Corporate governance, companies' disclosure practices, and market transparency: A cross country study

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Abstract

We examine the link between corporate governance, companies' disclosure practices and their equity market transparency in a study of more than 5,000 listed companies in 23 countries covering the period 1 January 2003 to 31 December 2008. Our results confirm the belief that better-governed firms make more frequent disclosures to the market. We also find greater disclosure in common law relative to code law countries. However firms with better governance in both code and common law countries make more frequent disclosures. We measure market transparency by the timeliness of prices. In contrast to single country studies, results show, for the 23 countries collectively, better corporate governance is associated with *less* timely share prices. This would suggest that a firm substitutes better corporate governance for transparency. We are thus led to the conclusion that even if information is disclosed more frequently by better-governed firms, it does not necessarily follow that information is reflected in share prices on a timelier basis.

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1. Introduction

Corporate governance (CG) refers to mechanisms used to help resolve agency problems in the firm. They arise from the separation of ownership and control and the fact that contracts, between the "owner" (the principal) and the "controller" (the agent), typically are incomplete in the sense that they do not cover all future possibilities (Hart, 1995). The form of CG differs across firms and countries, and is influenced by the firms' various stakeholders including institutional investors, shareholders, managers and debt holders. It is commonly believed that better-governed firms disclose more information to external parties and are more transparent due to greater monitoring. We would therefore expect better-governed firms to be associated with more frequent and more timely disclosures, other things being equal.

Firm level CG is influenced by overall institutional frameworks in place at the country level, such as the level of shareholder protection and enforcement of legal requirements. In this connection, La Porta et al. (1998) conclude common law countries provide greater investor protection. CG structures in common law countries are expected to be more effective in encouraging corporate disclosure to the equity market, because any failure to disclose information that ought to be disclosed to shareholders is more likely to be detected and penalised. Furthermore, the threat of a penalty being imposed on the firm or its board for non-disclosure may well be reinforced by the behaviour of managers who are concerned about their own reputation. Thus we expect to find higher standards of disclosure and increased timeliness of information flows in countries with greater investor protection.

We examine whether the firm's disclosure policies and the timeliness with which value-relevant information is captured in its stock price are related to the type of investor protection provided in the country in which the firm is domiciled and by its particular governance arrangements. This issue has not been settled by previous, single country studies (for

example, Aman et al., 2011; Beekes and Brown, 2006, hereafter BB06; Beekes et al., 2012; Hass et al., 2014; Lim et al., 2014). The relative influence of CG on firms' disclosure and transparency across countries is an important question given the inter-connectedness of financial markets and the renewed emphasis on the need for good CG, particularly following the global financial crisis (OECD, 2009).

We contribute to a growing literature on CG and disclosure in the following ways. First, we conduct our study on a cross country basis over a number of years, providing the ability to jointly consider the role of the individual firm's CG, and shareholders' rights and the threat of litigation in the firm's home country. We thereby add to the literature regarding the relevance of CG at the country level, litigation pressures and the role of investor protection. Second, we build on prior work (Beekes and Brown, 2006; Aman et al., 2011; Beekes et al., 2012, 2015) by expanding their models and estimating the association between CG, and the frequency and timeliness of disclosure in an international setting. By not focussing on a particular year, country or industry, our results should be more generalizable.

We investigate the relationship between investor protection, 'better' CG and three main measures of informativeness: the number of documents released to the stock exchange (as in BB06); the timeliness of those disclosures (Beekes and Brown, 2007); and the speed with which value relevant information is incorporated into share prices (BB06).[2] The first two measures focus on the information flows from the firm to the share market and exclude any other news sources. The third measure reflects the share market's response to value-relevant information from all sources.[3] We study 23 OECD countries, incorporating a range of CG

[2] By 'better' CG we are referring to the firm achieving a higher rating according to an identified measure of CG.
[3] Our measures examine the timeliness of information flows (in terms of company releases and share prices). This is distinct from asymmetric earnings timeliness in the Basu (1997) sense. A study of a sample of Australian firms (Brown et al., 2011b) finds little evidence that the BB06 and Basu (1997) measures of timeliness are empirically related.

practices and alternative investor protection regimes, for which we have CG data from Institutional Shareholder Services (ISS). Our CG dataset includes the period 1 January 2003 to 31 December 2008 and encompasses a variety of measures which either are important for effective CG according to prior research or have been included in CG codes. The size and composition of the board of directors and its committees are examples of these measures.

