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Financial statement comparability and corporate cash holdings*

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Abstract

This study examines the impact of financial statement comparability on corporate cash holdings. A greater degree of comparability lowers information acquisition costs, reduces the uncertainties associated with performance evaluation, and increases the overall quantity and quality of information available to corporate outsiders which, in turn, helps to ease the external financing constraints of the firm. Using a large US sample from 1981 to 2013, we find consistent evidence that financial statement comparability significantly reduces cash holdings of the firm. We also find that this relation is mediated by financing constraints, financial reporting quality and corporate governance. These findings are robust to alternative specification of comparability, cash holdings and to the alternative regression specifications and endogeneity tests. Our study contributes to the emerging research that stresses the importance of financial statement comparability.

Keywords: Financial statement comparability, cash holdings, financing constraints, financial reporting quality, and corporate governance.

JEL Code(s): G30; G32; M41

1. Introduction

In this paper we investigate the effects of financial statement comparability on the corporate cash holdings of US firms. We further examine whether financing constraints, financial reporting quality, and firm-level corporate governance mediate this association. Financial statement comparability describes the degree of similarity in accounting choices among two or more firms, and reflects "the relationship between two or more pieces of information" (Financial Accounting Standards Board (FASB) [1980]). It also reflects the quality of the information that enables users to identify similarities and differences in the financial performance of two firms (Francis et al., 2014). When common economic factors explain much of the similarity of firms in an industry, the earnings of such firms should be readily comparable. While common economic factors affect firms within the same industry in a similar way and, thus, increase comparability, firm-specific factors, such as financial or operating characteristics and disclosure systems, may reduce comparability.

The FASB, in its conceptual framework, indicates that comparability enriches the usefulness of information for making decisions. In particular, Concept Statement # 8 of the FASB [2010] notes that firm specific information is more useful to these investors if they can compare similar information with other firms. This is particularly pertinent to the equity market, where an investment decision essentially entails evaluations of alternative opportunities or projects, and these decisions cannot be made without comparable information (FASB, 1980). Recent studies show that a high degree of financial statement comparability lowers the information cost, reduces the uncertainties associated with performance evaluation when similar economic transactions are reported differently, and increases the overall quantity and quality of information available to corporate outsiders (De Franco et al., 2011; Peterson et

al., 2015). Despite anecdotal evidence that comparability reduces information asymmetry and improves financial reporting quality, thus, easing access to external financing opportunities, surprisingly, there is no direct empirical evidence linking financial statement comparability to the cash holdings of firms. We fill this void in the literature.

The effect of financial statement comparability on corporate cash holdings is *ex-ante* unclear. The trade-off theory of cash holdings proposes that there is an optimal level of cash holdings that balances the marginal benefits and marginal costs of holding cash. Benefits accrue, especially for firms with difficulties in accessing external financing. Because financial statement comparability increases the overall quantity and quality of information available to corporate outsiders, firms with comparable financial statements should face lower financing restrictions (Kim et al., 2013) and, hence, less need for holding cash. However, carrying cash can be costly. Prior studies (e.g., Huang and Zhang, 2012) find that liquid asset holdings are valued at a discount for firms with higher information asymmetry. Thus, in these firms, managers are more likely to dispatch, rather than hoard cash. If comparable financial statements can reduce information asymmetry between firms and investors, a *positive* relation between financial statement comparability and corporate cash holdings would be expected.

A *negative* relationship between financial statement comparability and corporate cash holdings can also be explained from an agency theory perspective. Agency theory proposes that opportunistic managers hoard cash and invest in negative NPV projects and/or use it to overpay in acquisitions. If cash holdings are partly the outcome of weak shareholder protection, then a negative relationship between corporate cash holdings and financial statement comparability is envisioned, as comparable financial statements make it easier for investors to evaluate firm performance and monitor managers' use of capital.

The negative association between comparability and corporate cash holdings is premised on the well-established literature demonstrating that investors rely on financial statements for investment decision-making (Ball and Brown, 1968; Barth et al., 2001; Lev, 1989). Financial statement comparability has been identified as one of the most important characteristics of accounting information intended to assist investors in making informed decisions (FASB, 1980). A high degree of financial statement comparability lowers the information acquisition cost, reduces the uncertainties associated with performance evaluation, and increases the overall quantity and quality of information available to corporate outsiders (Barth et al., 2012; Chen et al., 2015; De Fond et al., 2011; Kim et al., 2013).

In this paper, we argue that the effects of comparability on cash holdings can be mediated by three possible channels: financing constraints, financial reporting quality, and corporate governance (proxied by institutional shareholdings). As argued above, although more comparable financial statements should reduce financing constraints, this does not necessarily imply that constrained firms will hoard cash while unconstrained firms will invest the proceeds. The latter group can use cash savings for inter-temporal allocation of both internal and external sources of funds. Pal and Ferrando (2010) find that firms tend to save cash out of cash flows even if they are unconstrained in obtaining external finance. They argue that the internal cash flow is used for intertemporal allocation of capital.

With respect to the effects of financial reporting quality (proxied by low levels of earnings management) on firms' propensity to hold cash, it can be surmised that firms with poor (good) quality financial reporting would hold more (less) cash, since opaque reporting accentuates information asymmetry, thereby making external financing costly (Sun et al., 2012). From a financial statement comparability perspective, Peterson et al. (2015) show that incentives

for earnings management diminish with an increase in comparability. With the aid of the valuable additional input of comparable firms, outsiders can better evaluate a firm's true performance, and this reduces information asymmetry. However, firms plagued with acute information asymmetry can also reduce cash holdings, since the market values cash holdings of such firms at a discount.

Competing arguments exist regarding the relationship between corporate governance and cash holdings. It is intuitive to argue that poor (strong) governance will allow entrenched managers to stockpile (disburse) cash. Empirical evidence supports this hypothesis (Chen et al., 2012; Dittmar et al., 2003; Kusnadi, 2011; Lins and Kalcheva, 2004; Pinkowitz et al., 2004). From a valuation perspective, Dittmar and Mahrt-Smith (2007) document that shareholders assign a lower value to an additional dollar of cash reserves for firms with pronounced agency problems. Alternatively, poor governance may reduce cash holdings. The latter can occur if managers prefer spending on investments that increase private benefits over stockpiling cash that provides flexibility (Harford et al., 2008). If comparable financial statements improve the strength of corporate governance, then we can predict a mediating role of corporate governance on the negative association between financial statement comparability and cash holdings. However, financial statement comparability may itself be a product of good governance.

We use the firm-specific comparability measure of De Franco et al. (2011) that captures the degree to which firms with similar economic characteristics have comparable accounting and similar financial statement information. Using a large US sample from 1981 to 2013, we show that comparable financial statements significantly reduce corporate cash holdings. In terms of economic significance, our study indicates that a one standard deviation increase in comparability is related to a 4.94% decrease in cash holdings from the mean, which is

economically highly significant. We further document that the effect of financial statement comparability on cash holdings is mediated by financing constraints, financial reporting quality, and corporate governance. These results are robust to alternative regression specifications and to alternative proxies for comparability and cash holdings.

We contribute to the extant literature in a number of important ways. First, we enrich the accounting-finance interface by documenting a robust effect of financial statement comparability on corporate cash holdings. Prior research has examined the effect of firm-specific earnings attributes, such as accrual quality, on corporate cash holdings (García-Teruel et al., 2009; Sun et al., 2012). Since financial statement comparability improves accrual quality and accrual quality affects corporate cash holdings, we argue that comparability in financial statements should have a first order impact on the cash holdings of a firm. Our study confirms this hypothesis. Thus, our study adds to the literature on the determinants of corporate cash holdings. Second, we incorporate the mediation effect of financing constraints, financial reporting quality and corporate governance. Thus, our study contributes to the literature by showing the direct and indirect (i.e., mediation) effect of comparability on corporate cash holdings. Finally, we also contribute to the emerging literature on the benefits of financial statement comparability (Chen et al., 2012; De Franco et al., 2011; Kim et al., 2016; Peterson et al., 2015).

The remainder of the paper proceeds as follows. In the next section, we build on the literature to develop our hypotheses. Section 3 explains the research design and measurement of variables. Section 4 discusses sample construction and descriptive statistics. Section 5 presents regression results. Section 6 concludes.

2. Literature review and development of hypotheses

The importance of comparability has been underscored in the GAAP for the past four decades. Accounting Principles Board Statement No. 4 (1970) highlights that "the Board ranks comparability among the most important of the objectives of financial accounting..." (p.41). FASB Concepts Statement No. 2 (1980) defines comparability as "the quality of information that enables users to identify similarities in and differences between two sets of economic phenomena" (p.9), and states that "investing and lending decisions essentially involve evaluations of alternative opportunities, and they cannot be made rationally if comparative information is not available" (p.40).

Despite the importance of comparability, as emphasized by policymakers, empirical studies on comparability are relatively scarce, because of the absence of a firm-level comparability measure (Schipper, 2003). De Franco et al. (2011) developed one such measure, and document that analyst following and forecast accuracy increase, while forecast dispersion decreases, for firms with more comparable accounting information. De Franco et al. (2011) argue that comparability allows meaningful comparison among firms, allowing analysts to make meaningful inferences about economic similarities and differences across comparable firms, and enabling them to better understand the dynamism of how economic events are translated into firm performance. Moreover, because comparable firms constitute good benchmarks for each other, information transfer among them could reduce the amount of effort exerted by analysts in understanding and analyzing their financial statements. Subsequent studies have examined the impact of comparability on debt market participants' assessment of firm credit risk (Kim et al., 2013), acquisition decisions (Chen et al., 2015), managers' propensity to issue earnings forecasts

(Gong et al., 2013), crash risk (Kim et al., 2016), loan spread and debt maturity structure (Fang et al., 2016).

Prior studies also relate comparability to the adoption of International Financial Reporting Standards (IFRS) (e.g., Barth et al., 2012; DeFond et al., 2011; Neel, 2017; Wang, 2014; Yip and Young, 2012). For example, Neel (2017) shows that mandatory adoption of IFRS has positive capital market benefits, but only for highly comparable firms. From the perspective of the determinants of comparability, Francis et al. (2014) find that audit style (same Big 4 audit firms auditing two different companies), increases the comparability of reported earnings. Gong et al. (2013) examine the association between earnings synchronicity and management earnings forecasts, and show that managers are more likely to provide earnings forecasts when a firm's earnings synchronicity is low.

Although prior research on the consequences of comparability has provided interesting insights, there remains a paucity of research on the effects of comparability on firms' real operations decisions, e.g., cash holdings. Literature on cash holdings suggests that firms hold cash because of capital market frictions that inhibit firms with high information asymmetry to access external capital markets. The literature proposes three pertinent theories to explain firms' cash holdings decisions. However, the effects of comparability on cash holdings produce ambiguous predictions, as explained below, when considered from these theoretical perspectives.

