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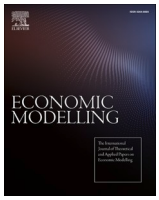

Expected equity costs and corporate cash policy: The role of information transparency

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ABSTRACT

This study investigates the impact of anticipated equity financing costs on corporate cash holdings, addressing gaps in how such costs shape corporate financial behaviors and the moderating role of information transparency. Using a global dataset of 25,906 firms across 39 countries (1995–2018), we empirically examine whether and how elevated anticipated equity financing costs drive higher cash holdings and how information transparency moderates this relationship. Our analysis reveals that higher equity financing expectations increase cash accumulation, validating Palazzo's (2012) theoretical model. Elevated expected equity returns also encourage conservative accounting and raise the marginal value of cash. Furthermore, both firm- and country-level transparency reinforce the positive effect of expected equity returns on corporate cash holdings, with high-quality corporate disclosure mitigating weak national transparency. These findings underscore the importance of information quality for capital market efficiency, offering valuable insights for policymakers, investors, and corporate managers to mitigate financing frictions.

1. Introduction

Based on the precautionary motive, managers maintain liquid reserves to mitigate unforeseen risks (Opler et al., 1999). The optimal cash strategy involves balancing dividend distributions with cash accumulation to avoid costly external financing. From a theoretical standpoint, Palazzo (2012) suggests that elevated risk exposure intensifies firms' precautionary motives for holding cash. This behavior stems from their greater vulnerability to funding shortfalls, which correspondingly amplifies their reliance on both internal liquidity buffers and external financing sources. Building upon their findings, our study investigates how anticipated returns on equity influence corporate cash policies across a broad panel of international firms. This global sample serves a dual purpose: it tests the generalizability of findings beyond the U.S. context and provides a distinct opportunity to analyze how differences in information environments shape this key dynamic.

Expected equity returns—reflecting the anticipated cost of future equity issuance—act as a risk premium required by investors given a firm's perceived risk. A key limitation of the predominant approach in the prior research is its reliance on the *ex-post* cost of equity. This metric suffers from a critical limitation: it fundamentally confounds the true price of equity capital with the *ex-post* realization of future cash flows and growth rates (Bekaert and Harvey, 2000). To mitigate these concerns, our analysis employs an analyst-based, forward-looking measure (Banerjee et al., 2022; Bhuyan and Javakhadze, 2024). This approach provides a conceptually cleaner measure of a firm's cost of equity, an approach foundational to the work of Dhaliwal et al. (2006). We propose that firms strategically accumulate cash in anticipation of higher future equity financing costs, a decision driven by three core motives: First, holding cash reduces the likelihood of resorting to costly external financing and limits firms' dependence on such funding sources (Kim et al., 1998). Second, riskier firms, being more vulnerable to cash shortfalls, build liquidity buffers to fund investments without frequent external raises (Dittmar and Duchin, 2016; Phan et al., 2019). Third, higher financing costs encourage conservative financial policies, elevating both cash levels and the marginal value of liquidity (Lin et al., 2018).

Information disclosure and privacy concerns affect corporate information environments and thus influence investors' expected returns as well as firms' cash holding decisions (Li and Zhang, 2025). The quality of

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a firm's information environment significantly influences the precision of cash flow projections—a critical input for deriving the implied cost of equity (Chen and Martin, 2011; Derrien et al., 2025; Hope, 2003a, 2003b). We therefore hypothesize that the cash-return nexus is contingent upon the degree of information transparency present at both the micro and macro levels. Superior information transparency serves to enhance the signal embedded in expected returns. By ensuring more reliable cost of equity estimates, it makes this signal a more potent determinant of corporate liquidity buildup.

This research, drawing on data from 25,906 firms across 39 countries (1995-2018), provides robust evidence that firms strategically bolster their cash positions when facing a higher expected cost of equity. This pattern strongly supports the interpretation of such behavior as a precautionary measure against future financing constraints. The robustness of our core results is confirmed through a dual identification strategy employing PSM and 2SLS estimation. In the latter, we employ the expected equity returns of a firm's industry peers as a source of exogenous variation. Investigation into the underlying mechanisms indicates that higher financing costs operate through two distinct channels: inducing more conservative accounting practices and increasing the marginal value of cash. These core findings remain robust to an extensive series of tests, including the introduction of additional control variables, the use of industry-clustered standard errors, and examinations of varied sample specifications. Notably, the positive relationship attenuates during the global financial crisis, indicating that the extreme external shock itself becomes a primary driver of corporate liquidity, partially supplanting the role normally played by firm-specific expected returns.

We next turn to empirical tests of how information environments shape the cash-return relationship. The evidence reveals that this positive effect is systematically stronger in settings characterized by higher transparency, whether at the firm or the country level. Read through the lens of information economics, these results suggest that high-quality disclosure refines the inputs—specifically the medium-term (3-5 years) earnings forecasts—that feed into the models used to derive the expected equity returns. Our results further reveal a substitutive relationship between firm- and country-level transparency. Specifically, in contexts where the macro-level information environment is deficient, firm-level disclosure assumes a compensatory role, becoming markedly more critical in strengthening the cash-return nexus.

This study advances the prior literature in several key ways. First, employing a global dataset, we provide novel evidence that firms raise their cash reserves as anticipated costs of equity capital increase—a relationship that extends the established paradigms of transaction efficiency, agency theory (Shang et al., 2023), precautionary motives (Bates et al., 2009), and tax optimization (Pang et al., 2024).[1] By providing empirical evidence that firms accumulate cash to mitigate future external financing costs, this finding offers compelling support for Palazzo's (2012) theoreticl model. A closely related study is Vergara Garavito and Chión (2021). However, their analysis is limited to firms from Pacific Alliance countries. In contrast, our global sample enhances both the generalizability of the findings and the ability to explore cross-country institutional heterogeneity.

Second, this study enhances our theoretical understanding of corporate financial strategy by pinpointing information transparency as a fundamental driver of managerial decision-making. Our findings reveal that superior information quality, whether at the micro or macro level, operationalizes a more efficient signaling channel. As shown by Hoang et al. (2026), voluntary green financing serves as a credible signal that reduces information asymmetry, thereby strengthening investors' assessments of firm value. This, in turn, renders corporate cash reserves more responsive to variations in expected equity returns. Our results also validate the underlying mechanism proposed in prior literature (Byard and Shaw, 2003; Hope, 2003a, 2003b; Chen and Martin, 2011; Cao et al., 2022), wherein high-quality disclosure acts as a critical prerequisite for reliable analyst forecasting.

Third, our study enhances understanding of how institutional infrastructures influence corporate decision-making. Our findings refine the influential LLSV thesis (La Porta et al., 1998). While their work establishes that a country's legal infrastructure shapes corporate finance,[2] we uncover a substitutive relationship: robust firm-level transparency can offset the limitations of an opaque national information environment. Specifically, the influence of firm-level disclosure is critically conditioned by the national institutional backdrop. Its role in strengthening the cash-return nexus is most pivotal in environments where the macro-level information landscape is underdeveloped. This underscores the particular importance of firm-level information quality in institutionally weaker economies.

2. Hypothesis development

The management of corporate cash reserves is fundamentally informed by a managerial trade-off, weighing the advantages of liquidity against its associated costs. First, cash reserves enable a firm to secure financing at minimal cost when needed, thereby significantly reducing future transaction costs. This is because cash holdings decrease the frequency with which firms need to raise external funds or liquidate non-cash. For instance, when a firm encounters a promising investment opportunity, cash reserves provide greater flexibility in decision-making without incurring high capital-raising expenses (Opler et al., 1999). Second, cash policies are significantly motivated by a precautionary motive to mitigate financial risk. By building liquidity buffers, firms enhance their capacity to navigate cash flow fluctuations and avoid financial distress, effectively self-insuring against potential liquidity crises (Bates et al., 2009). This behavior was vividly demonstrated in the initial phase of the COVID-19 pandemic, which triggered a widespread corporate "dash for cash" across global markets. Acharya and Steffen (2020) highlight this surge in precautionary saving, and Campello et al. (2024) offer direct evidence that firms actively tap credit lines at the onset of the 2020 crisis to substantially increase their cash reserves. Collectively, these behaviors demonstrate that maintaining ample cash reserves strengthens financial resilience and buffers against the negative impact of unforeseen liquidity shortages, especially during periods of elevated economic uncertainty.

Nevertheless, maintaining substantial cash reserves involves significant trade-offs, including opportunity costs and potential value erosion. Excess liquidity may also exacerbate agency problems, as managers

[1] Research exploring the determinants of corporate cash holdings has expanded considerably, identifying a broad array of drivers across institutional, strategic, and environmental dimensions. Early studies highlight the roles of bank influence (Pinkowitz and Williamson, 2001), market competition (Haushalter et al., 2007), and political corruption or macroeconomic uncertainty (Stulz, 2005; Xu et al., 2016). Subsequent work extend this scope to organizational structure and firm dynamics (Subramaniam et al., 2011; Begenau and Palazzo, 2021), as well as cultural norms, multinational operations, corporate social responsibility, societal trust, and public policy (Chen et al., 2015; Fernandes and Gonenc, 2016; Gu, 2017; Cheung, 2016; Dudley and Zhang, 2016; Hanlon et al., 2017; Phan et al., 2019). Most recently, the literature turns toward emerging global risks: Gounopoulos and Zhang (2024) show that firms significantly increase cash reserves in response to rising climate-related risks; Ahmad and Karpuz (2024) document a positive link between corporate exposure to biodiversity risk and cash holdings; and Chen et al. (2025) find that stricter environmental regulations induce firms to build larger liquidity buffers.

[2] This seminal work has spawned a rich body of research investigating how institutional frameworks, including legal, regulatory, and informational dimensions, shape corporate financial strategies. This is evident in studies on capital structure (Fan et al., 2012; Öztekin and Flannery, 2012), corporate investment (McLean et al., 2012), and credit financing (Bae and Goyal, 2009; Haselmann et al., 2010; Berkowitz et al., 2015).

could divert funds to non-essential projects or private benefits rather than value-maximizing investments. Moreover, cash assets are more susceptible to managerial misuse compared to fixed assets, given their high liquidity and discretion in deployment. These concerns are reflected in shareholder skepticism toward high cash holdings, as evidenced by empirical studies documenting a market discount on firms with abundant cash reserves (Pinkowitz et al., 2006).

Empirical research has progressively identified a range of drivers affecting corporate cash holdings. These determinants span from internal governance mechanisms (Shang et al., 2023) and external political conditions (Stulz, 2005) to broader socio-institutional factors such as corporate social responsibility commitments (Cheung, 2016), environmental regulations (Chen et al., 2025), exposure to climate-related risks (Gounopoulos and Zhang, 2024), biodiversity exposure (Ahmad and Karpuz, 2024), policy uncertainty (Phan et al., 2019), and even societal values reflected in national culture (Chen et al., 2015). A notable theoretical contribution by Palazzo (2012) links cash flow volatility to precautionary savings, arguing that riskier firms have stronger incentives to accumulate cash against potential equity issuance. This logic points to a positive cash-return relationship, underpinned by three principal mechanisms:

First, under the precautionary framework, corporate liquidity serves the primary function of insulating the firm from adverse shocks (Acharya et al., 2013; Campello et al., 2024), with reserves acting as a self-insurance mechanism against cash flow volatility. Firms facing greater aggregate risks are vulnerable to future cash flow shortages, particularly when anticipated cash outflows exceed their ability to generate cash inflows. By relying on internal liquidity, companies avoid the elevated costs of external financing—including underwriting fees and legal expenses—making cash accumulation a cost-efficient strategy to mitigate funding gaps.

Second, anticipating higher expected future equity financing costs, managers are motivated to increase cash reserves to maintain liquidity and ensure stable operations (Phan et al., 2019). This behavior is exemplified by firms identified in Dittmar and Duchin (2016) that hold cash well beyond levels explained by standard precautionary motives—a pattern characterized as managerial conservatism. In such cases, maintaining financial flexibility through liquidity takes precedence over maximizing cash value. These reserves function not merely to reduce financing costs but, more critically, as insurance against funding uncertainty by ensuring capital remains accessible at reasonable terms.

