmans, Alex. 2011. Does the stock market fully value intangibles? Employee satisfaction and equity prices. *Journal of Financial Economics* 101: 621–40. [CrossRef]

Eisfeldt, Andrea L., and Dimitris Papanikolaou. 2013. Organization capital and the cross-section of expected returns. *The Journal of Finance* 68: 1365–406. [CrossRef]

El-Halaby, Sherif, Hosam Abdelrasheed, and Khaled Hussainey. 2021. Corporate cash holdings and national culture: Evidence from the middle east and north Africa region. *Journal of Risk and Financial Management* 14: 475. [CrossRef]

Evenson, Robert E., and Larry E. Westphal. 1995. Technological change and technology strategy. In *Handbook of Development Economics*. Edited by Hollis Chenery and Thirukodikaval Nilakanta Srinivasan. Amsterdam: Elsevier.

Farooque, Omar Al. 2021. Agency-linked risk management with ownership and board sub-committee governance: Evidence from an OECD economy. *Journal of Risk and Financial Management* 14: 472. [CrossRef]

Foley, C. Fritz, Jay C. Hartzell, Sheridan Titman, and Garry Twite. 2007. Why do firms hold so much cash? A tax-based explanation. *Journal of Financial Economics* 86: 579–607. [CrossRef]

Francis, Bill, Suresh Babu Mani, Zenu Sharma, and Qiang Wu. 2021. The impact of organization capital on firm innovation. *Journal of Financial Stability* 53: 100829. [CrossRef]

Frésard, Laurent, and Carolina Salva. 2010. The value of excess cash and corporate governance: Evidence from us cross-listings. *Journal of Financial Economics* 98: 359–84. [CrossRef]

García-Teruel, Pedro J., Pedro Martínez-Solano, and Juan Pedro Sánchez-Ballesta. 2009. Accruals quality and corporate cash holdings. *Accounting & Finance* 49: 95–115.

Goyal, Amit, and Pedro Santa-Clara. 2003. Idiosyncratic risk matters! *The Journal of Finance* 58: 975–1007. [CrossRef]

Greiner, Adam J. 2017. An examination of real activities management and corporate cash holdings. *Advances in Accounting* 39: 79–90. [CrossRef]

Habib, Ahsan, Mostafa Monzur Hasan, and Ahmed Al-Hadi. 2017. Financial statement comparability and corporate cash holdings. *Journal of Contemporary Accounting & Economics* 13: 304–21.

Harford, Jarrad, Sandy Klasa, and William F. Maxwell. 2014. Refinancing risk and cash holdings. *The Journal of Finance* 69: 975–1012. [CrossRef]

Harford, Jarrad, Sattar A. Mansi, and William F. Maxwell. 2008. Corporate governance and firm cash holdings in the us. *Journal of Financial Economics* 87: 535–55. [CrossRef]

Hasan, Mostafa Monzur, and Adrian Cheung. 2018. Organization capital and firm life cycle. *Journal of Corporate Finance* 48: 556–78. [CrossRef]

Hasan, Mostafa Monzur, and Adrian Cheung. 2023. Organization capital and firm risks. *China Accounting and Finance Review*. Available online: https://www.emerald.com/insight/content/doi/10.1108/CAFR-05-2022-0044/full/html (accessed on 18 July 2023).

Ivalina, Kalcheva, and Karl V. Lins. 2007. International evidence on cash holdings and expected managerial agency problems. *The Review of Financial Studies* 20: 1087–112.

Jensen, Michael C. 1986. Agency costs of free cash flow, corporate finance, and takeovers. *The American Economic Review* 76: 323–29.

Kim, Changhyun, and Richard A. Bettis. 2014. Cash is surprisingly valuable as a strategic asset. *Strategic Management Journal* 35: 2053–63. [CrossRef]

Kim, Hyun-Dong, Kwangwoo Park, and Kyojik Roy Song. 2021. Organization capital and analysts' forecasts. *International Review of Economics & Finance* 71: 762–78.

Kim, Youngbin, Jaeseong Lim, and Juan Qin. 2022. Board networks and audit quality. *Journal of Corporate Accounting & Finance* 33: 140–48.

La Rocca, Maurizio, and Domenico Rocco Cambrea. 2019. The effect of cash holdings on firm performance in large italian companies. *Journal of International Financial Management & Accounting* 30: 30–59.