First, the 'trade-off' theory proposes that there is an optimal level of cash holdings that balances the marginal benefits and marginal costs of cash holdings. A company can benefit from holding cash for a couple of reasons. On the one hand, cash and cash equivalents make sure the firm's investment opportunities are not limited. This is especially the case for firms with difficulties in accessing external financing. On the other hand, corporate liquidity reduces the

likelihood of incurring financial distress costs if the firm's operations do not generate sufficient cash flow to meet obligatory debt payments (transaction and precautionary motives for holdings cash). Since comparable financial statements make it easier for investors to understand and evaluate firm performance with fewer adjustments and judgments (De Franco et al., 2015; Peterson et al., 2015), we argue that financial statement comparability reduces financing frictions arising from information asymmetry, improves access to external finance at comparatively lower cost and, therefore, *reduces* the need for holding more cash. However, the main cost of cash holdings is the opportunity cost of capital invested in cash instead of in other assets that have the potential to generate positive economic returns. Prior studies (e.g., Huang and Zhang, 2012) find that liquid asset holdings are valued at a discount for firms with higher information asymmetry. In this case, managers are more likely to disburse, rather than hoard, cash. If comparable financial statements can reduce information asymmetry between firms and investors, a *positive* relation between financial statement comparability and corporate cash holdings would be expected.

The 'pecking order' theory, on the other hand, proposes that there is no optimal level of cash, and cash just acts as a buffer between retained earnings and investment needs. Because of information asymmetry, the cost of external financing for investment projects is higher than the cost of internal financing. Therefore, companies tend to use internally generated cash before they seek external financing. Consequently, this theory assumes a financing hierarchy followed by companies in order to finance new investments: first internal funds, then debt, and finally equity. However, based on preceding arguments, it can be concluded that more comparable financial statements will reduce the need for internal funds since firms can seek external financing at a cheaper cost.

The third theory advanced in the literature is referred to as the 'agency motive'. Separation of ownership and control, suggests that self-interested managers will seek to use corporate resources for their private benefit, e.g., through overinvesting, despite poor investment opportunities, at the expense of shareholders' interests (Jensen, 1986; Jensen and Meckling, 1976; Myers and Rajan, 1998). Opler et al. (1999) also document that managers prefer the control that comes with holding cash, rather than paying dividends to stockholders and, hence, postulates that opportunistic managers will hoard cash. Harford (1999) shows that firms with larger cash holdings engage in more acquisitions, and that these acquisitions are value decreasing. Since, comparable financial statements make it easier for investors to evaluate firm performance and monitor managers' use of capital; this has potential to limit managerial opportunism with respect to hoarding cash. This view suggests a negative relation between comparability and corporate cash holdings are valued at a discount: a fact that suggests a positive relation between comparability and corporate cash holdings.

Based on the competing arguments above, we develop the following non-directional hypothesis:

H₁: Financial statement comparability has an effect on corporate cash holdings.

Although intuitive, the above hypothesis remains silent on the possible channels through which financial statement comparability effects corporate cash holdings. We use financing constraints, financial reporting quality, and corporate governance as three such mediating channels. Kaplan and Zingales (1997) note that, "a firm is considered more financially constrained, as the wedge between its internal and external cost of funds increases" (p.173).

They also suggest that hidden information and agency problems might be related to the financial constraints of the firm. Financially constrained firms find it difficult to raise funds at low cost and, hence, firms with greater difficulties in obtaining external capital accumulate more cash (Almedia et al., 2004). Since financial statement comparability reduces information acquisition costs and increases the overall quantity and quality of information available to corporate outsiders, we argue that financial statement comparability eases financing constraints and, thus, reduces the demand for holding cash. However, a high (low) level of financing constraints does not necessarily imply high (low) levels of cash holdings. Pal and Ferrando (2010) find that the cash flow sensitivity of cash holdings is independent of financing constraints. In particular, they argue that unconstrained firms save cash simply to avail growth opportunities, while constrained firms save cash as a buffer against cash flow fluctuations, as this group invest at a lower rate and grow more slowly. Denis and Sibilkov (2010) further find that some constrained firms hold too little cash because of persistently low cash flows. Thus, the mediation effect of financing constraints on the relation between comparability and cash holdings is not clear *ex-ante*.

Financial reporting quality is also related to cash holdings. Separation of ownership and control allows managers to obfuscate poor performance through earnings manipulation. Extant study shows that firms with poor (good) quality financial reporting are associated with more (less) information asymmetry (Bhattacharya et al., 2013; Bushman and Smith, 2001). High information asymmetry, in turn, makes external financing more costly for firms with opaque reporting. From an accounting comparability perspective, extant studies show that incentives for earnings management diminish with an increase in accounting comparability (De Franco et al., 2015; Peterson et al., 2015). This is because comparable financial statements reduce the marginal costs of collecting and processing information by outsiders of these peer firms. With the aid of

the valuable additional input of the comparable firms, outsiders can better evaluate the firm's true performance. Thus, we predict that a negative association between comparability and cash holdings is mediated by financial reporting quality. However, firms with acute information asymmetry problem firms may disgorge instead of stockpiling cash. This is because cash holdings by firms suffering from an information asymmetry problem are valued at a discount, thereby incentivizing managers to reduce cash holdings. However, financial statement comparability, by improving accruals quality, reduces information asymmetry and, thus, mitigates the risk of cash holdings being valued at a discount. This suggests a positive association between comparability and cash holdings. Thus, the mediation effect of financial reporting quality on the relation between comparability and cash holdings is not clear ex-ante.

Finally, we consider the mediating role of corporate governance on the relation between comparability and cash holdings. This should also serve as a test of the agency theory of cash holdings. It is intuitive to argue that strong governance reduces the demand for cash holdings, by forcing managers to disburse cash; preferably to shareholders. Cross-country evidence shows that strong corporate governance, as manifested in greater shareholder rights, is associated with lower cash holdings (Dittmar et al., 2003; Lins and Kalcheva, 2004; Pinkowitz et al., 2004). Considered from this perspective, we expect greater institutional ownership, our proxy for corporate governance, to reduce cash holdings. Institutional investors have a much stronger incentive to monitor firms that they own than have individual investors, because of their larger equity stakes (McCahery et al., 2016; Mitton, 2002).

However, institutional owners may prefer firms with more cash reserves. Ozkan and Ozkan (2004) argue that cash holding is an important determinant of firms' growth opportunities. Firms with cash reserves are more likely to have growth opportunities (Opler et al., 1999). Based

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on the precautionary motives for holding cash, cash represents a valuable source of investment funds for business growth opportunities during a period of economic uncertainty (Ahrends et al., 2016). Hence, good governance in the form of greater institutional ownership may increase cash reserves for productive future investments. This may be reinforced by financial statement comparability, since comparability reduces the opportunistic motive for holding cash by managers.

Based on the arguments above, we develop the following hypotheses:

H2A: Financing constraints mediate the effect of financial statement comparability on corporate cash holdings.

H2B: Financial reporting quality mediates the effect of financial statement comparability on corporate cash holdings.

H2C: Corporate governance, as proxied by institutional ownership, mediates the effect of financial statement comparability on corporate cash holdings.

3. Research design 3.1 Empirical model

We estimate the following regression equation to test H_{1:}

$$CASH / LN _CASH = \gamma_0 + \gamma_1 COM + \gamma_2 SIZE + \gamma_3 MB + \gamma_4 CAPX + \gamma_5 LEV + \gamma_6 R \& D + \gamma_7 DIV _D + \gamma_8 NWC + \gamma_9 CFO + \gamma_{10} SIGMA + \gamma_{11} | DAC | + \gamma_{12} CCC + FirmFE + YearFE + \varepsilon.....(1)$$

where the dependent variable is either cash holdings (*CASH*) or the natural log of cash holdings (*LN_CASH*). *CASH* is cash and marketable securities divided by net assets. *LN_CASH* is the natural logarithm of cash and marketable securities divided by net assets. Following Itzkowitz (2013), we use the natural log of one plus the ratio of cash to net assets. Liquid asset holdings are deflated by the book value of total assets, net of liquid assets, under the assumption that a firm's ability to generate future profits is a function of its assets in place (Itzkowitz, 2013;

Opler et al., 1999).¹ The main independent variable is financial statement comparability (*COM*), which follows the comparability score developed by De Franco et al. (2011).

We include a set of control variables that are associated with the determinants of cash holdings. Cash holdings are lower for larger firms (SIZE) owing to economies of scale and, thus, a negative coefficient is expected. Firms with greater investment opportunities may have higher cash holdings, because it is costly for these firms to forgo an investment opportunity. High growth firms (MB) are expected to hold more cash, since firms with insufficient cash have to forgo potentially profitable growth options. Opler et al. (1999) contend that capital expenditures (CAPX), defined as capital expenditure over net assets, may proxy for investment opportunities. Firms may utilize cash holdings to reduce their debt constraints. Thus, we expect a negative coefficient for leverage (LEV) calculated as short and long-term debt over total assets. Research and development expenditures (R&D/ASSET) are included to control for growth opportunities and financial distress costs, consistent with Opler et al. (1999). Firms with greater research and development expenses are likely to have greater growth opportunities and, thus, may have higher cash holdings, to avoid forgoing the exercise of these growth opportunities. DIV is a dummy variable coded 1 for firms that pay dividends during a fiscal year and 0 otherwise. We expect firms that pay out dividends to hold less cash, because such firms are likely to be less risky. NWC is defined as working capital minus cash and marketable securities: it controls for the possibility that other liquid assets may substitute for cash (Ozkan and Ozkan, 2004), hence, we expect a negative association between NWC and cash holdings. Opler et al. (1999) suggest that firms with higher operating cash flows (CFO/NET_ASSETS) may hold more cash. Thus, we predict a positive coefficient for cash flows, measured as operating cash flows scaled by net

¹ In the sensitivity analysis, we show that results remain unaffected even when we scale cash and marketable securities by book assets.

assets. We include industry *SIGMA*, measured as the rolling standard deviation of the *OCF* over the past 3 years for firms in the same industry, as defined by the 2-digit SIC code, in order to control for cash flow riskiness, and expect firms with riskier cash flows to hold more cash (Opler et al., 1999). Hence, we predict a positive coefficient for industry sigma. |DAC| is the financial reporting quality proxied by the performance-adjusted discretionary accruals (*DAC*) model developed by Kothari et al. (2005). To estimate *DAC*, we use the cross-sectional modified Jones model, controlling for firm performance (Dechow et al., 1995; Kothari et al., 2005). We use the absolute value, and predict a positive association to imply that firms with poor quality earnings hold more cash (Sun et al., 2012). *CCC* is the cash conversion cycle measured as the sum of the receivable collection period, the inventory conversion period, and the payment deferral period.

In order to distinguish the direct effect of financial statement comparability on cash holdings from the indirect effect (i.e. through financing constraints or financing reporting quality or institutional shareholdings), we specify the following empirical models:

$$CASH_{i,t} = \gamma_0 + \gamma_1 M V_{i,t} + \gamma_2 COM_{i,t} + \sum_{j=3}^m \gamma_j Controls_{i,t} + \sum \gamma_t FIRM_t + \sum \gamma_t YEAR_t + \varepsilon_{i,t}$$
(2)

$$MV_{i,t} = \alpha_0 + \alpha_1 COM_{i,t} + \sum_{j=3}^n \alpha_j Controls_{i,t} + \sum \alpha_t FIRM_t + \sum \alpha_t YEAR_t + \varepsilon_{i,t}$$
(3)

The model consists of two equations. Equation (2) exhibits how the mediating variables (*MV*) (financing constraints or financing reporting quality or institutional shareholdings) influence cash holdings (*CASH*). The presence of *COM* in Equation (2) allows for the possibility that *COM* may have a direct effect on cash holdings. Equation (3) shows how *COM* affects cash holdings (*CASH*) through the mediating variable channel (indirect effect).