Third, higher financing costs are expected to promote managerial conservatism, leading to increased cash accumulation to build internal capital for future investments amid expensive external financing. This accounting conservatism—characterized by the asymmetric timeliness in loss recognition versus gains (Basu, 1997)—enhances financial reporting quality. Anticipating a potential rise in equity financing costs, managers are motivated to adopt more conservative accounting approaches. Such practices help preserve financial flexibility, lower the anticipated cost of capital, and signal a dedication to strong corporate governance. Given that conservatism is associated with greater cash reserves and a higher marginal value of liquidity (Louis et al., 2012), expected financing costs thus promote both prudent financial reporting and liquidity accumulation.

The preceding arguments collectively suggest that higher expected equity returns motivate firms to accumulate cash. Accordingly, we advance the following hypothesis:

H1. Firms anticipating higher equity returns exhibit a greater increase in cash holdings.

A broad consensus in the literature acknowledges the pivotal role of the information environment in shaping corporate liquidity management strategies. Managerial discretion over surplus cash may lead to investments that reduce firm value. Opaque disclosure exacerbates this agency problem by impeding external monitoring, creating opportunities for cash misuse and consequently reinforcing shareholder preference for limited cash reserves. Conversely, transparent reporting mitigates information asymmetry, enabling effective oversight and disciplinary mechanisms for capital allocation (Chung et al., 2015). As identified by Huang et al. (2025), government venture capital provides a stamp of endorsement that conveys favorable government support to the capital market, reduces information asymmetry. In the context of China's Growth Enterprise Market, Hu et al. (2021) show that prestigious underwriters reduce IPO underpricing by mitigating information asymmetry and certifying firm quality. In such settings, shareholders demonstrate greater tolerance for elevated cash balances, confident that robust monitoring contains potential agency risks.

Empirical evidence consistently demonstrates how information conditions shape corporate liquidity strategies. The analysis by Chung et al. (2015), which controls for key governance and firm-level factors, empirically confirms a persistent negative linkage between information asymmetry and cash reserves. Compelling support for this pattern comes from Durán et al. (2016), whose analysis of family-controlled firms reveals systematically higher cash holdings—a phenomenon they attribute to mitigated agency conflicts through reduced information gaps. Complementing these findings, Wang et al. (2022) show that direct information exchange through institutional site visits leads to increased cash holdings. This occurs as improved transparency justifies the maintenance of larger liquidity buffers.

The reliability of expected equity return estimates derived from analyst forecasts is also directly shaped by a firm's information environment. Analysts are widely recognized as key information intermediaries between companies and investors. They make professional judgments and forecasts primarily based on various corporate disclosures, such as financial reports, whose quality is, in turn, largely determined by the firm's overall information setting. A strong scholarly consensus, supported by converging evidence, indicates that superior disclosure quality systematically enhances the quality of analyst forecasts. This relationship has been demonstrated through several key channels: the accuracy gains from more informative disclosure policies (Lang and Lundholm, 1996), the improved prediction precision resulting from accounting policy transparency (Hope, 2003a, 2003b), and the sharper firm-specific insights enabled by comprehensive public disclosures (Byard and Shaw, 2003). Further extending this logic, Chen and Martin (2011) confirm that reducing information asymmetry through access to private credit data significantly enhances forecast reliability. Similarly, greater competition in a country's media sector has been found to enhance the precision of analyst earnings forecasts (Cao et al., 2022).

In addition to firm-level information transparency, country-level information transparency also plays a similar role. A country's institutional framework for corporate disclosure is widely viewed as a key driver of efficient capital allocation (Francis et al., 2009), and in jurisdictions with robust regulatory systems, managers face greater constraints on accounting manipulation—resulting in more reliable and timely public information. Corroborating evidence comes from Byard et al. (2011), who document that the mandatory implementation of IFRS across the EU, by improving disclosure quality, leads to a statistically significant increase in analyst forecast accuracy.

To conclude, greater transparency at either the firm or national level enhances the credibility of corporate disclosures to capital markets, allowing analysts to generate more precise earnings forecasts over the next 3–5 years or longer and consequently derive more reliable estimates of equity financing costs. This improved measurement accuracy allows the true, underlying economic relationship between financing costs and corporate cash policies to be more fully revealed and measured, resulting in a stronger and more statistically significant observed relationship. In contrast, inaccurate estimation of expected equity returns in firms with opaque information environments may underestimate their impact on cash holdings, potentially leading to insufficient cash reserves to cope with operational risks. Accordingly, we hypothesize:

H2. Transparent firm- and country-level information environments may amplify the effect of expected equity returns on corporate cash reserves.

3. Research design

3.1. Empirical model

In our multi-country, multi-firm panel setting, we use a cluster-robust Hausman test to guide our model selection (Hausman, 1978). The test results ($\chi^2 = 685.72$, p-value <0.001) cast substantial doubt on the consistency of the Random Effects (RE) model, indicating that unobserved firm- and country-level heterogeneity is correlated with the regressors. This provides strong statistical justification for preferring a Fixed Effects (FE) specification.

Multilevel (mixed-effects) models are also unsuitable, as they share the core RE assumption of no correlation between group-level unobservables and the regressors. In contrast, the FE estimator directly absorbs all time-invariant firm-level heterogeneity. This is a critical advantage in international settings, where such unobserved factors are often endogenous, thereby effectively mitigating omitted variable bias.

Our choice of the FE approach is also aligned with established empirical practice in studies of corporate cash holdings and cross-country data (e.g., Banerjee and Gupta, 2019; Gotti et al., 2023; Yung and Nafar, 2014). Therefore, we estimate the following regression specification, incorporating both firm and year fixed effects and calculating robust standard errors clustered by firm, which is necessary to account for potential serial correlation and heteroskedasticity within firms over time:

$$CCASH_{i,t} = \alpha + \beta_1 ICOC_{i,t-1} + \gamma_1 CF_{i,t-1} + \gamma_2 SIZE_{i,t-1} + \gamma_3 MB_{i,t-1} + \gamma_4 GGDP_{i,t-1} + \gamma_5 LNGDPC_{i,t-1} + \gamma_6 MCAP_{i,t-1} + \sum FE + \varepsilon_{i,t}. \quad (1)$$

In this specification, i and t denote firm and year identifiers. The dependent variable, *CCASH*, captures the year-on-year adjustment in a firm's cash policy, calculated as the annual change in its cash-to-total-assets ratio.

As a forward-looking metric, *ICOC* reflects market participants's assessment of equity capital requirements. To address the well-documented limitations of *ex-post* return data, we implement forward-looking measurement techniques as established in Hou et al. (2012). Our analysis implements four established valuation frameworks that explicitly incorporate forward-looking financial projections. Specifically, our analysis draws on the following models: the residual income model (Gebhardt et al., 2001; Claus and Thomas, 2001), Easton's (2004) PEG ratio model, and the abnormal earnings growth model (Ohlson and Juettner-Nauroth, 2005). These four estimates are designated as *R_GLS*, *R_CT*, *R_PEG*, and *R_OJ*, with complete computational details outlined in Appendix A. The existing literature remains divided on the optimal model for estimating *ICOC*. In line with Pástor et al. (2008), we utilize *R_GLS* as a key *ICOC* metric. In addition, to mitigate potential measurement errors from relying on any single estimator, we follow Hail and Leuz (2006, 2009) and construct a composite proxy, *R_HL*, calculated as the average of the four individual *ICOC* estimates.

In our regression model, we also control for a comprehensive set of determinants documented in prior literature. Our specification incorporates established firm-level characteristics: cash flow (*CF*) captures a firm's internal funding capacity, which directly shapes its liquidity accumulation; firm size (*SIZE*) reflects external financing capacity, which tends to improve with scale due to reduced information disparities; and market-to-book ratio (*MB*) measures growth opportunities. Higher *MB* valuations are associated with stronger investment prospects, which may simultaneously drive efficient cash deployment and reduce the need for substantial liquidity reserves. Country-level controls include: GDP growth rate (*GGDP*) captures national-level investment prospects, which may prompt firms to deploy cash reserves for growth initiatives; GDP per capita (*LNGDPC*) accounts for general economic conditions, and stock market capitalization ratio (*MCAP*) controls for the development stage of equity markets. Building on Opler et al.'s (1999) findings of cash policy inertia, we also control for the lagged dependent variable to accommodate mean-reverting dynamics. All continuous variables in our analysis are winsorized. Detailed descriptions are available in Appendix A.

3.2. Data and sample

This study integrates data from several sources: security prices and analyst forecasts for *ICOC* computation from I/B/E/S; firm financials from Worldscope; macroeconomic indicators from WDI; time-varying firm-level information environment metrics from RavenPack, I/B/E/S, and Worldscope; time-invariant country-level transparency measures from Kaufmann and Bellver (2005), Kaufmann et al. (2009), and La Porta et al. (2006).

The sample is drawn from all firms in Worldscope but is conditional on the presence of corresponding analyst forecast data in I/B/E/S; entities missing these data are omitted from the analysis. Following the standard exclusion of financial and utility firms which are subject to distinct regulatory requirements, our sample selection yields a final international panel of 25,906 unique firms (39 countries, 1995–2018).

Table 1
Sample distribution.

Market	N.O. of Obs.	Mean (R_HL)	Mean (CCASH)
	[1]	[2]	[3]
Argentina	253	0.166	−0.003
Australia	6455	0.122	−0.005
Austria	747	0.115	−0.005
Belgium	1280	0.109	0.000
Brazil	1026	0.148	−0.008
Canada	7292	0.133	−0.005
Chile	427	0.128	−0.001
China	11,245	0.100	−0.019
Denmark	1191	0.117	−0.005
Finland	1662	0.126	−0.004
France	6364	0.116	−0.004
Germany	5691	0.123	−0.008
Greece	687	0.134	−0.005
India	5091	0.137	0.001
Indonesia	1435	0.155	−0.007
Ireland	480	0.127	−0.005
Israel	414	0.116	−0.003
Italy	2023	0.116	−0.002
Japan	20,390	0.094	−0.002
Malaysia	3966	0.128	−0.004
Mexico	1056	0.139	−0.003
Netherlands	2060	0.122	−0.003
New Zealand	1181	0.110	−0.001
Norway	1725	0.148	−0.008
Pakistan	378	0.183	−0.001
Philippines	828	0.143	−0.006
Poland	1105	0.125	−0.006
Portugal	504	0.123	0.001
Singapore	2932	0.125	−0.006
South Africa	2405	0.156	0.000
Spain	1680	0.113	0.000
Sri Lanka	175	0.156	0.003
Sweden	3019	0.123	−0.006
Switzerland	2695	0.107	−0.001
Taiwan	3924	0.125	−0.001
Thailand	2498	0.132	−0.004
Turkey	1216	0.196	−0.006
United Kingdom	15,372	0.123	−0.005
United States	50,724	0.118	−0.004
Total	173,596	0.119	−0.005

This table summarizes the sample's geographic distribution, reporting observation counts and mean values for key variables (i.e., *R_HL* and *CCASH*) across markets. The analysis utilizes data from 1995 through 2018. Variable construction details are provided in Appendix A.

Table 2
Summary statistics.

Variable	N	P25	Mean	Median	S.D.	P75
	[1]	[2]	[3]	[4]	[5]	[6]
Panel A: Changes in Cash Holdings Variable						
CCASH	173,596	−0.026	−0.005	−0.001	0.074	0.021
Panel B: Implied Cost of Equity Capital Variables						
R_CT	173,596	0.079	0.115	0.104	0.054	0.139
R_GLS	173,596	0.071	0.109	0.098	0.055	0.134
R_OJ	173,596	0.086	0.123	0.113	0.056	0.148
R_PEG	173,596	0.090	0.129	0.116	0.060	0.154
R_HL	173,596	0.085	0.119	0.108	0.052	0.142
Panel C: Control Variables						
CF	173,596	0.029	3.413	0.077	31.225	0.387
SIZE	173,596	19.659	21.609	21.297	2.678	23.274
MB	173,596	0.717	1.736	1.180	1.962	2.046
GGDP	173,596	1.654	3.005	2.684	2.719	4.128
LNGDPC	173,596	10.386	10.255	10.644	0.937	10.788
MCAP	173,596	65.728	102.284	101.847	46.909	133.651

This table displays distributional properties for core variables, categorized across three dimensions: cash positions, equity financing costs, and control variables. Variable construction details are provided in Appendix A.