Lee, Edward, and Ronan Powell. 2011. Excess cash holdings and shareholder value. *Accounting & Finance* 51: 549–74.

Lev, Baruch, and Suresh Radhakrishnan. 2005. *The Valuation of Organization Capital*. Cambridge: National Bureau of Economic Research, Inc.

Lev, Baruch, Suresh Radhakrishnan, and Weining Zhang. 2009. Organization capital. *Abacus* 45: 275–98. [CrossRef]

Li, Kai, Buhui Qiu, and Rui Shen. 2018a. Organization capital and mergers and acquisitions. *Journal of Financial and Quantitative Analysis* 53: 1871–909. [CrossRef]

Li, Peixin, Frank Weikai Li, Baolian Wang, and Zilong Zhang. 2018b. Acquiring organizational capital. *Finance Research Letters* 25: 30–35. [CrossRef]

Lim, Jaeseong, and Juan Qin. 2019. Organization capital and firm auditor choice. *Journal of Accounting and Finance* 19: 147–63.

Lozano, Maria Belén, and Serhat Yaman. 2020. The european financial crisis and firms' cash holding policy: An analysis of the precautionary motive. *Global Policy* 11: 84–94. [CrossRef]

Martín-Oliver, Alfredo, and Vicente Salas-Fumás. 2012. It assets, organization capital and market power: Contributions to business value. *Decision Support Systems* 52: 612–23. [CrossRef]

McKinsey Global Institute. 2002. Learning to lover recessions. *The Mckinsey Quarterly* 2: 4–5.

Mulligan, Casey B. 1997. Scale economies, the value of time, and the demand for money: Longitudinal evidence from firms. *Journal of Political Economy* 105: 1061–79. [CrossRef]

Myers, Stewart C., and Nicholas S. Majluf. 1984. Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics* 13: 187–221. [CrossRef]

Myers, Stewart C., and Raghuram G. Rajan. 1998. The paradox of liquidity. *The Quarterly Journal of Economics* 113: 733–71. [CrossRef]

Opler, Tim, Lee Pinkowitz, René Stulz, and Rohan Williamson. 1999. The determinants and implications of corporate cash holdings. *Journal of Financial Economics* 52: 3–46. [CrossRef]

Ozkan, Aydin, and Neslihan Ozkan. 2004. Corporate cash holdings: An empirical investigation of UK companies. *Journal of Banking & Finance* 28: 2103–34.

Pinkowitz, Lee, René Stulz, and Rohan Williamson. 2013. *Multinationals and the High Cash Holdings Puzzle*. National Bureau of Economic Research Working Paper. Cambridge: National Bureau of Economic Research, Inc.

Prescott, Edward C., and Michael Visscher. 1980. Organization capital. *Journal of Political Economy* 88: 446–61. [CrossRef]

Rajgopal, Shiva, and Mohan Venkatachalam. 2011. Financial reporting quality and idiosyncratic return volatility. *Journal of Accounting and Economics* 51: 1–20. [CrossRef]

Shin, Ilhang, and Hansol Lee. 2023. Product market competition and organization capital. *Economics and Business Letters* 12: 10–19. [CrossRef]

Shleifer, Andrei, and Robert W. Vishny. 1997. A survey of corporate governance. *The Journal of Finance* 52: 737–83. [CrossRef]

Stein, Jeremy C. 1989. Efficient capital markets, inefficient firms: A model of myopic corporate behavior. *The Quarterly Journal of Economics* 104: 655–69. [CrossRef]

Sun, Qian, Kenneth Yung, and Hamid Rahman. 2012. Earnings quality and corporate cash holdings. *Accounting & Finance* 52: 543–71.

Venieris, George, Vasilios Christos Naoum, and Orestes Vlismas. 2015. Organisation capital and sticky behaviour of selling, general and administrative expenses. *Management Accounting Research* 26: 54–82. [CrossRef]

Youndt, Mark A., Mohan Subramaniam, and Scott A. Snell. 2004. Intellectual capital profiles: An examination of investments and returns. *Journal of Management Studies* 41: 335–61. [CrossRef]

Yun, Hayong. 2009. The choice of corporate liquidity and corporate governance. *The Review of Financial Studies* 22: 1447–75. [CrossRef]

Zingales, Luigi. 2000. In search of new foundations. *The Journal of Finance* 55: 1623–53. [CrossRef]