3.2 Measurement of the independent variable: Financial statement comparability

We use the financial statement comparability measure of De Franco et al. (2011). Comparability is defined as the closeness between two firms' accounting systems in mapping economic events into financial statements. To measure the accounting function of an individual firm i, in each year, De Franco et al. (2011) run the following time-series regression using firm i's 16 previous quarters of earnings (a proxy for financial statements) and stock returns (a proxy for economic events):

$$EARNINGS_{it} = \alpha_i + \beta_i RETURN_{it} + \varepsilon_{it}$$
(4)

where *EARNINGS* is the quarterly net income before extraordinary items deflated by the market value of equity at the end of the previous quarter, and *RETURN* is the raw stock return during quarter *t*. The estimated coefficients $\hat{\alpha}_i$ and $\hat{\beta}_i$ are firm *i*'s accounting system or function that maps firm *i*'s economic events into its financial statement. For firm *j* from the same two-digit industry as firm *i*, the accounting system is proxied by $\hat{\alpha}_i$ and $\hat{\beta}_i$ (estimated using firm *j*'s time series).

To measure the closeness of the functions between firms *i* and *j*, De Franco et al. (2011) use each firm's economic events (proxied by *RETURN_i* or *RETURN_j*) to calculate the estimated earnings using each firm's accounting system parameters $(\hat{\alpha}_i, \hat{\beta}_i \text{ or } \hat{\alpha}_j, \hat{\beta}_j)$, respectively. Specifically, they calculate firm *i*'s and firm *j*'s accounting response to firm *i*'s economic events, *RETURN_{it}*:

$$E(EARNINGS)_{iit} = \hat{\alpha}_i + \hat{\beta}_i RETURN_{it}$$
(5)

$$E(EARNINGS)_{ijt} = \hat{\alpha}_i + \hat{\beta}_i RETURN_{it}$$
(6)

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where $E(EARNINGS)_{iii}$ refers to the predicted earnings of firm *i*, given the accounting function and return of firm *i* in quarter *t*. Similarly, $E(EARNINGS)_{ijt}$ refers to the predicted earnings of firm *j*, given firm *j*'s accounting function and firm *i*'s return in quarter *t*. The pairwise comparability score between firm *i*'s and firm *j*'s accounting systems ($COMPACCT_{ijt}$) is calculated as negative one (-1) times the average of all pairwise comparability scores, that is, the absolute differences between the predicted earnings using firm *i*'s and firm *j*'s accounting functions, for the past 16 quarters:

$$COMPACCT_{ijt} = -\frac{1}{16} \times \sum_{t=15}^{t} \left| E(Earning)_{iit} - E(Earning)_{ijt} \right|$$
(7)

Given that $COMPACCT_{iji}$ in Eq. (7) is non-positive, De Franco et al. (2011) note that a higher value of $COMPACCT_{iji}$ that is, a smaller absolute difference between $E(EARNINGS)_{iii}$ and $E(EARNINGS)_{iji}$ indicates greater financial statement comparability between firms *i* and *j*.

Following prior studies, we use three variants of comparability measures of firm *i*'s financial statements, $COMPACCT_{u}$: (i) the mean of all of firm *i*'s comparability scores during year *t* (COM_{u}) (ii) the average of firm *i*'s four highest comparability scores during year *t* ($COM_{-}4_{u}$), and (iii) the average of firm *i*'s ten highest comparability scores during year *t* ($COM_{-}4_{u}$). Consistent with prior literature (e.g., Chen et al., 2015; Kim et al., 2016), we convert the comparability measures into ranks in order to reduce noise in the estimates. For each fiscal year, we rank the comparability measures into deciles and then standardize the deciles so that they range between 0.1 and 1.0.

4. Sample selection and descriptive statistics

We begin with a total sample of 85,129 firm-year observations with non-missing accounting comparability and cash holdings data during 1981 to 2013. Our sample period starts with 1981 because the financial statement comparability score is not available before 1981. We then exclude firm-year observations from the regulated industries (two digit SIC code 49) and financial institutions (two digit SIC codes 60-69). This eliminates a total of 20,276 firm-year observations. Then, we exclude firms with missing control variables (6,025 firm years). Our final sample, therefore, consists of 58,828 firm-year observations. To avoid the undesirable influence of outliers, we winsorize the key variables in the extreme 1% of their respective distributions. In the regression models, sample size varies depending on the model-specific data requirement. Panel A, Table 1, presents the sample selection procedure. Firm-year observations come from a wide variety of industries, with two digit SIC codes 35-39 (32.98%) and 28-30 (14.03%) commanding the largest industry representation in our sample, as reported in Panel B, Table 1.

[TABLE 1 ABOUT HERE]

Panel A in Table 2 provides descriptive statistics for the variables used in the regression models. The mean values of *CASH* and *LN_CASH* are 0.40 and 0.24 respectively, with a median of 0.10 and 0.10 respectively, suggesting a skewed distribution for the dependent variables. The mean (median) is 0.17 (0.09) when cash and short-term investments are scaled by total assets (*CASH/TA*). We use three different measures of accounting comparability, which are: the industry mean of comparability combinations (*COM*), the average of the largest four comparability combinations (*COM_4*), and the average of the largest ten comparability combinations (*COM_10*). The mean (median) of *COM* is -3.43 (-2.78), which is the same as in

the study of Kim et al. (2016). The mean and median of COM_4 are -0.71 and -0.30, respectively, with a standard deviation of 1.14. The values of COM_10 , too, are reasonably distributed, although depicting a larger standard deviation (1.51). Overall, distributions of these comparability scores are consistent with prior related studies (De Franco et al. 2011; Kim et al. 2016). Sample firms on average are growth firms (an average *MB* ratio of 1.89), but low-leveraged (mean *LEV* is 0.21). On average, firms pay 14% of income as dividends. Average *R&D* as a proportion of total assets is 13%. The average of the financial constraints is -3.33. We follow Hadlock and Pierce (2010), and use the SA Index as our *FC* measure (*FC_SA*). The mean of financial reporting quality, |DAC|, is 11% of lagged total assets. Finally, the mean (median) for institutional ownership (*CG_INST*) is 0.43(0.41).

Panel B of Table 2 presents the correlation analysis. All three comparability measures are significantly (p<0.001) and negatively correlated with *CASH* (correlation coefficients ranging from -0.14 to -0.01). Though only suggestive of the underlying association, highly significant negative correlation coefficients indicate that firms with higher financial statement comparability hold less cash. Moreover, correlations among financial statement comparability measures are positive and strongly significant (p<0.001). With respect to the correlation between *CASH* and other control variables, we find that larger firms and firms with more leverage, working capital, cash flows and dividend payments hold less cash, whilst firms with future growth opportunities (in terms of both *CAPX* and *R&D*) and volatile cash flows hold more cash. Table 2 also reveals a significantly positive (negative) correlation between *CASH* and |DAC| and *CASH* and *FC_SA* are positive and significant (at p<0.001) (correlations of 0.26 and 0.19 respectively). Overall, the

correlations between *CASH* and the control variables are all in the expected direction and, thus, provide support for the validity of our key measures and constructs.

[TABLE 2 ABOUT HERE]

5. Regression results

5.1 Financial statement comparability and cash holdings: Baseline regression

Table 3, Panel A presents the main regression analysis of the effects of accounting comparability on firms' cash holdings. We estimate the regression models using firm fixed effect (FFE) regressions, which controls for individual firm heterogeneity. In Table 3, across all models, the dependent variable is cash holdings (*CASH* or *LN_CASH*), the test variable is financial statement comparability (*COM*), and regression models include firm-level controls, with dummies to control for firm and year fixed effects. We hypothesized that accounting comparability affects corporate cash holdings (H_1).

In panel A, the coefficients for *COM* across all models are negative and significant. In particular, the coefficient for *COM* is -0.079 (t-statistic -5.09, significant at p<0.01) (column 1). The corresponding coefficient for *COM* for *LN_CASH* is -0.038 with a t-statistic of -6.10 (significant at p<0.01) (column 4). In terms of economic significance, the coefficient reported in column (1) suggests that a one standard deviation increase in *COM* (decile version) reduces cash holdings (*CASH*) by 4.94% from the mean ((-0.079*0.25)/0.40 where -0.079 is the regression coefficient, 0.25 is the standard deviation of *COM* and 0.40 is the mean *CASH*). The coefficients for *COM_4* and *COM_10* are similarly negative and statistically significant, suggesting that greater accounting comparability reduces cash holdings (e.g., the coefficients for *COM_4* and *COM_10* are spectively,

both significant at p<0.01) (columns 2 and 3). We obtain qualitatively similar results even when LN_CASH is used as a proxy for cash holdings. The sign and significance of the control variables are generally consistent with prior research (Bates et al., 2009; Opler et al., 1999). Cash holdings are larger for firms with more growth opportunities (*CAPX*, *MB*, and *R&D* proxies) and volatile cash flows, but smaller for large and highly levered firms, as well as for firms with more working capital and for firms that pay dividends.

Panel B, Table 3, presents the ordinary least squares (OLS) regressions with standard errors adjusted for heteroskedasticity and within-firm clustering. The coefficients for *COM*, *COM_4*, and *COM_10* continue to be negative and significant for both the *CASH* and the *LN_CASH* versions of cash holdings. For example, the coefficients for *COM* are -0.078 and -0.061 for the *CASH* and *LN_CASH* with corresponding t-statistics of -3.83 and -7.49 respectively (both significant at p<0.01). Similar evidence is found for the *COM_4* and *COM_10* measures.²

[TABLE 3 ABOUT HERE]

5.2 Financial statement comparability and cash holdings: Mediating effects of financial constraints, financial reporting quality, and corporate governance

So far, we have presented results indicating a significant negative relation between financial statement comparability and corporate cash holdings. This result is robust even after controlling for the firm level characteristics, firm and year effects. A related issue is the extent to which comparability affects cash holdings directly (i.e., without mediation) and through its effect on financial constraints, reporting quality and corporate governance, the so-called mediation effect. We follow the reporting format in Robin and Zhang (2015) to tabulate the direct and indirect

 $^{^{2}}$ As a sensitivity analysis, we also check whether results are robust with two-way clustering of standard errors. Our untabulated analysis reveals that regression results remain qualitatively similar when we cluster standard errors at firm-year (for FFE) and industry-year (for OLS) level (Petersen, 2009).

effects of comparability on cash holdings in Table 4. Panel A tests financial constraints (*FC_SA* and *FC_WW*) as a mediator, Panel B tests reporting quality (|DAC|) as a mediator and Panel C tests corporate governance (*CG_INST*) as a mediator. In each panel, Model (1) is the regression model without the mediator (i.e., the baseline regression excluding the mediator) and Model (2) is the regression model with the mediator.