Table 1 displays the cross-country sample composition. Column 1 reports firm-year counts by country, revealing considerable heterogeneity in sample coverage. The U.S. (50,724 observations) and Japan (20,390 observations) constitute the largest subsamples, representing 29.22% and 11.75% of the total, respectively. In Columns 2 and 3, we present mean values for the composite cost of equity (*R_HL*) and changes in cash holdings (*CCASH*). Turkish firms show the highest equity financing costs ($R\_HL = 0.196$), whereas Japanese firms exhibit the lowest (0.094). This pattern suggests that developed financial systems and stronger institutions may lower required risk premiums, as evidenced by generally reduced costs in advanced economies. *CCASH* means (Column 3) are predominantly negative, reflecting substantial international differences in corporate liquidity management.

Table 2 provides an overview of the distributional properties for the primary variables in our study, including measures of cash holdings, proxies for expected equity returns, and controls at both the firm and country levels. Panel A reveals that the mean *CCASH* is −0.005 ($SD = 0.074$), suggesting that firms, on average, reduce their cash holdings over time, with significant cross-sectional variation. Panel B details the *ICOC*. The mean values cluster between 0.109 (*R_GLS*) and 0.129 (*R_PEG*), with the composite measure *R_HL* at 0.119. This range aligns with prior empirical estimates reported in studies such as Banerjee et al. (2022). Panel C profiles the control variables utilized in the study. The reported statistics reveal considerable cross-sectional dispersion across these measures. For example, firm size averages \$2439 million (SD = \$14.40 million).[3]

Appendix B reports the Pearson correlation matrix for the main variables. As shown, all *ICOC* measures exhibit a positive correlation with *CCASH*. These bivariate relationships provide initial, albeit preliminary, support for a positive link between firm's expected financing costs and their cash reserve levels. The five cost-of-equity proxies demonstrate strong intercorrelation (the correlation coefficient between any two expected equity return measures ranges from 0.740 to 0.969), yet exhibit limited correlation with other firm characteristics. Generally low correlations among remaining variables suggest multicollinearity does not pose material estimation concerns.

To visualize the association between expected equity returns and corporate cash reserves, Fig. 1 presents a binned scatterplot of the two variables. Firms are grouped into 25 equal-sized bins according to their *ICOC* values, with each point representing the mean change in cash holdings within a bin. A fitted regression line (in red) summarizes the overall trend across bins. The plot reveals a positive relationship, indicating that firms facing higher expected equity returns tend to accumulate cash more aggressively. Although some dispersion around the trend is observed, the pattern remains robust and economically meaningful. These results provide preliminary graphical evidence supporting our main hypothesis that expected equity returns influence corporate cash adjustment behavior.

To examine temporal patterns, Fig. 2 traces the annual evolution of average cash holding changes and expected equity returns (*ICOC*) from 1995 to 2018. The blue line traces the annual mean change in cash across firms, while the red line tracks the evolution of *ICOC*. The figure reveals clear co-movements between the two series, particularly during episodes of market distress and major economic transitions. Both series show marked fluctuations around the dot-com bubble (late 1990s–early 2000s) and the global financial crisis (2008–2010). In 2009, *ICOC* peaks—reflecting heightened expected returns amid elevated market volatility and risk premiums—concurrent with a pronounced rise in cash holdings, consistent with firms building liquidity buffers in response to uncertainty and potential investment needs.

This synchronous variation suggests that corporate liquidity decisions respond closely to shifts in market expectations regarding future profitability and risk. The observed dynamics provide important contextual background for our empirical analysis, highlighting how macroeconomic conditions shape cash management behavior and underscoring the relevance of including time-fixed effects in our regression specification.

4. Results

4.1. The impact of expected equity returns on cash holding adjustments

Our primary identification strategy relies on the fixed effects model specified in Equation (1). This specification enables us to identify the causal impact of anticipated equity financing costs, as captured by several *ICOC* proxies, on firm's cash management policies.

Table 3 displays the results from our baseline estimations. The initial set of models (1-5) examines the isolated effect of the *ICOC*, while the later models (6-10) add the complete set of controls. A central finding from Table 3 is the highly robust positive relationship between *ICOC* and corporate cash reserves. The estimated coefficients are consistently positive and statistically significant at the 1% level across all model specifications, regardless of the *ICOC* proxy or the set of controls employed. This confirms that firms build liquidity buffers in anticipation of higher external financing costs—consistent with precautionary savings behavior (Palazzo, 2012). Quantifying the economic impact, the estimates from Model 10 suggest that a one-standard-deviation shock to *R_HL* raises the cash ratio by approximately 20 basis points. This effect size is calculated by multiplying the standard deviation of *R_HL* (0.052) by its estimated coefficient (0.039).

In addition, the findings corroborate the theoretical relevance of our control variables. Most firm-specific and country-level factors enter the regressions with their anticipated signs, enhancing our confidence in the overall model. For example, the significantly negative coefficient on the lagged cash variable (*CCASH_LAG*) reveals a dynamic behavior in corporate liquidity management, characterized by a partial adjustment process where cash levels tend to revert toward a long-run mean (Opler et al., 1999). In line with prior evidence (Chen et al., 2025; Gounopoulos and Zhang, 2024), both *SIZE* and *MB* show significantly negative coefficients, implying that larger firms and those with superior growth prospects face competing demands for capital. Internal liquidity is likely reallocated to fund investment opportunities, thereby reducing

[3] \$2439 million is calculated as $e^{21.615}$, and \$14.40 million is calculated as $e^{2.667}$. In detail, 21.615 and 2.667 are the sample mean and SD of firm size (*SIZE*), respectively.

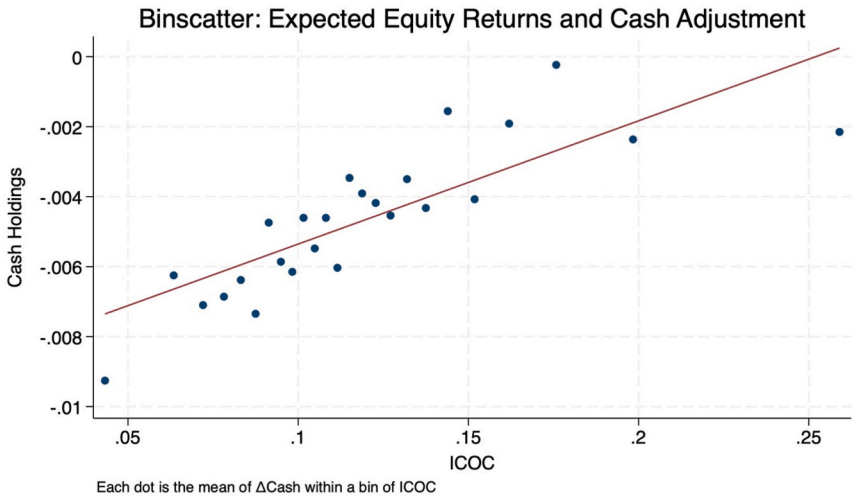

Fig. 1. Relationship between Expected Equity Returns and Cash Adjustment
This figure depicts the relationship between cash holdings and expected equity returns (*ICOC*). We sort firms into 25 bins based on their *ICOC* values, and each dot represents the mean change in cash holdings within a given *ICOC* bin. The red line displays the fitted regression line across all bins, illustrating the overall trend. Variable construction details are provided in Appendix A. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

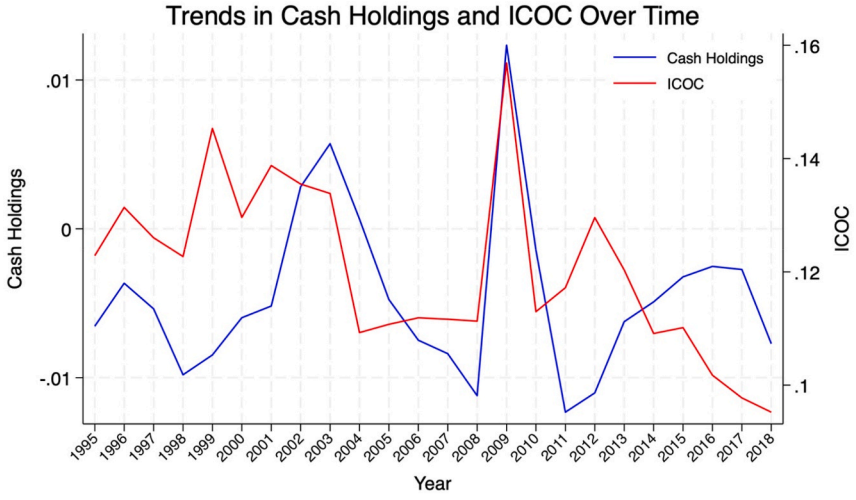

Fig. 2. Time Trends in Cash Holdings and Expected Equity Returns (*ICOC*)
This figure presents the annual time series trends of cash holdings and *ICOC* over the period from 1995 to 2018. The blue line represents the average change in cash holdings, while the red line reflects the time-series variation in *ICOC*. Variable construction details are provided in Appendix A. (For interpretation of the references to colour in this figure legend, the reader is referred to the Web version of this article.)

subsequent cash balances.[4] The country-level analysis reveals that stronger GDP growth (*GGDP*) is significantly associated with reduced cash reserves, a pattern consistent with expanded investment opportunities prompting greater capital deployment (Das et al., 2024). Conversely, the positive coefficient on economic development (*LNGDPC*) suggests that in mature economies, firms may face a relative scarcity of viable investments. Consequently, they tend to accumulate larger cash reserves instead of deploying capital. In summary, *ICOC* exerts a consistently positive influence on cash holdings, confirming H1. Having established this, we proceed using *R_GLS* and *R_HL* as the main *ICOC* proxies. For brevity, the estimates for the controls are omitted, as they remain similar.

We further perform a battery of post-estimation diagnostic tests to assess the reliability of our statistical inferences. Given that heteroskedasticity is nearly inevitable in financial and economic studies, we begin by testing for its presence. Using White's test (White, 1980) on our unbalanced panel data, the null hypothesis of homoskedasticity is strongly rejected ($F = 72.686$, p-value <0.01), justifying the adoption of clustered standard errors in our baseline regressions. Second, we examine serial correlation using the Wooldridge test. Significant autocorrelation is detected ($F = 4785.229$, p-value <0.01), suggesting firm-level dependence over time. Accordingly, we employ firm-level clustered standard errors to correct for both heteroskedasticity and serial correlation within firms, consistent with common practice in panel data settings (Petersen, 2009). Third, we assess the normality of

[4] To strengthen the causal inference in our analysis, we introduce a one-year lag for all control variables—a methodological adjustment that contrasts with the concurrent controls employed by Palazzo (2012). This temporal separation helps explain the variation in coefficient estimates for factors such as *CF*, *SIZE*, and *MB*. Importantly, when we apply Palazzo's original specification, our results closely match those reported in the prior study, indicating that the divergence stems primarily from this design choice rather than from differences in sample composition or underlying model structure.

Table 3
Expected equity returns and changes in corporate cash holdings.

Variable	CCASH	CCASH	CCASH	CCASH	CCASH	CCASH	CCASH	CCASH	CCASH	CCASH
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]
R_CT	0.056***					0.035***				
	(10.18)					(6.19)				
R_GLS		0.057***					0.038***			
		(10.39)					(6.77)			
R_OJ			0.035***					0.014***		
			(7.42)					(2.87)		
R_PEG				0.064***					0.038***	
				(13.48)					(7.87)	
R_HL					0.068***					0.039***
					(11.62)					(6.65)
CCASH_LAG						−0.235***	−0.235***	−0.235***	−0.235***	−0.235***
						(-63.05)	(-63.08)	(-63.06)	(-62.84)	(-62.95)
CF						−0.000***	−0.000***	−0.000***	−0.000***	−0.000***
						(-2.91)	(-2.84)	(-3.02)	(-2.75)	(-2.87)
SIZE						−0.001**	−0.001**	−0.002***	−0.001**	−0.001**
						(-2.27)	(-2.13)	(-2.76)	(-2.23)	(-2.27)
MB						−0.002***	−0.002***	−0.002***	−0.002***	−0.002***
						(-7.11)	(-6.97)	(-7.59)	(-6.94)	(-7.04)
GGDP						−0.001***	−0.001***	−0.001***	−0.001***	−0.001***
						(-6.84)	(-6.83)	(-6.99)	(-6.75)	(-6.80)
LNGDPC						0.014***	0.014***	0.013***	0.014***	0.014***
						(4.75)	(4.86)	(4.48)	(4.70)	(4.84)
MCAP						0.000	0.000	0.000	0.000	0.000
						(0.61)	(0.68)	(0.49)	(0.81)	(0.64)
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	173,596	173,596	173,596	173,596	173,596	173,596	173,596	173,596	173,596	173,596
Adj. R^2	0.019	0.019	0.019	0.020	0.019	0.087	0.087	0.086	0.087	0.087

This table reports the regression results for the following model: $CCASH_{i,t} = \alpha + \beta_1 ICOC_{i,t-1} + \gamma_1 CF_{i,t-1} + \gamma_2 SIZE_{i,t-1} + \gamma_3 MB_{i,t-1} + \gamma_4 GGDP_{i,t-1} + \gamma_5 LNGDPC_{i,t-1} + \gamma_6 MCAP_{i,t-1} + \sum FE + \varepsilon_{i,t}$.
In this model, *CCASH* measures changes in corporate cash positions, while *ICOC* encompasses five alternative proxies for the implied cost of equity (*R_CT*, *R_GLS*, *R_OJ*, *R_PEG*, and *R_HL*). We incorporate firm characteristics and macroeconomic factors, including operating cash flow (*CF*), firm size (*SIZE*), growth opportunities (*MB*), economic growth (*GGDP*), economic development (*LNGDPC*), and financial market size (*MCAP*). Columns 1-5 report parsimonious specifications without control variables, whereas Columns 6-10 present full specifications with the complete set of controls. Firm and year fixed effects are included. Standard errors are clustered at the firm level to address within-firm correlation. Values in parentheses are *t*-statistics. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Variable construction details are provided in Appendix A.

residuals. A Jarque-Bera test yields a statistically significant result ($p < 0.01$), indicating departure from a normal distribution (Jarque and Bera, 1987). Nevertheless, given our large sample size and the use of firm-clustered standard errors, asymptotic inference remains reliable.