Panel A (Section I) shows that the coefficients for *COM* are negative and statistically significant, with or without the inclusion of the mediator (i.e., FC_SA). In Model (2), the coefficient for FC_SA is negative and statistically significant (p<0.01), implying that financing constraints reduce corporate cash holdings. When we isolate direct and indirect effects of comparability on cash holdings, we find that comparability *directly* reduces cash holdings, but indirectly (through FC_SA) increases cash holdings. Nonetheless, the total effect of comparability on cash holdings is negative and significant (p<0.01). The Sobel test is significant at the 1% level for all measures of comparability (*COM*, *COM_4* and *COM_10*). We obtain qualitatively similar results when LN_CASH is used as a measure of cash holdings (untabulated). Overall, tabulated results indicate a statistically significant partial mediation effect.

In Section II of Panel A, we use the FC_WW measure of financing constraints to test the mediation effect. We find consistent evidence that the coefficients for *COM* are negative and statistically significant, with or without the inclusion of the mediator (i.e., FC_WW). The coefficient for FC_WW is positive and statistically significant (p<0.01), implying that financing constraints increase corporate cash holdings. When we isolate the direct and indirectly reduces cash holdings, although the indirect effect is insignificant for the *COM_4* and *COM_10* measures of comparability. Importantly, the total effect of comparability on cash holdings is negative and

significant (p<0.01). As an additional robustness check, we use two alternative measures of financing constraints: non-dividend payers (FC_DIV) and unrated firms (FC_UR). Farre-Mensa and Ljungqvist (2016) use these measures as proxies for financial constraints. When FC_DIV is used for the mediation test, un-tabulated results show that the direct effect of comparability is negative and significant (p<0.01) but the indirect effect of comparability (through FC_DIV) is positive and significant (p<0.05). Finally, with FC_UR , we find that the direct effect of comparability (through FC_DIV) is statistically insignificant. In sum, we find that the direct effect of comparability on cash holdings is negative and statistically significant. However, the indirect effect of comparability through financial constraints is sensitive to the proxies used for financial constraints.³

In Panel B, we test the mediation effect of financial reporting quality (*DAC*). This Table shows significantly negative coefficients (p<0.01) for *COM* with or without the inclusion of the mediator (|*DAC*|). In Model (2) the coefficient for |*DAC*| is positive and statistically significant (p<0.01), implying that poor financial reporting increases corporate cash holdings. Nonetheless, comparability improves financial reporting quality, which indirectly reduces corporate cash holdings. A careful investigation reveals that the indirect effect captures 12% to 17% of the total effect. The Sobel test is significant at the 1% level for all measures of comparability (*COM*, *COM_4* and *COM_10*), signifying a statistically significant partial mediation effect.

Panel C reports mediation test results of corporate governance (CG_{INST}). Tabulated results show that the coefficients for COM are negative and statistically significant, with or without the inclusion of the mediator (i.e., CG_{INST}). In Model (2), the coefficient for CG_{INST}

³ Farre-Mensa and Ljungqvist (2016) argue and find that financial constraints measures actually do not capture constraints. Instead, these measures capture differences in growth and financing policies at different stages of firm life cycle.

is positive and statistically significant (p<0.01), implying that corporate governance increases cash holdings. When we isolate direct and indirect effects of comparability on cash holdings, we find that comparability *directly* reduces cash holdings but indirectly (through *CG_INST*) increases cash holdings. Nonetheless, the total effect of comparability on cash holdings is negative and significant (p<0.01). The Sobel test is significant at the 5% level for all measures of comparability (*COM*, *COM_4* and *COM_10*). We obtain qualitatively similar results when *LN_CASH* is used as a measure of cash holdings (untabulated). Overall, tabulated results indicate a statistically significant partial mediation effect.

Overall, the mediation test results suggest that comparability reduces corporate cash holdings directly. Moreover, the relation between comparability and cash holdings is also significantly mediated by financial constraints, financial reporting quality and corporate governance.

[TABLE 4 ABOUT HERE]

5.3 Sensitivity analysis and robustness check

5.3.1 Alternative measure of cash holdings

In our main analysis we use two measures of cash holdings. We re-estimate our analysis using corporate cash holdings as the ratio of cash to total assets (*CASH/TA*). This has been employed extensively in the finance literature (e.g. Acharya et al., 2013, Almeida et al., 2004, Harford et al., 2014). Results tabulated in Panel A of Table 5 show that regression results using the alternative measure of cash holdings are similar to those obtained using the main definitions.

5.3.2 Omitted variable bias

It is possible that our analysis omits some other determinants of cash holdings that are correlated with other included variables. Itzkowitz (2013) shows that firms with a more concentrated customer-base hold more cash. Brown et al. (2012) show that institutional shareholdings increase corporate cash holdings. In a recent paper, Drobetz et al. (2015) show that cash holdings decrease with firm maturity. Studies also show that the organizational structure of firms (e.g., Tong, 2011), tax costs associated with repatriations (e.g., Foley et al., 2007) and CEO risk-taking incentives (e.g., Liu and Mauer, 2011) affect corporate cash holdings. To mitigate potential problems arising from correlated omitted variables, we re-estimate the regression incorporating institutional shareholdings (INST), customer concentration (CUST_CON), the life cycle measure (RE/TE) of DeAngelo et al. (2006), number of business segments (NBS), tax cost of repatriating earnings (TAX_COST) and CEO risk-taking (VEGA). Results reported in Panel B of Table 5 show that the effects of accounting comparability (COM, COM_4 and COM_10) on cash holdings (CASH and LN_CASH) remain qualitatively similar in terms of sign, significance, and magnitude. Data requirements for VEGA reduce the sample size to around 12,912 firm-year observations. Despite the reduction in sample size, the coefficients for comparability are significant at p<0.01. These results suggest that our reported results are unlikely to be driven by omitted, correlated, time-invariant variables.

5.3.3 Change analysis

Although our above analysis controls for a variety of firm characteristics that might account for the effects of financial statement comparability on cash holdings, endogeneity stemming from reverse causality is always a concern in studies such as this. One way to address the potential reverse causality concern is to conduct a "change" analysis. We argue that if a firm's financial

statement comparability drives the decrease in cash holdings, then the change in comparability should have a first-order effect on changes in cash holdings. Therefore, we modify the "levels" specification in equation (1) to a "changes" specification, wherein we regress annual changes in *CASH* on changes in *COM* along with changes in other economic determinants. Results reported in Panel C of Table 5 show that we continue to find a negative and significant (p<0.01) effect of changes in financial statement comparability on changes in cash holdings over time. Thus, reverse causality does not drive the association between comparability and cash holdings.

5.3.4 Endogeneity issue

We have so far addressed the robustness of our findings by using firm fixed effects and by including additional controls and a "change" specification. However, one may argue that these are not sufficient to address endogeneity concerns adequately. Therefore, we adopt three measures to check the robustness of our results further. First, we estimate our models using the Lewbel (2012) method, which generates instruments based on the data for the variables included in our regression model. In particular, under this method, "instrumental variables are created by regressing each endogenous variable on all exogenous variables (internal instruments) and a constant. Then, the residuals from these regressions are multiplied by each exogenous variable in mean-centred form. This multiplication provides the newly generated (external) instruments" (Hermes et al., 2016, p. 787). This methodology is particularly useful when otherwise "outside" ordinary instruments are not available to the researcher (Choe et al., 2014). The results from this estimation are reported in panel D of Table 5. We note that the estimated effect of comparability on cash holdings (CASH) increases significantly following this procedure. We obtain qualitatively similar results when LN_CASH is used as a measure of cash holdings (results untabulated).

Second, we follow Bebchuk et al. (2012) to address the endogeneity concern. In particular, we use lagged comparability measures in columns (3) and (4). Tabulated results show that the coefficients for *COM* remain qualitatively similar. Finally, in columns (5) and (6), we use the two-step system GMM approach adopted by Arellano and Bover (1995) and Blundell and Bond (1998) to validate the results reported in Table 3. We use Roodman's (2009) 'xtabond2' module in Stata to execute the two-step system GMM. Tabulated results suggest that the effects of financial statement comparability on corporate cash holdings remain robust even when we use the two-step system GMM approach. Diagnostics results for serial correlation tests confirm the desirable statistically significant AR(1) and statistically insignificant AR(2). Moreover, statistically insignificant Hansen test of over-identifying restrictions tests indicate that the instruments are valid in the two-step system GMM estimation. Our results remain robust even when LN_CASH is used as a measure of cash holdings (untabulated). In sum, results from endogeneity tests provide evidence that our documented negative relation between comparability and cash holdings is robust, and is not driven by an endogeneity problem.

[TABLE 5 ABOUT HERE]

6. Conclusion

In this paper we examine financial statement comparability as a potential determinant of corporate cash holdings, and investigate three possible channels through which this relationship might be manifested. Since comparable financial statements reduce information uncertainties by allowing investors to engage less in costly information acquisition, we argue that this reduced information uncertainty should also ease financing constraints and information asymmetry problems and, thus, reduce cash holdings.

Using a large panel of US data we document that financial statement comparability significantly reduces corporate cash holdings. Our results confirm that the relation between financial statement comparability and corporate cash holdings is also mediated by financing constraints, financial reporting quality and corporate governance. These results are robust to alternative specifications of financial statement comparability and cash holdings, and to alternative regression specifications. Overall, our study contributes to the emerging research that stresses the importance of financial statement comparability for investor decision making.

Endogeneity is a major concern in this paper, as some unobservable factors might affect the comparability of financial statements, and influence cash holdings indirectly. Although we have used a number of techniques to mitigate the endogeneity concern, those may not be sufficient. Our results should be interpreted in light of this limitation.

Appendix: Variable definitions

Variables	Definition
Dependent Variables	
CASH	Cash and marketable securities (<i>CHE</i>) divided by net assets ($AT - CHE$).
LN_CASH	Natural logarithm of cash and marketable securities (CHE) divided by net assets (AT
	-CHE). Cash and marketable securities are deflated by the book value of total assets,
	net of liquid assets, under the assumption that a firm's ability to generate future
	profits is a function of its assets in place. Following itzkowitz (2013) we use the
CACIL/TA	natural log of one plus the ratio of cash to net assets.
CASH/IA	Cash and marketable securities (CHL) divided by total assets (A1).
Independent variables	
СОМ	Firm-year level accounting comparability which is the industry mean of
com	comparability combinations for firm <i>i</i> and other firms in the same 2-digit SIC in a
	given vear
COM 4	Firm-year level accounting comparability, which is the average of the largest four
	comparability combinations for firm <i>i</i> and other firms in the same 2-digit SIC in a
	given vear.
COM_10	Firm-year level accounting comparability, which is the average of the largest ten
	comparability combinations for firm i and other firms in the same 2-digit SIC in a
	given year.
Mediating variables	
Financial constraints	
FC_SA	We follow Hadlock and Pierce (2010) and use SA Index as our financing constraint
	measure. They find that leverage, cash flow and, particularly, firm size and firm age
	are useful predictors of financial constraints. SA index is derived using the formula:
	$-0.737*SIZE+0.043*SIZE^2-0.040*AGE$, where SIZE is the natural log of book assets
	(in millions).
FC_WW	The financing constraints measure developed by Whited and Wu (2006). The WW
	index is a linear combination of six empirical factors: cash flow to total assets (-),
	sales growth (-), long-term debt to total assets (+), log of total assets (-), dividend
	policy indicator (–), and the firm's three-digit industry sales growth (+).
Financial reporting	We use the performance-matched discretionary accruals (DAC) model developed by
quality (/DAC)	Kothari et al. (2005). To estimate DAC we use the cross-sectional modified Jones
	model, controlling for firm performance (Dechow et al. 1995; Kothari et al. 2005).
	We estimate the following model for all firms in the same industry (using the SIC
	two-digit industry code) with at least eight observations in an industry in a particular
	year:
V	$ACC_{\perp}/TA_{\perp} = \gamma_{0}(1/TA_{\perp}) + \gamma_{1}[(\Delta SALES_{\perp} - \Delta RECEIVABLE_{\perp})/TA_{\perp}] + \gamma_{2}(PPE_{\perp}/TA_{\perp})$
V	$(DOA) + c \qquad (2)$
	$\gamma_3(ROA_{t-1}) + \varepsilon_t$ (8)

where ACC is total accruals calculated as earnings before extraordinary items and discontinued operations minus operating cash flows; TA is total assets in year t-1; $\Delta SALES$ is change in sales from year t-1 to year t; $\Delta RECEIVABLE$ is change in accounts receivable from year t-1 to year t; *PPE* is gross property plant & equipment;

	ROA is the prior year's return-on-assets measured as earnings before extraordinary items and discontinued operations divided by total assets for the previous year. The coefficient estimates from Equation (2) are used to estimate the non-discretionary
	component of total accruals (<i>NDAC</i>) for our sample firms. The discretionary accruals is then the residual from equation (3) i.e. $DAC = ACC NDAC$
CG INST	The percentage of shares held by institutions retrieved from Thomson Reuter's $F13$
0_11051	File We use this as proxy for corporate governance
Control Variables	The we use this us proxy for corporate governance.
SIZE	Natural logarithm of market value of equity (<i>PRCC</i> $F * CSHO$).
NWC	Net working capital calculated as working capital (WCAP) minus cash and
	marketable securities (CHE) scaled by total assets (AT).
MB	Market-to-book ratio and is calculated as the market value of assets
	(<i>PRCC_F*CSHO</i>) divided by the book value of assets (<i>AT</i>).
CAPX	Capital expenditure (<i>CAPX</i>) divided by net assets $(AT - CHE)$.
LEV	Leverage measured as the ratio of the sum of short term and long-term debt
	$(DLC+DLTT)$ over sum of market value of equity and total debt $((PRCC_F*CSHO))$
D Ø D	+ DLC + DLII).
K&D	R&D (<i>XRD</i>) over sales (<i>SALE</i>). We replace missing R&D with zero.
DIV	Dividends scaled by income before extraordinary items (DVC/IB) .
CFO	Operating cash flows deflated by total assets (AT). Operating cash flow is measured
	as income before extraordinary items (IB) minus dividends to common shareholders
	(DVC).
SIGMA	Rolling standard deviation of the CFO over past 3 years for firms in the same
	industry as defined by the 2-digit SIC code.
CCC	Cash conversion cycle, measured as receivable collection period [RECT/SALE)*365]
	+ inventory conversion period [(INVT/COGS)*365] - payable deferral period
	[(<i>AP/COGS</i>)*365].

References

- Accounting Principles Board. 1970. Statement No. 4: Basic concepts and accounting principles underlying financial statements of business enterprises. New York: AICPA.
- Acharya, V. V., Almeida, H., Campello, M., 2013. Aggregate risk and the choice between cash and lines of credit. J. Fin. 68, 2059-2116.
- Ahrends, M., Drobetz, W., Puhan, T.X. Cyclicality of growth opportunities and the value of cash holdings (August 3, 2016). Available at SSRN: <u>http://dx.doi.org/10.2139/ssrn.2644749</u>.
- Almeida, H., Campello, M., Weisbach, M. S., 2004. The cash flow sensitivity of cash. J. Fin. 59, 1777-1804.
- Arellano, M., Bover, O. 1995. Another look at the instrumental variable estimation of error-components models. J. Econ. 68, 29-51.
- Ball, R., Brown, P., 1968. An empirical evaluation of accounting income numbers. J. Account. Res. 159-178.
- Barth, M. E., Landsman, W. R., Lang, M., Williams, C. 2012. Are IFRS-based and US GAAP-based accounting amounts comparable?. J. Account. Econ. 54, 68-93.
- Barth, M.E., Beaver, W.H., Landsman, W.R., 2001. The relevance of the value relevance literature for financial accounting standard setting: Another view. J. Account. Econ. 31, 77–104.
- Bates, T. W., Kahle, K. M., Stulz, R. M., 2009. Why do US firms hold so much more cash than they used to?. J. Fin. 64, 1985-2021.
- Bebchuk, L. A., Cremers, K. M., Peyer, U. C., 2011. The CEO pay slice. J. Fin. Econ. 102, 199-221.
- Bhattacharya, N., Desai, H., Venkataraman, K., 2013. Does earnings quality affect information asymmetry? Evidence from trading costs. Contem. Account. Res. 30, 482-516.
- Blundell, R., Bond, S., 1998. Initial conditions and moment restrictions in dynamic panel data models. J. Econ. 87, 115-143.
- Brown, C. A., Chen, Y., Shekhar, C., 2012. Institutional ownership and firm cash holdings. Working paper, available at SSRN 1657823.
- Bushman, R. M., Smith, A. J., 2001. Financial accounting information and corporate governance. J. Account. Econ. 32, 237-333.
- Chen, C., Huang, A. G., Jha, R., 2012. Idiosyncratic return volatility and the information quality underlying managerial discretion. J. Fin. Quant. Anal. 47, 873-899.
- Chen, Y., Dou, P. Y., Rhee, S. G., Truong, C., Veeraraghavan, M., 2015. National culture and corporate cash holdings around the world. J. Bank. Fin. 50, 1-18.
- Choe, C., Dey, T., Mishra, V., 2014. Corporate diversification, executive compensation and firm value: Evidence from Australia. Australian J. Mgt. 39, 395-414.
- De Franco, G., Kothari, S. P., Verdi, R. S., 2011. The benefits of financial statement comparability. J. Account. Res. 49, 895-931.
- DeAngelo, H., DeAngelo, L., Stulz, R. M., 2006. Dividend policy and the earned/contributed capital mix: a test of the life-cycle theory. J. Fin. Econ. 81, 227-254.
- Dechow, P. M., Sloan, R. G., Sweeney, A. P., 1995. Detecting earnings management. Account. Rev. 70, 193-225.
- DeFond, M., Hu, X., Hung, M., Li, S., 2011. The impact of mandatory IFRS adoption on foreign mutual fund ownership: The role of comparability. J. Account. Econ. 51, 240-258.
- Denis, D. J., Sibilkov, V., 2009. Financial constraints, investment, and the value of cash holdings. Rev. Fin. Stud. 23, 247-269.
- Dittmar, A., Mahrt-Smith, J., Servaes, H. 2003. International corporate governance and corporate cash holdings. J. Fin. Quant. Anal. 38, 111-133.

- Drobetz, W., Halling, M., Schröder, H., 2015. Corporate life-cycle dynamics of cash holdings. Working paper, available at SSRN 2578315.
- Fang, X., Li, Y., Xin, B., Zhang, W., 2016. Financial statement comparability and debt contracting: evidence from the syndicated loan market. Account. Horz. 30, 277-303.
- Farre-Mensa, J., Ljungqvist, A., 2016. Do measures of financial constraints measure financial constraints?. Rev. Fin. Stud. 29, 271-308.
- Financial Accounting Standards Board (FASB). 1980. Qualitative Characteristics of Accounting Information. Statement of Financial Accounting Concepts No. 2. Norwalk, CT: FASB. Available at <u>http://www.fasb.org/pdf/con2.pdf.</u>
- Financial Accounting Standards Board (FASB)., 2010. Statement of Financial Accounting Concepts No. 8. Available at <u>http://www.fasb.org/jsp/FASB/Page/PreCodSectionPagecid=1176156317989</u>.
- Foley, F. C., Hartzell, J.C., Titman, S., Twite, G., 2007. Why do firms hold so much cash? A tax-based explanation. J. Fin. Econ. 86, 579–607.
- Francis, J. R., Pinnuck, M. L., Watanabe, O., 2014. Auditor style and financial statement comparability. Account. Rev. 89, 605-633.
- García-Teruel, P. J., Martínez-Solano, P., Sánchez-Ballesta, J. P., 2009. Accruals quality and corporate cash holdings. Account. Fin. 49, 95-115.
- Gong, G., Li, L. Y., Zhou, L., 2013. Earnings non-synchronicity and voluntary disclosure. Contem. Account. Res. 30, 1560-1589.
- Hadlock, C. J., Pierce, J. R., 2010. New evidence on measuring financial constraints: Moving beyond the KZ index. Rev. Fin. Stud. 23, 1909-1940.
- Harford, J., 1999. Corporate cash reserves and acquisitions. J. Fin. 54, 1969-1997.
- Harford, J., Klasa, S., Maxwell, W. F., 2014. Refinancing risk and cash holdings. J. Fin. 69, 975-1012.
- Harford, J., Li, K., Zhao, X., 2008. Corporate boards and the leverage and debt maturity choices. Int. J. Cor. Gov. 1, 3-27.
- Hermes, N., Lensink, R., Lutz, C., Thu, U. N. L., 2016. Trade credit use and competition in the value chain. Econ. Trans. 24, 765-795.
- Huang, J. Z., Huang, M. 2012. How much of the corporate-treasury yield spread is due to credit risk?. T. Rev. Ass. Pric. Stud. 2(2), 153-202.
- Itzkowitz, J., 2013. Customers and cash: How relationships affect suppliers' cash holdings. J. Corp. Fin. 19, 159-180.
- Jensen, M. C., 1986. Agency cost of free cash flow, corporate finance, and takeovers. American. Econ. Rev. 76, 323-329.
- Jensen, M. C., Meckling, W.H., 1976. Theory of the firm: Management behavior, agency costs and ownership structure. J. Fin. Econ. 3, 305-360.
- Kalcheva, I., Lins, K.V., 2004. International evidence on cash holdings and expected managerial agency problems. ECGI. Finance Working Paper, 42.
- Kaplan, S. N., Zingales, L., 1997. Do investment-cash flow sensitivities provide useful measures of financing constraints?. Quart. J. Econ. 112, 169-215.
- Kim, J. B., Li, L., Lu, L. Y., Yu, Y., 2016. Financial statement comparability and expected crash risk. J. Account. Econ. 61, 294–312.
- Kim, S., Kraft, P., Ryan, S. G., 2013. Financial statement comparability and credit risk. Rev. Account. Stud. 18, 783-823.
- Kothari, S. P., Leone, A. J., Wasley, C. E., 2005. Performance matched discretionary accrual measures. J. Account. Econ. 39, 163-197.
- Kusnadi, Y., 2011. Do corporate governance mechanisms matter for cash holdings and firm value?. Pac.-Bas. Fin. J. 19, 554-570.
- Lev, B., 1989. On the usefulness of earnings and earnings research: Lessons and directions from two decades of empirical research. J. Account. Res. 27, 153-192.