We further test for potential cross-sectional dependence, which is frequently observed in international samples and can bias standard errors if ignored. Applying the weak cross-sectional dependence framework of Pesaran (2015, 2021) and Juodis and Reese (2022), we find no evidence of strong dependence (CD = 0.84, *p*-value = 0.404; CDw = −0.05, *p*-value = 0.963), indicating that firm-level shocks are largely idiosyncratic. Finally, variance inflation factors (VIFs) suggest no severe multicollinearity. Our key variable of interest, *R_HL*, has a VIF of 1.29, while all other continuous regressors remain below 2.5. Year-fixed effects exhibit moderately higher VIFs (between 2.13 and 2.93), which is expected given their linear dependence and does not compromise the reliability of our estimates.

4.2. Endogeneity solutions

While a positive link between *ICOC* and cash holding changes is established, endogeneity concerns such as omitted variables warrant consideration. Our analysis could be susceptible to omitted variable bias. For example, latent factors such as a firm's risk culture or managerial philosophy might simultaneously shape its perceived cost of equity and its strategic choices regarding liquidity. Reverse causality is another concern, although it is less likely given our research design. The construction of *ICOC*, derived from current prices and forward-looking earnings estimates, is unlikely to be affected by contemporaneous cash policies. Furthermore, our model specification using the change in cash holdings inherently provides a safeguard against this issue.

As an initial identification strategy, we implement PSM to mitigate concerns of selection bias and bolster the causal interpretation of the estimated effects. A dummy variable, *TREAT*, is constructed to distinguish firms based on their *R_HL* values: observations with *R_HL* exceeding the sample median are assigned a value of 1 (*TREAT* = 1), while the remainder form the control group (*TREAT* = 0). Next, we employ a logit model to compute individual propensity scores, using the *TREAT* indicator as the dependent variable and the full suite of controls from Equation (1) as predictors. Subsequently, we implement a one-to-one nearest-neighbor matching without replacement. To ensure high matching quality, we impose a caliper of 0.05, enforcing a common support requirement that excludes poor matches. This procedure yields a balanced matched sample, on which we re-estimate our baseline specification. The results reported in Columns 1-2 of Table 4 are consistent with our main findings.

We turn to a 2SLS methodology to bolster causal inference, instrumenting a firm's expected equity returns with the corresponding values from its peer group. The validity of this instrument rests on its fulfillment of the relevance condition and exclusion restriction. Regarding relevance, prior studies establish that peer firms significantly shape corporate decisions—for instance, Graham and Harvey (2001) document that CFOs often benchmark against peers when making financing choices. Diagnostic tests support the validity of our instrumental variable. The Kleibergen-Paap rk LM test (statistic = 3407.927, *p*-value

Table 4
Endogeneity solutions.

Variable	CCASH	CCASH	R_GLS	CCASH	R_HL	CCASH
	[1]	[2]	[3]	[4]	[5]	[6]
R_GLS	0.033***					
	(4.91)					
R_HL		0.031***				
		(4.42)				
IND_R_GLS			0.820***			
			(157.49)			
$\widehat{R\_GLS}$				0.034***		
				(3.43)		
IND_R_HL					0.825***	
					(155.10)	
$\widehat{R\_HL}$						0.031***
						(2.96)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	133,172	133,172	173,596	173,596	173,596	173,596
Adj. R^2	0.109	0.109	0.682	0.086	0.678	0.086

This table presents estimation results addressing endogeneity concerns through two complementary approaches. Columns 1-2 display results from PSM, while Columns 3-6 report 2SLS estimates. The instrumental variables *IND_R_GLS* and *IND_R_HL* represent peer firms' expected equity returns, calculated as the median value among all firms sharing the same country and industry. $\widehat{R\_GLS}$ and $\widehat{R\_HL}$ denote the instrumented values obtained from the first-stage regression. All specifications include the complete set of controls along with firm and year fixed effects. Standard errors are clustered at the firm level to address within-firm correlation. Values in parentheses are *t*-statistics. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Variable construction details are provided in Appendix A.

<0.001) rejects under-identification, and the rk Wald F statistic of 24,000 is well above standard thresholds, indicating that weak instrument bias is unlikely to be a concern. As for the exclusion restriction, it requires the absence of a direct effect from peer firms' expected equity returns on an individual firm's cash reserves. We argue this is plausible for several reasons. First, there is no direct mechanical link between a peer's financing cost and a firm's liquidity decisions. Second, while peer returns capture common industry shocks, we contend that these shocks influence cash policy predominantly by altering the firm's own returns. Finally, under efficient markets, information embedded in peer returns is quickly reflected in a firm's stock price, thereby channeling its influence primarily through our designated endogenous channel. To verify this, we compare cash holding changes across industries segmented by median peer expected returns. This test yields no statistically significant disparity in *CCASH* between the groups, thereby providing empirical support for the instrument's validity.

Our 2SLS approach is executed by estimating two distinct OLS specifications with firm and year fixed effects, as detailed below:

$$ICOC_{i,t} = \alpha + \beta_1 IND\_ICOC_{i,t-1} + \gamma CONTROLS_{i,t-1} + \sum FE + \varepsilon_{i,t}, \quad (2)$$

$$CCASH_{i,t} = \alpha + \beta_1 \widehat{ICOC}_{i,t-1} + \gamma CONTROLS_{i,t-1} + \sum FE + \varepsilon_{i,t}, \quad (3)$$

where *IND_ICOC* denotes the peer firms' expected equity returns. This measure is derived from the distribution of expected returns for all comparable firms based on country and industry, but deliberately excludes the focal firm to ensure exogeneity. The empirical procedure consists of two stages: first, we estimate Equation (2) to generate the fitted values of *ICOC* ($\widehat{ICOC}$); then, the second-stage regression (Equation (3)) utilizes these fitted values to identify the causal impact on *CCASH*. The results are reported in Table 4. The positive and significant coefficient on *IND_R_GLS* (*IND_R_HL*) in Column 3 (5) validates the relevance condition of our instrumental variable, suggesting that a firm's expected equity returns comove with those of its industry and country peers. Moving to the second stage, Column 4 (6) reveals that the estimated effect of $\widehat{R\_GLS}$ ($\widehat{R\_HL}$) remains positive. This finding reinforces our core result of a positive cash-return linkage after accounting for potential biases from reverse causality. Although we provide evidence suggestive of a causal effect, residual endogeneity cannot be fully ruled out. Our results should therefore be interpreted with caution.

4.3. Economic channels

4.3.1. Expected equity returns and accounting conservatism

Facing prospects of costly external capital, managers are motivated to employ conservative accounting as a strategic response. Such policies, characterized by accelerated loss recognition, enhance earnings credibility and signal confidence in sustainable cash flows, thereby mitigating investor skepticism. This signaling perspective motivates an empirical investigation into whether firms adopt more conservative accounting practices in direct response to expectations of higher equity returns.

To measure variations in accounting conservatism across firms, we employ the *C_SCORE* indicator introduced by Khan and Watts (2009). This measure provides a firm-specific proxy grounded in the asymmetric timeliness of earnings concept established by Basu (1997). This firm-specific metric reflects incremental bad news sensitivity and its calculation is based on a predefined weighting scheme that incorporates three key corporate characteristics: firm size, market-to-book ratio, and leverage. The resulting *C_SCORE* provides a monotonic function of accounting conservatism, where a higher numerical value directly corresponds to increasingly conservative financial reporting.

We construct a direct test of the effect of financing costs on conservatism by estimating a variant of Equation (1) where the *C_SCORE* metric supplants corporate cash holdings (*CCASH*) as the dependent variable. The results from this estimation are reported in Table 5, revealing positive and significant coefficients for *ICOC*. This pattern indicates that an elevated implied cost of equity corresponds to greater accounting conservatism, thereby validating the proposition that anticipated financing costs drive prudent financial reporting.

4.3.2. Expected equity returns and the marginal value of cash

Heightened aggregate uncertainty elevates the perceived risk of future funding deficits, thereby strengthening the precautionary rationale for corporate liquidity. In this context, each incremental dollar of cash reserves delivers enhanced insurance against distress and grants superior strategic optionality when external capital becomes less

Table 5
Expected equity returns and accounting conservatism.

Variable	C_SCORE	C_SCORE	C_SCORE	C_SCORE	C_SCORE
	[1]	[2]	[3]	[4]	[5]
R_CT	0.951***				
	(35.14)				
R_GLS		1.079***			
		(39.02)			
R_OJ			0.485***		
			(21.88)		
R_PEG				1.008***	
				(43.38)	
R_HL					1.115***
					(38.26)
Controls	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Observations	171,208	171,208	171,208	171,208	171,208
Adj. R^2	0.960	0.961	0.960	0.961	0.961

This table presents estimation results examining how expected equity returns influence accounting conservatism practices. The dependent variable *C_SCORE* captures firm-year variation in conservative reporting, specifically measuring the timeliness of loss recognition (Khan and Watts, 2009). The independent variables comprise five alternative proxies for *ICOC* (*R_CT*, *R_GLS*, *R_OJ*, *R_PEG*, and *R_HL*). All specifications include the complete set of controls along with firm and year fixed effects. Standard errors are clustered at the firm level to address within-firm correlation. Values in parentheses are *t*-statistics. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Variable construction details are provided in Appendix A.

accessible. Investors, recognizing this amplified utility, consequently revalue cash holdings upward, resulting in a measurable increase in their marginal worth. We now turn to a direct empirical assessment of whether cross-sectional variation in firms' expected equity returns systematically influences how the market values corporate cash holdings.

To measure the shareholder value of corporate liquidity, we employ an adaptation of the methodology introduced by Faulkender and Wang (2006), which is tailored to estimate the market's valuation of an additional dollar of cash holdings. The identification strategy hinges on relating abnormal stock returns to the unexpected component of changes in corporate cash, while conditioning on a standard set of firm-level controls. With minor adjustments, we implement the following specification:

$$r_{i,t} - R^B_{i,t} = \beta_0 + \beta_1 ICOC_{i,t} \times \frac{\Delta C_{i,t}}{M_{i,t-1}} + \beta_2 ICOC_{i,t} + \beta_3 \frac{\Delta C_{i,t}}{M_{i,t-1}} + \beta_4 \frac{\Delta E_{i,t}}{M_{i,t-1}} + \beta_5 \frac{\Delta NA_{i,t}}{M_{i,t-1}} + \beta_6 \frac{\Delta R\&D_{i,t}}{M_{i,t-1}} + \beta_7 \frac{\Delta I_{i,t}}{M_{i,t-1}} + \beta_8 \frac{\Delta D_{i,t}}{M_{i,t-1}} + \beta_9 \frac{\Delta NF_{i,t}}{M_{i,t-1}} + \beta_{10} \frac{C_{i,t-1}}{M_{i,t-1}} + \beta_{11} L_{i,t} + \varepsilon_{i,t}. \quad (4)$$

In model specification, i and t denote firms and years. $r_{i,t} - R^B_{i,t}$ captures the firm's abnormal annual return, calculated as the difference between its raw stock return and the benchmark return from the Fama and French (1993) characteristic-based portfolio to which it is assigned at the beginning of the fiscal year. Δ denotes the year-over-year change in a variable, computed as the difference between its value in the current fiscal year and that in the prior fiscal year. The model specification comprises a standard set of financial determinants, including cash and marketable securities ($C_{i,t}$), earnings ($E_{i,t}$), net assets ($NA_{i,t}$), R&D spending ($R\&D_{i,t}$), interest costs ($I_{i,t}$), dividend payments ($D_{i,t}$), net financing ($NF_{i,t}$), leverage ratio ($L_{i,t}$), and the lagged market value of equity ($M_{i,t-1}$). The model employs an interaction term to test whether the cost of equity moderates cash valuation. The term, $ICOC_{i,t} \times \frac{\Delta C_{i,t}}{M_{i,t-1}}$, with all variables scaled by lagged market equity, isolates how financing costs affect the incremental value that investors assign to cash holdings. A significantly positive coefficient (β_1) would provide the central test of the precautionary motive hypothesis, indicating that elevated expected returns not only spur cash accumulation but also enhance its productive deployment—thereby increasing its marginal worth.

Table 6 presents the regression estimates. The central result, evident across all model specifications, is a positive and significant β_1. This pattern indicates that firms subject to elevated anticipated financing costs experience a systematically higher marginal value of their cash reserves—a finding that reinforces the economic logic underlying the precautionary motive theory. The model's explanatory power remains modest, with a relatively low R^2. This is common in empirical asset pricing and corporate finance studies that use observable firm characteristics to explain returns or financial decisions. Our primary objective is not to predict the full variation in returns, but to test whether the marginal value of cash responds systematically to anticipated financing frictions. The robust and significant estimate of β_1, even with a modest R^2, suggests that cash acts not as a passive accounting residual, but as a strategic financial buffer whose value rises precisely when external financing is expected to be costly.

4.4. The influence of the information environment

Building on the established relationship between expected equity returns and cash reserves, this section examines how this linkage is contingent upon the quality of information environments. Since expected returns reflect data from stock prices and analyst forecasts—both subject to informational frictions—we analyze how firm- and country-level transparency shape the sensitivity of cash reserves to *ICOC*. We further investigate whether firm-level transparency functions differently under varying national information regimes.

4.4.1. Firm-level information environment

The quality of a firm's information environment can be assessed using three widely recognized indicators: the level of media attention it receives (*Media*), the count of financial analysts tracking the company (*Analyst*), and the standard of its audit quality (*Audit*). We measure media coverage using RavenPack's news analytics, considering only stories where the firm achieves a relevance score of 100—indicating it is the primary focus of the article (Dang et al., 2015). The resulting annual count is log-transformed (after adding one) to construct the *Media* variable. In addition, to account for the potential oversight of sentiment in media coverage, we incorporate media tone (*Tone*) into the regression. *Tone* is constructed using RavenPack's Event Sentiment Score (ESS), a proprietary metric that captures the sentiment of individual news articles on a scale from 0 to 100. In this scale, scores above 50 denote positive sentiment, those below 50 indicate negative sentiment, and a score of 50 represents neutrality. We rescale the ESS to a continuous measure bounded between −1 and 1, where positive (negative) values correspond to positive (negative) news and zero denotes neutrality. For each firm-year observation, *Tone* is calculated by averaging the rescaled ESS values derived from all associated news articles over the fiscal year. The variable *Analyst* is derived from I/B/E/S data. Specifically, it is calculated as the natural logarithm applied to the annual number of analysts providing earnings estimates for a firm, to which we add one. To measure audit quality, we adopt the perspective of Frino et al. (2023), who argue that firms with lower transparency present greater audit risk, consequently leading to higher audit fees. Interpreting these elevated fees as an indicator of underlying risk rather than enhanced audit scrutiny, we construct the *Audit* variable as the negative value of the natural logarithm of total audit fees.

To investigate the moderating role of a firm's information environment on the relationship between *ICOC* and cash reserves, we expand our regression models by incorporating interaction terms between *ICOC* and our information environment measures. The estimation results from this analysis are presented in Table 7.

First, the coefficient on *ICOC* (whether measured by *R_GLS* or *R_HL*) remains positive across nearly all model specifications. This robust

Table 6
Expected equity returns and the marginal value of cash.

Variable	$r_{i,t} - R^B_{i,t}$	$r_{i,t} - R^B_{i,t}$	$r_{i,t} - R^B_{i,t}$	$r_{i,t} - R^B_{i,t}$	$r_{i,t} - R^B_{i,t}$
	[1]	[2]	[3]	[4]	[5]
$R\_CT_{i,t} \times \frac{\Delta C_{i,t}}{M_{i,t-1}}$	3.500***				
	(2.65)				
$R\_CT_{i,t}$	6.551***				
	(35.44)				
$R\_GLS_{i,t} \times \frac{\Delta C_{i,t}}{M_{i,t-1}}$		4.247***			
		(2.88)			
$R\_GLS_{i,t}$		6.763***			
		(34.44)			
$R\_OJ_{i,t} \times \frac{\Delta C_{i,t}}{M_{i,t-1}}$			1.369		
			(1.25)		
$R\_OJ_{i,t}$			4.357***		
			(31.45)		
$R\_PEG_{i,t} \times \frac{\Delta C_{i,t}}{M_{i,t-1}}$				0.853	
				(0.90)	
$R\_PEG_{i,t}$				2.526***	
				(19.10)	
$R\_HL_{i,t} \times \frac{\Delta C_{i,t}}{M_{i,t-1}}$					3.026**
					(2.27)
$R\_HL_{i,t}$					5.104***
					(30.65)
$\frac{\Delta C_{i,t}}{M_{i,t-1}}$	0.236*	0.239*	0.263**	0.297*	0.279**
	(1.88)	(1.78)	(1.98)	(1.87)	(2.15)
$\frac{\Delta E_{i,t}}{M_{i,t-1}}$	0.110***	0.114***	0.105***	0.117***	0.116***
	(4.40)	(4.46)	(4.23)	(4.46)	(4.55)
$\frac{\Delta NA_{i,t}}{M_{i,t-1}}$	−0.010	−0.011	−0.026	−0.006	−0.005
	(-0.45)	(-0.48)	(-1.23)	(-0.27)	(-0.24)
$\frac{\Delta R\&D_{i,t}}{M_{i,t-1}}$	−0.425***	−0.444***	−0.442***	−0.488***	−0.450***
	(-3.29)	(-3.23)	(-3.24)	(-3.02)	(-3.28)
$\frac{\Delta I_{i,t}}{M_{i,t-1}}$	0.994**	1.001**	0.820**	0.875**	0.933**
	(2.49)	(2.47)	(2.13)	(2.14)	(2.32)
$\frac{\Delta D_{i,t}}{M_{i,t-1}}$	−0.204	−0.585	0.351	0.632	0.481
	(-0.06)	(-0.18)	(0.10)	(0.18)	(0.14)
$\frac{\Delta NF_{i,t}}{M_{i,t-1}}$	−0.035	−0.023	−0.055	−0.056	−0.066
	(-0.46)	(-0.30)	(-0.76)	(-0.71)	(-0.88)
$\frac{C_{i,t-1}}{M_{i,t-1}}$	−0.653***	−0.691***	−0.625***	−0.688***	−0.647***
	(-10.67)	(-10.68)	(-10.07)	(-10.12)	(-10.14)
$L_{i,t}$	0.193***	0.199***	0.303***	0.291***	0.244***
	(3.72)	(3.79)	(4.87)	(4.69)	(4.27)
Firm FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Observations	63,188	63,188	63,188	63,188	63,188
Adj. R^2	0.037	0.034	0.031	0.019	0.029

This table presents OLS estimates based on the following empirical specification: $r_{i,t} - R^B_{i,t} = \beta_0 + \beta_1 ICOC_{i,t} \times \frac{\Delta C_{i,t}}{M_{i,t-1}} + \beta_2 ICOC_{i,t} + \beta_3 \frac{\Delta C_{i,t}}{M_{i,t-1}} + \beta_4 \frac{\Delta E_{i,t}}{M_{i,t-1}} + \beta_5 \frac{\Delta NA_{i,t}}{M_{i,t-1}} + \beta_6 \frac{\Delta R\&D_{i,t}}{M_{i,t-1}} + \beta_7 \frac{\Delta I_{i,t}}{M_{i,t-1}} + \beta_8 \frac{\Delta D_{i,t}}{M_{i,t-1}} + \beta_9 \frac{\Delta NF_{i,t}}{M_{i,t-1}} + \beta_{10} \frac{C_{i,t-1}}{M_{i,t-1}} + \beta_{11} L_{i,t} + \varepsilon_{i,t}$.
In this model, the dependent variable $r_{i,t} - R^B_{i,t}$ represents firm *i*'s annual stock return minus the benchmark return from its corresponding Fama and French (1993) size and book-to-market portfolio, determined at the fiscal year-start. The key explanatory variables include five alternative *ICOC* measures (*R_CT*, *R_GLS*, *R_OJ*, *R_PEG*, and *R_HL*) and the annual changes in financial statement components. The Δ operator denotes year-over-year changes in cash and marketable securities ($C_{i,t}$), earnings ($E_{i,t}$), net assets ($NA_{i,t}$), R&D expenditures ($R\&D_{i,t}$), interest expense ($I_{i,t}$), dividends ($D_{i,t}$), and net financing ($NF_{i,t}$). $M_{i,t-1}$ denotes the lagged market value of equity. $L_{i,t}$ denotes leverage ratio. All specifications incorporate firm and year fixed effects, with standard errors clustered at the firm level. Values in parentheses are *t*-statistics. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Variable construction details are provided in Appendix A.

finding indicates that a higher implied cost of capital corresponds to a greater accumulation of cash, and this core relationship holds consistently regardless of variations in the firm's information environment. More critically, the estimated coefficients on the interaction terms between *ICOC* and each dimension of *FirmInfor* (media coverage, analyst following, and audit quality) are uniformly positive. This pattern of results indicates that a more transparent information environment amplifies the sensitivity of cash holdings to *ICOC*. Specifically, greater media attention, broader analyst coverage, and higher audit quality appear to amplify how firms adjust cash in response to *ICOC*. This implies that when information asymmetry is reduced, firms react more decisively to financing constraints reflected in *ICOC* by managing their cash reserves more actively.

To conclude, Table 7 reveals the amplifying role of information transparency: the positive *ICOC*-cash relationship is significantly stronger under superior information conditions, which is consistent with the prediction of H2. We posit that heightened transparency enhances forecasting precision, yielding more reliable expected return estimates that consequently exert a stronger influence on corporate liquidity decisions.

4.4.2. *Country-level information environment*

Moving beyond firm-level factors, we now examine the macro-institutional dimension by analyzing how the country-level

Table 7
Firm-level information environment.

FirmInfor =	Media		Analyst		Audit	
	[1]	[2]	[3]	[4]	[5]	[6]
FirmInfor	−0.002***	−0.002***	−0.008***	−0.008***	−0.0024***	−0.0027***
	(-5.52)	(-5.20)	(-9.04)	(-8.62)	(-3.69)	(-3.90)
R_GLS	0.022***		−0.010		0.1935***	
	(3.08)		(-0.82)		(3.60)	
R_GLS×FirmInfor	0.010***		0.016**		0.0107***	
	(4.48)		(2.53)		(2.87)	
R_HL		0.024***		−0.009		0.2095***
		(3.30)		(-0.68)		(3.75)
R_HL×FirmInfor		0.010***		0.017**		0.0120***
		(4.03)		(2.47)		(3.12)
Tone	0.005**	0.005**				
	(2.37)	(2.52)				
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	165,226	165,226	173,252	173,252	106,064	106,064
Adj. R^2	0.089	0.089	0.087	0.087	0.066	0.066

This table investigates the influence of information transparency on the cash-return relationship. The dependent variable is the change in corporate cash holdings (*CCASH*). *ICOC* is measured using *R_GLS* and *R_HL*. Firm-level transparency is proxied by three variables: media coverage (*Media*), analyst following (*Analyst*), and audit quality (*Audit*). Media sentiment is captured by *Tone*. All specifications include the complete set of controls along with firm and year fixed effects. Standard errors are clustered at the firm level to address within-firm correlation. Values in parentheses are *t*-statistics. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Variable construction details are provided in Appendix A.

information setting influences the *ICOC*-cash relationship.