- Lewbel, A., 2012. Using Heteroscedasticity to identify and estimate mismeasured and endogenous regressor models. J. Bus. Econ. Stat. 30, 67–80.
- Liu, Y., Mauer, D., 2011. Corporate cash holdings and CEO compensation incentives. J. Fin. Econ. 102, 183–98.
- McCahery, J. A., Sautner, Z., Starks, L. T., 2016. Behind the scenes: The corporate governance preferences of institutional investors. J. of Fin. 71, 2905-2932.
- Mitton, T., 2002. A cross-firm analysis of the impact of corporate governance on the East Asian financial crisis. J. Fin. Econ., 64, 215-241.
- Myers, S.C., Rajan, R. G., 1998. The paradox of liquidity. Quart. J. Econ. 108, 733–771.
- Neel, M.J., 2017. Accounting comparability and economic outcomes of mandatory IFRS adoption. Contem. Account. Res., 34, 658-690.
- Opler, T., Pinkowitz, L., Stulz, R., Williamson, R., 1999. The determinants and implications of corporate cash holdings. J. Fin. Econ. 52, 3-46.
- Ozkan, A., Ozkan, N., 2004. Corporate cash holdings: An empirical investigation of UK companies. J. Bank. Fin. 28, 2103-2134.
- Pál, R., Ferrando, A., 2010. Financing constraints and firms' cash policy in the euro area. T. European J. Fin. 16, 153-171.
- Petersen, M. A., 2009. Estimating standard errors in finance panel data sets: Comparing approaches. Rev. Fin. Stud. 22, 435-480.
- Peterson, K., Schmardebeck, R., Wilks, T. J., 2015. The earnings quality and information processing effects of accounting consistency. Account. Rev. 90, 2483-2514.
- Pinkowitz, L., Stulz, R. M., Williamson, R., 2003. Do firms in countries with poor protection of investor rights hold more cash? (No. w10188). Nat. Bur. Econ. Res.
- Robin, A. J., Zhang, H., 2015. Do industry-specialist auditors influence stock price crash risk?. Audit. J. Pract. Theory. 34, 47-79.
- Schipper, K., 2003. Principles-based accounting standards. Account. Horz. 17, 61-72.
- Sun, Q., Yung, K., Rahman, H., 2012. Earnings quality and corporate cash holdings. Account. Fin. 52, 543-571.
- Tong, Z., 2011. Firm diversification and the value of corporate cash holdings. J. Corp. Fin. 17, 741–758.
- Wang, C., 2014. Accounting standards harmonization and financial statement comparability: Evidence from transnational information transfer. J. Account. Res. 52, 955-992.
- Whited, T. M., Wu, G., 2006. Financial constraints risk. Rev. Fin. Stud. 19, 531-559.

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Yip, R.W., Young, D., 2012. Does mandatory IFRS adoption improve information comparability? Account. Rev. 87, 1767-1789.

Table 1

Panel A: Sample selection procedure

Explanation	Observations
Initial sample from 1981 to 2013 with COM and cash holdings data	85,129
Less: Utility industries [SIC 49]	(6,095)
Less: Financial institutions [SIC 60-69]	(14,181)
Less: Missing control variables for the baseline regression model	(6,025)
Final sample	-58,828
Danal D. Inductry distribution	

Industry code	Industry	Observations	% distribution
	4		
1-14	Agriculture & mining	4,334	7.37%
15-17	Building construction	196	0.33%
20-21	Food & Kindred Products	1,548	2.63%
22-23	Textile Mill Products & apparels	811	1.38%
24-27	Lumber, furniture, paper, and printing	2,808	4.77%
28-30	Chemical, petroleum, and rubber & Allied Products	8,255	14.03%
31-34	Metal	3,038	5.16%
35-39	Machinery, electrical, computer equipment	19,404	32.98%
40-48	Railroad, communications and other transportation	3,413	5.80%
50-51	Wholesale goods, building materials	2,584	4.39%
53-59	Store merchandise, auto dealers, home furniture stores	2,021	3.44%
70-79	Business services	7,514	12.77%
80-99	Others	2,902	4.93%
	Total	58,828	100.00%

Variable	Ν	Mean	SD	0.25	Median	0.75
CASH	58,828	0.40	1.03	0.03	0.10	0.33
LN_CASH	58,828	0.24	0.36	0.03	0.10	0.29
CASH/TA	58,828	0.17	0.20	0.03	0.09	0.25
СОМ	58,828	-3.43	2.33	-3.98	-2.78	-2.04
COM_4	58,828	-0.71	1.14	-0.72	-0.30	-0.14
COM_10	58,828	-1.02	1.51	-1.10	-0.47	-0.23
SIZE	58,828	5.40	2.27	3.72	5.33	6.98
MB	58,828	1.89	1.42	1.08	1.43	2.11
CAPX	58,828	0.07	0.07	0.03	0.05	0.09
LEV	58,828	0.21	0.22	0.02	0.15	0.33
R&D	58,828	0.13	0.24	0.00	0.05	0.13
DIV	58,828	0.14	0.40	0.00	0.00	0.20
NWC	58,828	0.08	0.55	-0.02	0.11	0.27
CFO	58,828	-0.03	0.21	-0.03	0.03	0.06
SIGMA	58,828	0.16	0.45	0.02	0.03	0.09
DAC	58,828	0.11	0.13	0.03	0.07	0.14
CCC	58,828	85.31	111.73	33.35	78.88	134.19
FC_SA	58,784	-3.33	0.94	-3.80	-3.27	-2.75
FC_WW	58,699	-0.14	0.32	-0.29	-0.20	-0.11
CG_INST	46,007	0.43	0.30	0.15	0.41	0.67

Table 2

Panel A: Descriptive statistics.

Notes:

RCV

In the descriptive statistics we present the untransformed value of financial statement comparability, while in the correlation and regression analysis we use the decile value of these variables. For example, the mean, median and std. dev. of *COM*, *COM*_4, and *COM*_10 are 0.48, 0.50, 0.25; 0.51, 0.50, 0.27; and 0.51, 0.50, 0.27, respectively, for the decile version of comparability scores. Variable definitions are in the appendix.

Panel B: Correlation matrix (Pearson values).

	CASH	СОМ	COM_4	COM_10	SIZE	MB	CAPX	LEV	R&D	DIV	NWC	CFO	SIGMA	DAC	CCC	FC_SA	CG_INST
CASH	1.00																
СОМ	-0.14	1.00															
COM_4	-0.02	0.60	1.00														
COM_10	-0.01	0.59	0.97	1.00											>		
SIZE	-0.05	0.29	0.33	0.32	1.00									7			
MB	0.27	-0.03	0.14	0.14	0.22	1.00											
CAPX	0.09	0.03	0.01	0.00	0.07	0.13	1.00										
LEV	-0.26	-0.13	-0.31	-0.31	-0.18	-0.40	-0.05	1.00									
R&D	0.54	-0.16	-0.05	-0.05	-0.05	0.29	0.08	-0.14	1.00								
DIV	-0.08	0.18	0.14	0.14	0.20	-0.04	-0.01	-0.02	-0.07	1.00							
NWC	-0.46	0.13	0.09	0.10	-0.05	-0.16	-0.12	0.00	-0.27	0.03	1.00						
CFO	-0.29	0.35	0.29	0.29	0.27	-0.23	-0.02	0.00	-0.48	0.08	0.26	1.00					
SIGMA	0.18	-0.15	-0.02	-0.01	0.12	0.07	-0.08	-0.08	0.13	-0.02	-0.11	-0.09	1.00				
DAC	0.26	-0.19	-0.11	-0.11	-0.16	0.26	0.04	-0.11	0.23	-0.12	-0.14	-0.26	0.04	1.00			
CCC	-0.07	0.06	0.12	0.13	-0.11	-0.04	-0.28	-0.06	0.01	-0.01	0.26	0.06	-0.02	0.01	1.00		
FC_SA	0.19	-0.30	-0.22	-0.22	-0.71	0.17	0.03	-0.13	0.17	-0.24	-0.04	-0.34	-0.03	0.27	0.03	1.00	
CG_INST	0.01	0.26	0.30	0.29	0.64	0.09	-0.03	-0.13	-0.04	0.04	-0.03	0.21	0.12	-0.12	-0.06	-0.49	1.00

Notes:

Bold and italicized coefficients are significant at p<0.001. See appendix for variable definitions.

Table 3

Financial statement comparability and cash holdings.

Panel A: Comparability and cash holdings: Firm fixed effect (FFE) regression results.

This table reports the regression results of the effects of financial statement comparability on corporate cash holdings (test of H1). Our dependent variables are *CASH* (Cash and marketable securities (*CHE*) divided by net assets (AT - CHE)) and LN_CASH (natural logarithm of *CHE/(AT-CHE)*). Columns (1) to (3) report results using *CASH* while columns (4) to (6) report results using *LN_CASH*. Our primary independent variable is financial statement comparability (*COM*) as in equation (7) of the text. The control variables are defined in the Appendix. Robust t-statistics in brackets. *** p<0.01, ** p<0.05, * p<0.10.

	(1)	(2)	(3)	(4)	(5)	(6)
	CASH	CASH	CASH	LN_CASH	LN_CASH	LN_CASH
Variables	Pred. Sign COM	COM_4	COM_10	СОМ	COM_4	COM_10

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COM -0.079*** -0.021*** -0.025*** -0.052*** -0.062*** -0.038*** [-5.09] [-2.77] [-3.04] [-6.10] [-3.16] [-3.36] SIZE -0.020** -0.021** -0.020** -0.010*** -0.011*** -0.010*** [-2.46] [-2.50] [-2.41] [-3.20] [-3.36] [-3.26] MB -0.005 -0.005 -0.005 0.005** 0.006*** 0.006** +[-0.81] [-0.71] [-0.74] [2.43] [2.59] [2.55] CAPX 0.821*** 0.815*** 0.816*** 0.249*** 0.246*** 0.246*** $^+$ [7.45] [7.40] [7.40] [7.96] [7.86] [7.86] -0.236*** -0.397*** LEV -0.397*** -0.396*** -0.237*** -0.236*** [-17.98] [-10.93] [-11.00] [-11.02] [-18.03] [-18.06] 0.060*** R&D 0.235*** 0.236*** 0.236*** 0.060*** 0.060*** +[7.60] [7.60] [7.60] [8.42] [8.42] [8.42] 0.008*** DIV 0.023*** 0.022*** 0.023*** 0.007*** 0.007*** [3.50] [3.89] [3.79] [3.86] [3.33] [3.38] NWC -0.347*** -0.347*** -0.347*** -0.076*** -0.076*** -0.076*** [-5.49] [-5.49] [-5.49] [-4.96] [-4.97] [-4.96] 0.428*** CFO 0.429*** 0.426*** 0.130*** 0.128*** 0.129*** +[8.24] [8.22] [8.79] [8.33] [8.62] [8.66] 0.004* 0.004 0.004* 0.001 0.001* 0.001* SIGMA +[1.75] [1.62] [1.75] [1.55] [1.78] [1.78] 0.360*** 0.359*** 0.361*** 0.192*** 0.194*** 0.193*** |DAC|+[9.29] [9.33] [9.31] [16.24] [16.14] [16.21] -0.070*** -0.070*** CCC -0.070*** -0.025*** -0.026*** -0.026*** [-5.31] [-5.32] [-5.31] [-7.27] [-7.29] [-7.28] ? 0.555*** 0.547*** 0.549*** 0.310*** 0.306*** 0.307*** Constant [14.07] [13.99] [20.94] [20.98] [14.02] [21.17] Firm FE Yes Yes Yes Yes Yes Yes Year FE Yes Yes Yes Yes Yes Yes 58,828 58,828 58,828 Observations 58,828 58,828 58,828 0.75 Adj. R-squared 0.75 0.75 0.78 0.78 0.78

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Panel B: Financial statement comparability and cash holdings: OLS regression results.