Our assessment of national information transparency incorporates a complementary set of indicators. First, we draw upon La Porta et al. (2006) for two key indices: the disclosure requirements index (*DISREQ*), which integrates six components covering corporate prospects through transactional disclosures; and the liability standard index (*LIASTA*), calculated as the mean liability standards across key market participants. We further incorporate transparency metrics developed by Kaufmann and Bellver (2005), which includes measures of institutional (*ITSCO*), political (*PTSCO*), and overall transparency (*OTSCO*). Additionally, we also construct a composite governance index by deriving the first principal component (*P1_KAUF*) from Kaufmann et al.'s (2009) six governance indicators. All country-level indices are scaled such that elevated values correspond to greater informational transparency.

We next examine whether the national information environment amplifies the sensitivity of cash holdings to *ICOC*. To do so, we augment the baseline model with country-level information environment indicators and their interactions with *ICOC*. Because these country-level measures are time-invariant, including country- or firm-fixed effects would absorb their main effects. Accordingly, the model is estimated with industry and year fixed effects to control for unobserved heterogeneity, enabling us to identify the moderating role of the macro-information setting. As shown in Table 8, the coefficients on all corresponding interaction terms are significantly positive. This indicates that in nations with greater information transparency, firms respond more strongly to *ICOC* when adjusting their cash reserves. Stated differently, when firms operate under institutional frameworks that support clearer and broader information flows, the financing frictions captured by *ICOC* elicit a more pronounced cash management response.

These findings confirm that the cash-*ICOC* sensitivity is systematically heightened in settings with greater transparency at the country level. The result supports H2 and reveals a contextual amplification

Table 8
Country-level information environment.

CtyInfor =	DISREQ		LIASTA		ITSCO		PTSCO		OTSCO		P1_KAUF	
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
CtyInfor	−0.004*	−0.002	−0.003*	−0.002	0.001**	0.001**	0.003***	0.003***	0.003***	0.003***	0.004***	0.004***
	(-1.72)	(-0.76)	(-1.75)	(-0.97)	(2.32)	(2.00)	(5.42)	(4.17)	(5.30)	(4.23)	(10.42)	(9.27)
R_GLS	−0.036**		−0.016*		0.003		0.013**		0.003		0.013**	
	(-2.39)		(-1.83)		(0.43)		(2.40)		(0.47)		(2.08)	
R_GLS×CtyInfor	0.063***		0.046***		0.012***		0.013***		0.015***		0.007**	
	(3.50)		(3.80)		(2.88)		(2.78)		(3.26)		(2.56)	
R_HL		−0.019		−0.008		0.005		0.012**		0.002		0.013*
		(-1.20)		(-0.85)		(0.60)		(2.06)		(0.25)		(1.92)
R_HL×CtyInfor		0.044**		0.035***		0.012***		0.015***		0.017***		0.007**
		(2.30)		(2.73)		(2.61)		(3.08)		(3.41)		(2.40)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	161,246	161,246	161,246	161,246	173,596	173,596	173,596	173,596	173,596	173,596	173,596	173,596
Adj. R^2	0.052	0.052	0.052	0.052	0.054	0.054	0.054	0.054	0.054	0.054	0.054	0.054

This table explores how national institutional settings moderate the link between *ICOC* and corporate cash holdings. The dependent variable is the change in corporate cash holdings (*CCASH*). *ICOC* is measured using *R_GLS* and *R_HL*. The analysis employs country-level measures of the information environment, including legal disclosure requirements (*DISREQ*), liability standards (*LIASTA*), transparency indices (*ITSCO*, *PTSCO*, *OTSCO*), and a composite governance indicator (*P1_KAUF*) based on Kaufmann et al. (2009). All specifications include the complete set of controls along with industry and year fixed effects. Standard errors are clustered at the firm level to address within-firm correlation. Values in parentheses are *t*-statistics. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Variable construction details are provided in Appendix A.

mechanism: a transparent macro-information environment improves the accuracy of earnings expectations, thereby strengthening how firms translate perceived cost-of-capital signals into liquidity adjustments.

4.4.3. Interactions in information environments: firm and country spheres

Having established the individual amplifying roles of both firm- and country-level transparency, we now turn to examining how these two layers of information quality interact. Our primary goal is to assess whether they function as complements—mutually reinforcing each other—or as substitutes in influencing the sensitivity of cash holdings to *ICOC*.

For this analysis, the full sample is divided into two groups (*LOW* and *HIGH*) according to time-invariant, country-level proxies that capture the cross-sectional variation in information environment quality. We then obtain subsample-specific estimates by running the following regression model independently within each group, where *FirmInfor* denotes a firm-specific measure of information transparency: specifically, media coverage (*Media*), analyst following (*Analyst*), or audit quality (*Audit*).

$$CCASH_{i,t} = \alpha + \beta_1 ICOC_{i,t-1} + \beta_2 FirmInfor_{i,t-1} + \beta_3 ICOC_{i,t-1} \times FirmInfor_{i,t-1} + \gamma CONTROLS_{i,t-1} + \sum FE + \varepsilon_{i,t}, \quad (5)$$

The findings reported in Table 9 reveal several key insights. First, the coefficient on *R_HL* continues to exhibit a positive association across most specifications, reinforcing the robust relationship between *ICOC* and corporate cash policies—firms adjust their cash holdings more aggressively when financing frictions are elevated. Second, all three firm-level transparency proxies—media coverage (*Media*), analyst following (*Analyst*), and audit quality (*Audit*)—exhibit consistently negative and significant main effects on cash holdings. This aligns with the view that greater information transparency reduces the need for precautionary liquidity, offering further empirical support for the inverse link between information transparency and cash reserves (e.g., Dittmar et al., 2003). Second, we find that the main effects of all three firm-level transparency proxies—media coverage (*Media*), analyst following (*Analyst*), and audit quality (*Audit*)—are consistently negative. This first-order effect aligns with the precautionary motive rationale, whereby greater transparency lowers the perceived need for liquidity buffers, thereby providing empirical confirmation for the inverse relationship documented in prior literature (e.g., Dittmar et al., 2003).

More critically, the interaction between *R_HL* and firm-level information measures is significantly positive only in subsamples where the country-level information environment is weak. This pattern suggests that firm-level transparency acts not as a complement, but as a substitute for macro-institutional information infrastructure. Specifically, when national institutions provide limited transparency, high-quality firm-specific disclosure steps in as a critical alternative channel to alleviate information asymmetry. By supplying credible signals about firm fundamentals, such disclosures help investors better assess equity risk and pricing, thereby sharpening the transmission of financing costs into cash decisions. In environments where institutional safeguards are strong, this marginal role of firm-level transparency diminishes, as market-wide information already suffices to constrain uncertainty.

4.5. Additional analyses

4.5.1. Additional controls

In line with the methodological approach of Palazzo (2012), we augment our baseline specification with three financial activity variables. This allows us to assess whether funding and investment flows alter the documented positive cash-return relationship. Specifically, *NET_EQUITY* is constructed to reflect the net equity financing flow. It is quantified as the value of stock sales minus all associated outflows for dividends and repurchases, then scaled by total assets. *NET_DEBT* reflects net long-term debt flows and is computed as net debt issuance (the proceeds from new long-term borrowing minus repayments of long-term debt), divided by total assets. *NET_INV* is constructed to capture the net investment outflow. It is quantified as capital expenditures plus acquisitions, minus any proceeds generated from the sale of property assets, also scaled by total assets.

The estimation results from our expanded model are reported in Table 10. As evidenced in the results, the coefficients on *ICOC* remain positive at the 5% level across all model specifications after introducing *NET_EQUITY*, *NET_DEBT*, and *NET_INV*. This finding corroborates the robustness of the positive *ICOC*-cash relationship to alternative model specifications that account for key financing and investment activities.[5]

4.5.2. Standard errors adjusted for industry clustering

Our baseline empirical specification employs firm-level clustered standard errors. Nevertheless, common industry-wide shocks may introduce cross-sectional dependence in corporate cash policies, potentially violating the assumption of independent observations. To address this potential issue, we perform a robustness check by re-estimating our models, employing industry-level clustered standard errors to correct for any correlation among firms within the same industry. As presented in Table 11, the statistical significance of our core findings remains unchanged under this alternative error structure, providing further assurance of their robustness.

4.5.3. Alternative samples

The sample composition presented in Table 1 reveals that firms from the U.S. and Japan are notably overrepresented in our sample, jointly accounting for over 40% of all firm-year observations. To mitigate this concern regarding sample concentration, we conduct a series of subsample analyses. These are based on four distinct groupings: (1) U.S. firms only, (2) non-U.S. firms, (3) firms from either the U.S. or Japan, and (4) firms excluding both the U.S. and Japan. The regression results for these groups, presented in Columns 1–4 of Table 12, further confirm the robustness of our primary findings. In addition, to assess whether our conclusions might be affected by potential data limitations in emerging markets—particularly sparse analyst coverage—we further exclude all emerging-market firms in Column 5. The continued positive significance of the *R_HL* coefficient across subsamples suggests that our results are not an artifact of measurement issues in less-developed financial markets. Collectively, the consistency of our core results across these varied robustness checks indicates that the documented relationship is not sample-specific, but is generalizable across different institutional and geographic settings.

We proceed by benchmarking the statistical estimates across subsamples, translating the coefficient sizes into tangible economic magnitudes to assess their real-world significance. As shown at the bottom of Table 12, the economic significance of our findings is quantified as follows: a one-standard-deviation increase in *R_HL* is associated with an increase in *CCASH* of 29 basis points for U.S. firms; 14 basis points for non-U.S. firms; 26 basis points for firms in the U.S. or Japan; 18 basis points for firms outside both the U.S. and Japan; and 26 basis points for firms excluding emerging markets. These heterogeneous magnitudes underscore the context-dependent nature of the relationship between financing frictions and cash policy. It is systematically greater in advanced institutional environments—as exemplified by the U.S.—where deep financial markets and high information transparency likely amplify the sensitivity of corporate cash policies to financing costs.

4.5.4. Global financial crisis

As a profound structural break, the global financial crisis could have reconfigured the fundamental link between *ICOC* and corporate

[5] For the U.S. subsample, the signs and statistical significance of the coefficients on *NET_EQUITY*, *NET_DEBT*, and *NET_INV* closely match the patterns documented by Palazzo (2012).

Table 9
The interactive effect between firm-level and country-level information transparency.