This table reports the OLS regression results of the effects of financial statement comparability on corporate cash holdings (test of H1). Columns (1) to (3) report results using *CASH* while columns (4) to (6) report results using *LN_CASH*. The control variables are defined in the Appendix. Robust t-statistics in brackets. *** p<0.01, ** p<0.05, * p<0.10.

		(1)	(2)	(3)	(4)	(5)	(6)	
		CASH	CASH	CASH	LN_CASH	LN_CASH	LN_CASH	
VARIABLES	Pred. Sign	COM	COM_4	COM_10	COM	COM_4	COM_10	
СОМ	-	-0.078***	-0.070***	-0.076***	-0.061***	-0.047***	-0.050***	
		[-3.83]	[-3.11]	[-3.20]	[-7.49]	[-5.34]	[-5.27]	
								20
								55

SIZE	-	-0.051***	-0.051***	-0.051***	-0.021***	-0.021***	-0.021***
		[-13.97]	[-14.01]	[-13.95]	[-14.31]	[-14.28]	[-14.19]
MB	+	0.015*	0.016*	0.016*	0.017***	0.018***	0.018***
		[1.70]	[1.78]	[1.77]	[6.30]	[6.51]	[6.50]
CAPX	+	0.788***	0.786***	0.786***	0.290***	0.288***	0.288***
•••••	·	[6.42]	[6.40]	[6.40]	[7.46]	[7.38]	[7.38]
LEV	-	-0.822***	-0 824***	-0.825***	-0 454***	-0 454***	-0 454***
		[-22 67]	[-23.04]	[-23.05]	[-34 17]	[-34 55]	[-34 60]
R&D	_	0.441***	0 4/1***	0 441***	0 120***	0 129***	0 129***
Rab	I	[15 81]	[15 81]	[15 81]	[20 44]	[20,44]	[20 44]
DIV		0.016*	0.016*	0.016*	0.01/***	0.015***	0.01/***
DIV	-	-0.010	-0.010	-0.010 [1 65]	[2, 40]	[2 6 4]	-0.014
NWC		[-1.06]	[-1.00]	[-1.03]	[-3.49]	[-3.04]	[-3.00]
INWC	-	-0.033	-0.033	-0.033	-0.133	-0.133	-0.133
CEO		[-0.24]	[-0.24]	[-0.24]	[-5.99]	[-3.99]	[-3.99]
CFO	+	0.390***	0.391***	0.393***	0.093***	0.092***	0.093***
		[6.59]	[6.56]	[6.59]	[5.40]	[5.34]	[5.42]
SIGMA	+	0.015***	0.016***	0.016***	0.004***	0.005***	0.005***
		[5.29]	[5.43]	[5.42]	[5.70]	[6.08]	[6.07]
DAC	+	0.628***	0.628***	0.627***	0.332***	0.333***	0.333***
		[11.64]	[11.65]	[11.65]	[20.64]	[20.80]	[20.79]
CCC	-	-0.027*	-0.027*	-0.027*	-0.017***	-0.017***	-0.017***
		[-1.96]	[-1.96]	[-1.95]	[-4.19]	[-4.20]	[-4.19]
Constant	?	1.346**	1.340**	1.339**	0.657***	0.651***	0.650***
		[2.28]	[2.26]	[2.26]	[2.93]	[2.87]	[2.87]
Industry FE		Yes	Yes	Yes	Yes	Yes	Yes
Year FE		Yes	Yes	Ýes	Yes	Yes	Yes
Observations		58,828	58,828	58,828	58,828	58,828	58,828
Adj. R-squared		0.48	0.48	0.48	0.49	0.49	0.49

Table 4

Mediation tests on the relation between financial statement comparability and cash holdings.

This table presents firm fixed effect regression results of the mediation tests. Panel A presents the results when financial reporting quality (/DAC) is the mediator, and Panel C presents results when institutional shareholdings (CG_{INST}) is the mediator. In each panel, Model (1) is the regression model without the mediator (i.e., the baseline regression excluding the mediator); Model (2) is the regression model with the mediator. For brevity, this table presents only the regression coefficients for COM and the mediators. Following the suggestion of Wood et al. (2008), Sobel Z-test statistics are presented to show the significance of the partial mediation effect. The dependent variable is CASH (Cash and marketable securities (CHE) divided by net assets (AT - CHE)). Our primary independent variable is financial statement comparability (COM) as in equation (7) of the text. The control variables are defined in the Appendix. *** p<0.01, ** p<0.05, * p<0.10.

Section I: FC_SA as the proxy for financing constra	ints	6	
	(1)	(2)	(3)
Dep. Var. = CASH	СОМ	COM_4	COM_10
Model (1) (without the mediator)			
СОМ	-0.079***	-0.052***	-0.061***
	[-6.07]	[-3.90]	[-4.40]
Other controls	Yes	Yes	Yes
Firm and Year FE	Yes	Yes	Yes
Observations	58,784	58,784	58,784
Adj. R-squared	0.75	0.75	0.75
Model (2) (with the mediator)			
СОМ	-0.083***	-0.053***	-0.063***
	[-6.37]	[-4.00]	[-4.54]
FC_SA	-0.117***	-0.113***	-0.113***
	[-6.48]	[6.26]	[6.29]
Other controls	Yes	Yes	Yes
Firm and Year FE	Yes	Yes	Yes
Observations	58,784	58,784	58,784
Adj. R-squared	0.75	0.75	0.75
Direct effect	-0.083***	-0.053***	-0.063***
Indirect effect	0.004***	0.001***	0.002***
Total effect	-0.079***	-0.052***	-0.061***
Sobel Z	0.004***	0.001***	0.002***
(p-value) of Sobel Z	0.000	0.000	0.000

Panel A: Financing constraints as the mediator Section I: *FC_SA* as the proxy for financing constraints

	(1)	(2)	(3)
Dep. Var. = CASH	COM	COM_4	COM_10
Model (1) (without the mediator)			
СОМ	-0.076***	-0.046***	-0.056***
	[-5.88]	[-3.58]	[-4.11]
Other controls	Yes	Yes	Yes
Firm and Year FE	Yes	Yes	Yes
Observations	58,699	58,699	58,699
Adj. R-squared	0.75	0.75	0.75
Model (2) (with the mediator)			
СОМ	-0.074***	-0.046***	-0.056***
	[-6.37]	[-3.56]	[-4.09]
FC_WW	0.017**	0.019**	0.019**
	[2.07]	[2.37]	[2.37]
Other controls	Yes	Yes	Yes
Firm and Year FE	Yes	Yes	Yes
Observations	58,699	58,699	58,699
Adj. R-squared	0.75	0.75	0.75
Direct effect	-0.074***	-0.046***	-0.056***
Indirect effect	-0.002***	-0.000	-0.000
Total effect	-0.076***	-0.046***	-0.056***
Sobel Z	-0.002**	-0.000	0.000
(p-value) of Sobel Z	0.041	0.138	0.142

Section II: FC_WW as the proxy for financing constraints

Panel B: Financial reporting quality as the mediator

-

	(1)	(2)	(3)
Dep. Var. = CASH	COM	COM_4	COM_10
Model (1) (without the mediator)			
СОМ	-0.090***	-0.063***	-0.074***
	[-6.90]	[-4.75]	[-5.28]
Other controls	Yes	Yes	Yes
Firm and Year FE	Yes	Yes	Yes
Observations	58,828	58,828	58,828
Adj. R-squared	0.75	0.75	0.75
Model (2) (with the mediator)			
СОМ	-0.079***	-0.052***	-0.062***
	[-6.08]	[-3.92]	[-4.42]
DAC	0.359***	0.361***	0.387***
	[17.55]	[17.64]	[17.65]
Other controls	Yes	Yes	Yes
Firm and Year FE	Yes	Yes	Yes
Observations	58,828	58,828	58,828
Adj. R-squared	0.75	0.75	0.75
Direct effect	-0.079***	-0.052***	-0.062***
Indirect effect	-0.011***	-0.011***	-0.012***
Total effect	-0.090***	-0.063***	-0.074***
Sobel Z	-0.011***	-0.011***	-0.012***
(p-value) of Sobel Z	0.000	0.000	0.000

	(1)	(2)	(3)
Dep. Var. = CASH	COM	COM_4	COM_10
Model (1) (without the mediator)			
СОМ	-0.071***	-0.045***	-0.053***
	[-5.06]	[-3.20]	[-3.56]
Other controls	Yes	Yes	Yes
Firm and Year FE	Yes	Yes	Yes
Observations	46,007	46,007	46,007
Adj. R-squared	0.78	0.78	0.78
Model (2) (with the mediator)			
СОМ	-0.073***	-0.046***	-0.055***
	[-6.08]	[-3.29]	[-3.66]
CG_INST	0.058**	0.055**	0.055**
	[2.47]	[2.34]	[2.36]
Other controls	Yes	Yes	Yes
Firm and Year FE	Yes	Yes	Yes
Observations	46,007	46,007	46,007
Adj. R-squared	0.78	0.78	0.78
Direct effect	-0.073***	-0.046***	-0.055***
Indirect effect	0.002**	0.001**	0.001**
Total effect	-0.071***	-0.045***	-0.054***
Sobel Z	-0.002**	-0.001**	-0.001**
(p-value) of Sobel Z	0.016	0.024	0.023

Panel C: Corporate governance (CG_INST) as the mediator

-0. -0.0 -0.0 -0.0 -0.0

Table 5

Panel A: Alternative measure of cash holdings

This table reports the firm fixed effect regression results of the effects of financial statement comparability on corporate cash holdings using *CASH/TA* (Cash and marketable securities (*CHE*) divided by total assets (*AT*)) as the dependent variable. The primary independent variable is financial statement comparability (*COM*) as in equation (7) of the text. The control variables are defined in the Appendix. Robust t-statistics in brackets. *** p<0.01, ** p<0.05, * p<0.10.