Panel A: The Interaction of Firm-Level Media Coverage and Country-Level Information Transparency												
CtyInfor =	**DISREQ**		**LIASTA**		**ITSCO**		**PTSCO**		**OTSCO**		**P1_KAUF**	
	LOW	***HIGH***	***LOW***	***HIGH***	***LOW***	***HIGH***	***LOW***	***HIGH***	***LOW***	***HIGH***	***LOW***	***HIGH***
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
R_HL	0.024**	0.039***	0.021**	0.057***	0.012	0.049***	0.010	0.053***	0.012	0.049***	0.016*	0.038***
	(2.40)	(3.15)	(2.36)	(3.81)	(1.26)	(3.95)	(1.13)	(4.27)	(1.26)	(3.95)	(1.91)	(2.66)
Media	−0.001**	−0.001	−0.001	−0.000	−0.001***	−0.001**	−0.001**	−0.001**	−0.001***	−0.001**	−0.001***	−0.001**
	(-2.09)	(-1.17)	(-1.36)	(-0.80)	(-3.02)	(-2.22)	(-2.10)	(-2.42)	(-3.02)	(-2.22)	(-4.09)	(-2.43)
R_HL×Media	0.002	0.003	−0.001	0.001	0.008**	0.003	0.002	0.005	0.008**	0.003	0.011***	0.006
	(0.64)	(0.87)	(-0.16)	(0.39)	(2.33)	(0.98)	(0.54)	(1.63)	(2.33)	(0.98)	(3.82)	(1.28)
Tone	0.003	0.009*	0.004**	−0.001	0.005**	0.001	0.005**	0.001	0.005**	0.001	0.008***	0.001
	(1.16)	(1.75)	(2.01)	(-0.17)	(2.23)	(0.34)	(2.30)	(0.24)	(2.23)	(0.34)	(3.36)	(0.30)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	81,451	67,395	92,162	56,684	80,755	79,521	81,193	79,083	80,755	79,521	111,953	48,323
Adj. R^2	0.063	0.050	0.062	0.053	0.082	0.052	0.074	0.060	0.082	0.052	0.062	0.070
Panel B: The Interaction of Firm-Level Analyst Following and Country-Level Information Transparency												
CtyInfor =	**DISREQ**		**LIASTA**		**ITSCO**		**PTSCO**		**OTSCO**		**P1_KAUF**	
	LOW	***HIGH***	***LOW***	***HIGH***	***LOW***	***HIGH***	***LOW***	***HIGH***	***LOW***	***HIGH***	***LOW***	***HIGH***
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
R_HL	−0.014	0.013	−0.022	0.049**	−0.041***	0.034	−0.047***	0.043**	−0.041***	0.034	−0.026*	0.024
	(-0.81)	(0.62)	(-1.43)	(1.98)	(-2.76)	(1.62)	(-3.31)	(1.99)	(-2.76)	(1.62)	(-1.86)	(0.94)
Analyst	−0.005***	−0.009***	−0.005***	−0.009***	−0.005***	−0.011***	−0.005***	−0.011***	−0.005***	−0.011***	−0.009***	−0.008***
	(-4.27)	(-5.39)	(-4.09)	(-4.94)	(-4.37)	(-6.57)	(-3.94)	(-6.69)	(-4.37)	(-6.57)	(-7.98)	(-3.92)
R_HL×Analyst	0.006	0.011	0.007	0.001	0.020**	0.004	0.015**	0.006	0.020**	0.004	0.025***	−0.003
	(0.71)	(0.99)	(0.83)	(0.08)	(2.55)	(0.32)	(2.00)	(0.51)	(2.55)	(0.32)	(3.26)	(-0.19)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	88,494	72,435	100,033	60,896	87,672	85,580	87,777	85,475	87,672	85,580	120,850	52,402
Adj. R^2	0.092	0.075	0.087	0.083	0.097	0.084	0.093	0.090	0.097	0.084	0.081	0.105
Panel C: The Interaction of Firm-Level Audit Quality and Country-Level Information Transparency												
CtyInfor =	***DISREQ***		***LIASTA***		***ITSCO***		***PTSCO***		***OTSCO***		***P1_KAUF***	
	LOW	***HIGH***	***LOW***	***HIGH***	***LOW***	***HIGH***	***LOW***	***HIGH***	***LOW***	***HIGH***	***LOW***	***HIGH***
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
R_HL	0.263***	0.130	0.236***	0.163	0.174**	0.133	0.235***	0.098	0.174**	0.133	0.172**	0.091
	(3.88)	(1.25)	(3.85)	(1.08)	(2.42)	(1.43)	(3.75)	(0.83)	(2.42)	(1.43)	(2.29)	(0.93)
Audit	−0.002**	−0.004***	−0.002**	−0.005***	−0.003***	−0.002*	−0.002*	−0.003**	−0.003***	−0.002*	−0.004***	−0.000
	(-2.16)	(-3.26)	(-2.55)	(-3.10)	(-3.42)	(-1.65)	(-1.94)	(-2.39)	(-3.42)	(-1.65)	(-4.75)	(-0.17)
R_HL×Audit	0.015***	0.007	0.014***	0.008	0.011**	0.005	0.015***	0.002	0.011**	0.005	0.011**	0.001
	(3.18)	(1.00)	(3.28)	(0.80)	(2.31)	(0.75)	(3.54)	(0.29)	(2.31)	(0.75)	(2.21)	(0.15)
Controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

(*continued on next page*)

Table 9 (*continued*)

Panel A: The Interaction of Firm-Level Media Coverage and Country-Level Information Transparency

CtyInfor =	DISREQ		LIASTA		ITSCO		PTSCO		OTSCO		P1_KAUF	
	LOW	***HIGH***	***LOW***	***HIGH***	***LOW***	***HIGH***	***LOW***	***HIGH***	***LOW***	***HIGH***	***LOW***	***HIGH***
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	51,977	45,771	61,184	36,564	45,049	61,015	52,273	53,791	45,049	61,015	66,537	39,527
Adj. R^2	0.070	0.056	0.063	0.064	0.075	0.068	0.067	0.070	0.075	0.068	0.060	0.081

This table investigates how firm-level and country-level information transparency jointly influence corporate liquidity. The sample is first stratified based on the median value of time-invariant country-level transparency indicators—including legal disclosure requirements (*DISREQ*), liability standards (*LIASTA*), transparency indices (*ITSCO*, *PTSCO*, *OTSCO*), and a composite governance measure (*P1_KAUF*). Within each national-context subsample, the following model is estimated for each firm-level transparency proxy: $CCASH_{i,t} = \alpha + \beta_1 ICOC_{i,t-1} + \beta_2 FirmInfor_{i,t-1} + \beta_3 ICOC_{i,t-1} \times FirmInfor_{i,t-1} + \gamma CONTROLS_{i,t-1} + \sum FE + \varepsilon_{i,t}$. *CCASH* denotes changes in cash holdings, *ICOC* is measured using the composite metric *R_HL*, and *FirmInfor* represents one of three firm-level transparency indicators: media coverage (*Media*), analyst following (*Analyst*), or audit quality (*Audit*). All specifications include the complete set of controls along with firm and year fixed effects. Standard errors are clustered at the firm level to address within-firm correlation. Values in parentheses are *t*-statistics. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Variable construction details are provided in Appendix A.

liquidity via competing economic forces. From one perspective, the crisis environment creates heightened risks of shareholder expropriation via strategic liquidity management (Tran, 2020), as weakened corporate governance and mounting financial pressures may encourage alternative cash deployment strategies. Conversely, extreme market disruptions and pervasive uncertainty amplify managerial preferences for precautionary savings (Lian et al., 2011), as firms prioritize financial resilience amid constrained access to external capital. These opposing theoretical predictions create an empirical question regarding whether the crisis period strengthens or weakens the sensitivity of cash reserves to equity financing costs. Therefore, we leverage this structural break as a natural experiment to test whether and how the effect of *ICOC* on cash reserves varies across different macroeconomic regimes.

Our model incorporates a binary indicator, *GFC*, set to 1 for the years 2008-2010 to denote the Global Financial Crisis period, and 0 otherwise. This classification aligns with the timeline established by the International Monetary Fund (IMF). We examine whether the crisis amplified the *ICOC*-cash link by adding an interaction term between *ICOC* and the *GFC* indicator to our baseline specification. This allows us to isolate the differential effect during the crisis period, as shown in the following equation:

$$CCASH_{i,t} = \alpha + \beta_1 ICOC_{i,t-1} + \beta_2 GFC_{i,t-1} + \beta_3 ICOC_{i,t-1} \times GFC_{i,t-1} + \gamma CONTROLS_{i,t-1} + \sum FE + \varepsilon_{i,t}. \tag{6}$$

We estimate this model using both the complete dataset and a subsample comprising countries with large equity market capitalization. While the U.S. and the UK were among the economies entering a downturn in 2008, the crisis unfolded in a distinctly different manner across other sample countries, with notable variations in its timing and economic severity. To accommodate these cross-country differences in crisis exposure, we segment countries into two categories according to their stock market capitalization relative to GDP (*MCAP*). Countries exhibiting *MCAP* values above the sample median are designated as the high *MCAP* cohort, whereas the remaining nations constitute the low *MCAP* group.

Table 13 summarizes the regression outputs. The results for the complete set of countries are provided in Columns 1 and 2, while findings exclusive to economies featuring above-median *MCAP* are detailed in Columns 3 and 4. The findings reveal several consistent patterns across specifications. First, across all model specifications, the coefficient on *R_HL* is consistently positive, indicating that the positive relationship between *ICOC* and cash reserves persists even when explicitly accounting for the financial crisis period. Second, the positive coefficient for the *GFC* variable captures the prevalent pattern of corporate liquidity accumulation during the crisis, corroborating earlier findings (Lian et al., 2011) that firms build up cash positions to navigate the financial turmoil and ensure operational stability.

Last but not least, a key finding is the negative and significant coefficient on the *R_HL*×*GFC* interaction. This implies that the financial crisis dampens the positive effect of financing costs (*ICOC*) on corporate cash accumulation. This attenuation effect stems from fundamental shifts in corporate behavior under crisis conditions. During periods of systemic financial distress, survival concerns become paramount, causing firms to prioritize immediate liquidity protection over longer-term financing cost optimization. The severe market-wide credit contraction during crises overshadows firm-specific financing costs, rendering the *ICOC* less pertinent for corporate liquidity decisions. Furthermore, the dramatic increase in market-wide uncertainty and asset return correlation during crises reduces cross-sectional variation in firm-specific risk, making idiosyncratic financing costs a less distinctive factor in cash policy determination. These crisis-induced behavioral modifications collectively explain why firm-specific financing considerations became less influential in corporate cash management during the systemic financial disruption.

Table 10
Additional controls.

VARIABLES	CCASH	CCASH	CCASH	CCASH	CCASH
	[1]	[2]	[3]	[4]	[5]
R_CT	0.032***				
	(5.13)				
R_GLS		0.037***			
		(5.77)			
R_OJ			0.014**		
			(2.52)		
R_PEG				0.034***	
				(6.24)	
R_HL					0.037***
					(5.55)
NET_EQUITY	0.037	0.037	0.037	0.037	0.037
	(1.42)	(1.42)	(1.42)	(1.42)	(1.42)
NET_DEBT	−0.003***	−0.003***	−0.003***	−0.003***	−0.003***
	(-3.09)	(-3.09)	(-3.08)	(-3.10)	(-3.10)
NET_INV	−0.001	−0.001	−0.001	−0.001	−0.001
	(-1.08)	(-1.07)	(-1.08)	(-1.08)	(-1.08)
Controls	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Observations	145,532	145,532	145,532	145,532	145,532
Adj. R^2	0.085	0.085	0.084	0.085	0.085

This table presents estimation results from models that include three additional financial activity variables: net equity issuance (*NET_EQUITY*), net debt financing (NET_*DEBT*), and net capital investment (*NET_INV*). Each is standardized by total assets. The dependent variable remains the change in corporate cash holdings (*CCASH*). The main explanatory variables are five alternative *ICOC* measures. All specifications include the complete set of controls along with firm and year fixed effects. Standard errors are clustered at the firm level to address within-firm correlation. Values in parentheses are *t*-statistics. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Variable construction details are provided in Appendix A.

Table 11
Cluster standard errors at the industry level.

VARIABLES	CCASH	CCASH	CCASH	CCASH	CCASH
	[1]	[2]	[3]	[4]	[5]
R_CT	0.035***				
	(4.59)				
R_GLS		0.038***			
		(5.23)			
R_OJ			0.014**		
			(2.45)		
R_PEG				0.038***	
				(5.60)	
R_HL					0.039***
					(4.94)
Controls	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Observations	173,596	173,596	173,596	173,596	173,596
Adj. R^2	0.087	0.087	0.086	0.087	0.087

This table addresses clustering concerns by implementing industry-level error structures. The models examine the relationship between cash holding changes (*CCASH*) and multiple cost of equity measures (*R_CT*, *R_GLS*, *R_OJ*, *R_PEG*, and *R_HL*), while maintaining full controls and fixed effects. Values in parentheses are *t*-statistics. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Variable construction details are provided in Appendix A.

Table 12
Alternative samples.

Sample	The US	Exclude the US	The US and Japan	Exclude the US and Japan	Exclude Emerging Markets
	CCASH	*CCASH*	*CCASH*	*CCASH*	*CCASH*
	[1]	[2]	[3]	[4]	[5]
R_HL	0.059***	0.027***	0.056***	0.033***	0.052***
	(4.65)	(3.98)	(5.65)	(4.28)	(7.29)
Controls	Yes	Yes	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes
Observations	50,724	122,872	71,114	102,482	135,881
Adj. R^2	0.074	0.098	0.076	0.095	0.088
Economic Magnitudes	29bps	14bps	26bps	18bps	26bps

This table presents estimation results across alternative sample specifications to evaluate the generalizability of our findings. The analysis examines five distinct subsets: U.S. firms only (Model 1), non-U.S. firms (Model 2), firms headquartered in either the U.S. or Japan (Model 3), firms excluding those from the U.S. and Japan (Model 4), and firms based in non-emerging markets (Model 5). All specifications include the complete set of controls along with firm and year fixed effects. Standard errors are clustered at the firm level to address within-firm correlation. Values in parentheses are *t*-statistics. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Variable construction details are provided in Appendix A.

5. Conclusions

5.1. Summary of findings

This research investigates the factors influencing cash management strategies across international firms. Our findings, derived from a comprehensive global dataset, underscore the elevation of corporate cash reserves as a response to anticipated increases in future equity financing costs. This empirical pattern aligns with the theoretical framework advanced by Palazzo (2012), wherein firms facing heightened risk exposure accumulate liquidity buffers as precautionary measures against expensive external financing. The core findings demonstrate remarkable resilience to an extensive battery of robustness tests, encompassing corrections for endogeneity using PSM and IV methods, the inclusion of additional control variables, and variations in error clustering, sample selection, and time frames. While our core findings are robust, we acknowledge a limitation in the sample composition, which is skewed toward firms from the U.S. and Japan. This geographic concentration may constrain the broader applicability of our inferences to a fully global setting. Beyond the main results, we also find that firms facing higher expected financing costs adopt more conservative accounting policies and, simultaneously, place a higher marginal value on holding cash.

Table 13
Global financial crisis.

Variable	Full Sample		High MCAP Sample	
	CCASH	CCASH	CCASH	CCASH
	[1]	[2]	[3]	[4]
R_HL	0.072***	0.044***	0.089***	0.053***
	(11.83)	(7.11)	(9.32)	(5.40)
GFC	0.005**	0.002	0.017***	0.018***
	(2.56)	(0.77)	(5.87)	(4.26)
R_HL×GFC	−0.028**	−0.030**	−0.051***	−0.042**
	(-2.31)	(-2.46)	(-2.69)	(-2.21)
Controls	No	Yes	No	Yes
Firm FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	173,596	173,596	82,018	82,018
Adj. R^2	0.008	0.076	0.009	0.070

This table examines how the Global Financial Crisis (GFC) alteres the relationship between expected equity returns and corporate liquidity adjustments. The crisis period is defined using a binary variable (*GFC*) that takes the value 1 for observations from 2008 to 2010 and 0 otherwise, based on IMF dating. Four model specifications are presented: Models 1 and 2 use the full sample with a parsimonious and a full set of controls, respectively. Models 3 and 4 replicate these specifications for countries with above-median stock market capitalization (*MCAP*). All models incorporate firm and year fixed effects, with standard errors clustered at the firm level. Values in parentheses are *t*-statistics. Statistical significance at the 1%, 5%, and 10% levels is indicated by ***, **, and *, respectively. Variable construction details are provided in Appendix A.

Our analysis further reveals that information transparency, at both the firm and national levels, serves as a significant amplifier, increasing the sensitivity of corporate cash holding adjustments to shifts in *ICOC*. This amplification mechanism functions by fostering higher-quality, more credible disclosures, which directly foster improved analyst forecast accuracy and, ultimately, enable a more refined derivation of expected equity returns. Furthermore, we uncover a substitutive relationship between firm- and country-level transparency. Specifically, the moderating role of firm-specific disclosure quality becomes particularly salient in institutional environments where broader national-level transparency is weaker.

5.2. Practical implications

Our findings yield important implications for policymakers as well as corporate managers operating in an increasingly interconnected global economy.

For policymakers, especially in emerging markets or countries with underdeveloped information infrastructures, our results highlight a powerful lever for improving financial efficiency: strengthening firm-level disclosure standards. When national institutions fall short in ensuring transparency, mandating higher-quality corporate reporting can serve as a vital substitute. Such reforms help firms credibly signal their financial health, reduce information asymmetry, and ultimately make equity markets more responsive and efficient.

For investors and financial analysts, the study underscores that cash is not just a balance sheet item—it's a strategic signal shaped by context. The market places a premium on corporate cash holdings when firms operate in environments where financing is expected to be costly, but this effect hinges critically on how well the firm communicates. Therefore, evaluating a company's liquidity strategy requires looking beyond cash levels alone; one must also assess the quality of its disclosures and the transparency of its home-country institutional setting. This dual lens is especially important when analyzing firms in less transparent jurisdictions, where strong internal disclosure can offset weak external oversight.

Finally, for corporate managers, the results reinforce that proactive communication isn't just about compliance—it's a financial tool. In countries where public information systems are weak, investing in credible, timely, and transparent reporting can enhance how the market perceives your liquidity buffer, potentially lowering financing costs and increasing strategic flexibility during periods of market stress.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Appendix

Appendix A
Variable Definitions and Data Sources

Variable	Acronym	Definition	Data Source
Panel A: Changes in Cash Holdings			
Changes in Cash Holdings	*CCASH*	Calculated as the difference between a firm's cash holdings scaled by its total assets between year *t* and year *t*-1.	Worldscope
Panel B: Implied Cost of Equity Capital			
Aggregate Implied Cost of Equity Cost (*ICOC*)	*R_HL*	An aggregate *ICOC* measure, which equals to the arithmetic mean of the following four *ICOC* measures: *R_GLS*, *R_CT*, *R_PEG*, and *R_OJ*.	I/B/E/S
Gebhardt, Lee, and Swaminathan's (2001) Implied Cost of Equity Cost	*R_GLS*	Calculated by using Gebhardt, Lee, and Swaminathan's (2001) residual income valuation model. The specific formula is as follows: $P_t = bv_t + \sum_{r=1}^{T} \frac{(\widehat{eps}_{t+r} - r_{GLS}{*}bv_{t+r-1})}{(1+r_{GLS})^r} + \frac{(\widehat{eps}_{t+T+1} - r_{GLS}{*}bv_{t+T})}{r_{GLS}(1+r_{GLS})^T}$, where bv_t = *book value per share at the beginning of the fiscal year*,	I/B/E/S

(*continued on next page*)

Appendix A (*continued*)

Variable	Acronym	Definition	Data Source
		$bv_{t+\tau} = bv_{t+\tau-1} + \widehat{eps}_{t+\tau} - \widehat{d}_{t+\tau}$, $\widehat{eps}_{t+\tau}$ = *expected future earnings per share for period* $(t+\tau\text{-}1, t+\tau)$, $\widehat{d}_{t+\tau} = \widehat{eps}_{t+\tau} \times$ *dividend payout ratio*.	
Claus and Thomas's (2001) Implied Cost of Equity Capital	*R_CT*	Calculated by using Claus and Thomas's (2001) residual income valuation model. The specific formula is as follows: $P_t = bv_t + \sum_{r=1}^{T} \frac{(\widehat{eps}_{t+r} - r_{CT}{}^{*}bv_{t+r-1})}{(1+r_{CT})^{r}} + \frac{(\widehat{eps}_{t+T} - r_{CT}{}^{*}bv_{t+T-1})(1+g)}{(r_{CT}-g)(1+r_{CT})^{T}}$, where g = *expected perpetual future earnings growth rate*.	I/B/E/S
Easton's (2004) PEG Implied Cost of Equity Cost	*R_PEG*	Calculated by using Easton's (2004) PEG model. The specific formula is as follows: $P_t = \frac{(\widehat{eps}_{t+2} + r_{PEG}{}^{*}\widehat{d}_{t+1} - \widehat{eps}_{t+1})}{r_{PEG}^{2}}$.	I/B/E/S
Ohlson and Juettner-Nauroth's (2005) Implied Cost of Equity Cost	*R_OJ*	Calculated by using Ohlson and Juettner-Nauroth's (2005) abnormal earnings growth valuation model. The specific formula is as follows: $P_t = \frac{\widehat{eps}_{t+1}}{r_{OJ}} {}^{*} \frac{\left(g_{st} + r_{OJ}{}^{*}\frac{\widehat{d}_{t+1}}{\widehat{eps}_{t+1}} - g_{lt}\right)}{(r_{OJ} - g_{lt})}$, where g_{st} = *short-term future earnings growth rate*, g_{lt} = *long-term future earnings growth rate*.	I/B/E/S
Panel C: Control Variables			
Changes in Cash Holdings (One Year Lagged)	*CCASH_LAG*	One-year lagged value of changes in corporate cash holdings.	Worldscope
Cash Flow	*CF*	The ratio of cash flows to assets, defined as the income before extraordinary items scaled by total assets.	Worldscope
Firm Size	*SIZE*	The natural logarithm of the book value of total assets.	Worldscope
Market to Book Ratio	*MB*	The ratio of market value of assets to book value of assets. Market value of assets is calculated by summing the book value of debt, the market value of equity, and the book value of preferred stock.	Worldscope
GDP Growth	*GGDP*	The annual GDP growth rate.	World Development Indicator
GDP Per Capita	*LNGDPC*	The natural logarithm of GDP per capita measured in U.S. dollar.	World Development Indicator
Stock Market Capitalization to GDP	*MCAP*	The stock market capitalization scaled by GDP.	World Development Indicator
Panel D: Firm-Level Information Environment Variables			
Media Coverage	*Media*	The natural logarithm of one plus the number of news articles covering a firm in a year.	RavenPack
Media Sentiment	*Tone*	The average sentiment of news articles covering a firm in a year.	RavenPack
Analyst Following	*Analyst*	The natural logarithm of one plus the number of financial analysts following a firm.	I/B/E/S
Audit Quality	*Audit*	The natural logarithm of audit fees, multiplied by negative one.	Worldscope
Panel E: Country-Level Information Environment Variables			
Disclosure Requirements Index	*DISREQ*	The index of disclosure equals the arithmetic mean of: (1) Prospect; (2) Compensation; (3) Shareholders; (4) Inside ownership; (5) Contracts irregular; and (6) Transactions.	La Porta et al. (2006)
Liability Standard Index	*LIASTA*	The index of liability standards equals the arithmetic mean of: (1) Liability standard for the issuer and its directors; (2) Liability standard for the distributor; and (3) Liability standard for the accountant.	La Porta et al. (2006)
Economic and Institutional Transparency Score	*ITSCO*	This index covers the following areas: economic transparency, e-government, access to information laws, transparency in the budget process, transparency of policy, and the public sector.	Kaufmann and Bellver (2005)
Political Transparency Score	*PTSCO*	This index includes elements such as transparency of political funding, openness of the political system and freedom of the press to monitor government's performance, and express the people's voice.	Kaufmann and Bellver (2005)
Overall Transparency Score	*OTSCO*	The average of the Economic and Institutional Transparency Index (i.e., *ITSCO*) and Political Transparency Index (i.e., *PTSCO*).	Kaufmann and Bellver (2005)
The First Principal Component of Kaufmann et al. (2009) Six Factors	*P1_KAUF*	The first principal component of K1 (voice and accountability), K2 (political stability and absence of violence), K3 (government effectiveness), K4 (regulatory quality), K5 (rule of law), and K6 (control of corruption).	Kaufmann et al. (2009)

Appendix B

Correlation Matrix

This table presents the pairwise correlation matrix for the key variables employed in our empirical analysis. All data correspond to the period from 1995 to 2018. Variable construction details are provided in Appendix A.

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
CCASH	[1]	**1.000**												
R_CT	[2]	0.025	**1.000**											
R_GLS	[3]	0.028	0.969	**1.000**										
R_OJ	[4]	0.025	0.797	0.787	**1.000**									
R_PEG	[5]	0.031	0.817	0.812	0.740	**1.000**								
R_HL	[6]	0.029	0.961	0.957	0.893	0.909	**1.000**							
CCASH_LAG	[7]	−0.200	−0.032	−0.027	−0.038	−0.043	−0.038	**1.000**						

(*continued on next page*)

Appendix B (*continued*)

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]
CF	[8]	−0.005	0.043	0.017	0.062	0.022	0.038	0.002	**1.000**					
SIZE	[9]	0.034	−0.242	−0.259	−0.162	−0.211	−0.234	0.021	0.240	**1.000**				
MB	[10]	−0.066	−0.170	−0.205	−0.139	−0.199	−0.192	0.007	0.025	−0.152	**1.000**			
GGDP	[11]	−0.054	0.052	0.013	0.048	−0.015	0.025	−0.016	0.066	0.002	0.148	**1.000**		
LNGDPC	[12]	0.017	−0.138	−0.079	−0.152	−0.062	−0.115	−0.005	−0.205	−0.247	−0.070	−0.572	**1.000**	
MCAP	[13]	−0.002	−0.047	−0.036	−0.054	−0.055	−0.052	0.009	−0.113	−0.184	0.091	0.034	0.271	**1.000**

Data availability

I have provided a Mendeley Data link containing both my dataset and the corresponding code.

Expected Equity Costs and Corporate Cash Policy: The Role of Information Transparency (Original data) (Mendeley Data)

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