	(1)	(2)	(3)
Dep. Var. =	CASH/TA	CASH/TA	CASH/TA
СОМ	-0.024***	-	-
	[-6.43]		
COM_4		-0.013***	
	-	[-3.41]	
COM_10			-0.015***
	-	-	[-3.54]
Constant	0.224***	0.221***	0.221***
	[26.14]	[25.83]	[25.88]
Other controls	Yes	Yes	Yes
Firm FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	58,828	58,828	58,828
Adj. R-squared	0.77	0.77	0.77
0			

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Panel B: Omitted variable bias test

This table reports the firm fixed effect regression results of the effects of financial statement comparability on corporate cash holdings incorporating additional control variables to mitigate the omitted variable bias. The dependent variables are CASH (Cash and marketable securities (*CHE*) divided by net assets (AT - CHE)) in columns (1) to (6), and LN_CASH (natural logarithm of *CHE/(AT-CHE)*) in columns (7) to (12). The primary independent variable is financial statement comparability (*COM*) as in equation (7) of the text. *CG_INST* is the percentage of shares held by institutions retrieved from Thomas Ruter's F13 File. *CUST_CON* is an indicator variable coded 1 if a supplier discloses at least one corporate customer that accounts for at least 10% of its annual revenues and zero otherwise. *RE/TE* is life cycle proxy (DeAngelo et al., 2006), measured as retained earning scaled by total equity. *NBS* is natural log of number of business segments. *TAX_COST* is the tax cost of repatriating earnings, which is computed by first subtracting foreign taxes paid from the product of a firm's foreign pre-tax income and U.S. statutory tax rates. Then the maximum of this difference or zero is scaled by total firm assets (Foley et al., 2007). *VEGA* indicates CEO risk taking incentives (Coles et al., 2006; Liu and Mauer, 2007). Other variables are defined in the Appendix. Robust t-statistics in brackets. *** p<0.01, ** p<0.05, * p<0.10.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
Dep. Var. =	CASH	CASH	CASH	CASH	CASH	CASH	LN_CASH	LN_CASH	LN_CASH	LN_CASH	LN_CASH	LN_CASH
СОМ	-0.074*** [-4.31]	-0.119*** [-3.62]	-	-	-	-	-0.037*** [-5.32]	-0.055***	-	-	-	-
COM 4	-	-	-0.048**	-0.119***	-	_	[0.04]	-	-0.020***	-0.031***	-	-
			[-2.45]	[-3.62]					[-2.75]	[-2.66]		
COM_10	-	-	-	-	-0.057**	- 0.086***	-	-	-	-	-0.024***	-0.081***
					[-2.60]	[-2.65]					[-2.89]	[-4.43]
INST	0.059	0.025	0.057	0.018	0.057	0.019	0.040***	0.014	0.039***	0.011	0.039***	0.011
	[1.53]	[0.35]	[1.46]	[0.25]	[1.47]	[0.26]	[2.76]	[0.53]	[2.65]	[0.41]	[2.67]	[0.43]
CUST_CON	-0.001	0.044**	-0.001	0.043**	-0.001	0.044**	0.004	0.021***	0.004	0.020***	0.004	0.021***
	[-0.04]	[2.37]	[-0.02]	[2.35]	[-0.02]	[2.35]	[1.03]	[3.17]	[1.05]	[3.14]	[1.05]	[3.15]
RE/TE	0.001	0.006	0.001	0.006	0.001	0.006	0.000	0.001	0.000	0.001	0.000	0.001
	[0.60]	[1.38]	[0.58]	[1.35]	[0.58]	[1.36]	[0.65]	[0.98]	[0.60]	[0.92]	[0.61]	[0.94]
NBS	-0.003	0.003	-0.003	0.003	-0.003	0.003	-0.001	0.002	-0.001	0.002	-0.001	0.002
	[-1.29]	[1.12]	[-1.28]	[1.08]	[-1.29]	[1.08]	[-1.47]	[1.39]	[-1.45]	[1.33]	[-1.46]	[1.34]
TAX_COST	2.788***	4.206***	2.882***	4.356***	2.876***	4.352***	1.943***	2.678***	1.991***	2.748***	1.988***	2.746***
	[2.68]	[2.93]	[2.76]	[3.04]	[2.76]	[3.04]	[4.97]	[4.63]	[5.08]	[4.75]	[5.07]	[4.75]
VEGA	-	-0.195	-	-0.189	-	-0.184	-	-0.133**	-	-0.130*	-	-0.128*
		[-1.18]		[-1.13]		[-1.10]		[-2.02]		[-1.96]		[-1.93]
Constant	0.497***	0.609***	0.488***	0.588***	0.489***	0.592***	0.295***	0.329***	0.290***	0.329***	0.290***	0.321***

	[11.34]	[4.32]	[11.21]	[4.16]	[11.22]	[4.18]	[17.39]	[6.09]	[17.03]	[6.09]	[17.05]	[5.92]
Other controls	Yes	Yes										
Firm FE	Yes	Yes										
Year FE	Yes	Yes										
Observations	44,152	12,912	44,152	12,912	44,152	12,912	44,152	12,912	44,152	12,912	44,152	12,912
Adj. R-squared	0.78	0.72	0.78	0.72	0.78	0.72	0.80	0.79	0.80	0.79	0.80	0.79
								5			46	

Panel C: Change analysis

Change in comparability and changes in cash holdings

	(1)	(2)	(3)	(4)	(5)	(6)
Den Var =	ACASH	ACASH	ACASH	ALN CASH	ALN CASH	ALN CASH
Dep. Val. –						
ΔCOM	-0.063***	-	-	-0.024***	-	-
	[-5.46]			[-5.41]		
$\triangle COM 4$	-	-0.045***	-	-	-0.014***	-
		[-3.36]			[-2.98]	
∆COM 10	-	-	-0.066***	-		-0.022***
			[-4.11]			[-4.18]
$\Delta SIZE$	0.036***	0.036***	0.036***	0.010**	0.010**	0.010***
	[3.02]	[3.01]	[3.06]	[2.55]	[2.51]	[2.59]
ΔMB	-0.007	-0.006	-0.007	0.002	0.002	0.002
	[-0.93]	[-0.90]	[-0.94]	[0.81]	[0.86]	[0.80]
$\Delta CAPX$	0.321***	0.320***	0.321***	0.077***	0.077***	0.078***
	[3.56]	[3.55]	[3.56]	[3.11]	[3.10]	[3.11]
ΔLEV	-0.051	-0.051	-0.051	-0.076***	-0.077***	-0.077***
	[-1.40]	[-1.42]	[-1.42]	[-5.99]	[-6.01]	[-6.01]
$\Delta R \& D$	0.074***	0.074***	0.074***	0.019***	0.019***	0.019***
	[3.03]	[3.02]	[3.03]	[3.53]	[3.52]	[3.53]
ΔDIV	0.000	0.000	0.000	-0.001	-0.001	-0.001
	[0.00]	[0.06]	[0.09]	[-0.72]	[-0.70]	[-0.65]
ΔNWC	-0.199***	-0.199***	-0.199***	-0.046***	-0.046***	-0.046***
	[-3.70]	[-3.71]	[-3.70]	[-3.64]	[-3.65]	[-3.64]
ΔCFO	0.255***	0.254***	0.256***	0.093***	0.092***	0.093***
	[7.70]	[7.62]	[7.65]	[9.06]	[8.97]	[9.02]
$\Delta SIGMA$	0.002	0.002	0.002	0.000	0.000	0.000
	[0.91]	[0.88]	[0.88]	[0.50]	[0.45]	[0.45]
Δ/DAC	0.260***	0.260***	0.259***	0.122***	0.122***	0.122***
	[8.63]	[8.64]	[8.62]	[12.12]	[12.14]	[12.12]
ΔCCC	-0.077***	-0.077***	-0.077***	-0.031***	-0.031***	-0.031***
	[-7.06]	[-7.07]	[-7.07]	[-9.94]	[-9.95]	[-9.95]
Firm FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Constant	0.002	0.002	0.002	0.005	0.005	0.005
	[0.40]	[0.44]	[0.48]	[1.44]	[1.47]	[1.49]
Observations	50.361	50.361	50.361	50.361	50.361	50.361
Adj. R-squared	0.12	0.12	0.12	0.08	0.08	0.08

Panel D: Endogeneity test

This table reports the regression results of the effects of financial statement comparability on corporate cash holdings. The dependent variable is CASH (Cash and marketable securities (*CHE*) divided by net assets (AT - CHE)). The primary independent variable is financial statement comparability (COM) as in equation (7) of the text. Other variables are defined in the Appendix. Robust t-statistics in brackets. *** p<0.01, ** p<0.05, * p<0.10.

(1) (2) (3) (4) (5) (6)	6)

	CASH	CASH	CASH	CASH	CASH	CASH
Dep. Var. =	СОМ	COM_4	СОМ	COM_4	СОМ	COM_4
СОМ	-0.341**	-0.483**	-	-	-0.080**	-0.077**
	[-2.08]	[-1.97]			[-2.02]	[-2.32]
COM_{t-1}	-	-	-0.043***	-0.032*	-	-
			[-2.84]	[-1.85]		
$CASH_{t-1}$	-	-	-	-	0.673***	0.681***
					[10.94]	[12.84]
SIZE	-0.027***	-0.031***	-0.019**	-0.026***	-0.006	-0.011***
	[-4.37]	[-3.30]	[-2.20]	[-2.88]	[-0.21]	[-3.45]
MB	0.009	0.070***	0.000	0.010	0.087	0.002
	[0.68]	[7.24]	[0.06]	[1.35]	[1.29]	[0.43]
CAPX	0.967***	0.867***	0.561***	0.672***	-0.001	-0.080
	[7.67]	[7.06]	[4.89]	[5.72]	[-0.01]	[-1.01]
LEV	-0.057***	-0.056***	-0.362***	-0.433***	-0.051	-0.240***
	[-12.95]	[-8.86]	[-9.92]	[-11.54]	[-0.33]	[-8.14]
R&D	0.488***	0.484***	0.226***	0.978***	0.103***	0.103***
	[17.61]	[17.01]	[5.87]	[3.57]	[3.46]	[3.81]
DIV	0.011	0.024	0.019***	0.014**	-0.001	-0.001
	[0.69]	[1.36]	[3.09]	[2.38]	[-0.02]	[-0.41]
NWC	-0.606***	-0.603***	-0.350***	-0.366***	-0.184	-0.306***
	[-6.21]	[-6.19]	[-5.01]	[-4.91]	[-0.79]	[-7.15]
CFO	0.496***	0.615***	0.344***	0.071	0.252**	0.265***
	[7.16]	[7.13]	[7.00]	[1.41]	[2.26]	[8.41]
SIGMA	0.014***	0.017***	0.003*	0.002	0.022**	0.003**
	[4.19]	[5.22]	[1.76]	[1.08]	[2.55]	[2.30]
DAC	0.772***	0.654***	0.387***	0.377***	-0.152	0.278***
	[11.82]	[11.43]	[9.91]	[9.35]	[-0.32]	[7.71]
CCC	-0.001	0.004	-0.071***	-0.068***	-0.022	-0.018***
	[-0.08]	[0.33]	[-4.79]	[-4.42]	[-0.93]	[-2.83]
Constant	0.353***	0.326***	0.547***	0.648***	-1.608	-1.103
	[4.93]	[5.31]	[13.45]	[15.14]	[-0.41]	[-0.49]
Industry FE	Yes	Yes	No	No	No	No
Firm FE	No	No	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	57,695	57,695	50,361	50,361	50,361	50,361
Adj. R-squared	0.44	0.44	0.77	0.77	0.78	0.78
Cragg-Donald Wald	01.072					
F statistic	81.073	51.570	-	-	-	-
AR(1) (p-value)					0.000	0.000
AR(1) (p-value)					0.375	0.607
Hansen (p-value)					0.703	0.452