Our results show CG does make a difference: better CG is associated with a greater number of disclosures, which are released to the stock market on a more timely basis relative to releases by other firms. Also, where there are higher levels of investor protection, better CG is associated with increased timeliness of bad news documents. However, in relation to the timeliness of price discovery, we find better CG is associated with *less* timely price discovery.

Our paper is related to Yu (2011), who investigates share price informativeness by evaluating stock return variation and earnings response coefficients for 22 countries for the period 2002 to 2005. Yu finds there is greater informativeness for better-governed firms, irrespective of the legal origin of the country. In contrast, we find greater overall disclosure levels are *not* matched by faster price discovery for better-governed firms. Additional analysis suggests this could be related to information processing issues: better-governed firms that release fewer documents to the stock exchange are associated with more timely price discovery in countries with greater investor protection. Compared with Yu (2011), we use a more comprehensive measure of CG, incorporating 24 specific governance provisions (discussed in more detail in section 3.1), and we include all industrial sectors thereby increasing the generalizability of results.[4] We use more direct measures of informativeness, focusing on the frequency and

[4] Yu (2011) uses seven of the ISS CG characteristics in her measure of CG as shown in Appendix Table A.2, panel B. Our measure, based upon the items included in Chung et al. (2010), is more comprehensive and

timing of the firm's disclosures, and the speed of price discovery in relation to information ultimately reflected in prices when the year's financial results are released. We believe these measures are key indicators of the firm's equity market transparency.

The remainder of our paper is organised as follows. Section 2 develops the hypotheses; Sections 3 and 4 summarise the data and research methods; Section 5 contains the results from the documents and price analysis; Section 6 summarises robustness testing; Section 7 deals with the possibility of endogeneity; and Section 8 concludes the paper.

2. Related Literature and Hypotheses

2.1 The Principal-Agent Relationship

Principal-agent theory examines the relationship between principals (e.g., a firm's owners or shareholders) and agents (e.g., the firm's CEO). The agent is assumed to be self-interested and act opportunistically at the expense of the principal's best interests (Hart, 1995). A problem inherent in the principal-agent relationship is that the principal cannot observe all of the agent's actions. In other words, some of the agent's actions are hidden from the principal, resulting in information asymmetry in the corporate setting between shareholders and managers. Given this the manager may pursue their own interest at the expense of shareholders' wealth, such as by consuming excessive perquisites, or by empire building. The principal can restrict this divergent behaviour by providing the manager with incentives (e.g., share options) and incurring monitoring costs (such as periodic audit of the firm's financial statements by an external auditor). On the other hand the agent may also incur some bonding costs to reassure the principal of their good intentions.

specifically focusses on items which could influence firm transparency. In addition, Yu excludes regulated industries from her analysis. We return to these issues in sensitivity analysis.

The rights of the respective parties in the relationship may be specified in a contract between them. Because such a contract inevitably is incomplete (Hart, 1995) and the enforcement of a contract is costly anyway (Fama and Jensen, 1983a; 1983b), CG has a role to play: it provides a framework for resolving matters not fully specified in the contract. As one example, the board of directors can play a role in "monitor[ing] and ratify[ing] important decisions" of the manager (Fama and Jensen, 1983a, p. 311).

2.2 What is Corporate Governance?

The OECD principles define CG as the "set of relationships between a company's management, its board, its shareholders and other stakeholders. CG also provides the structure through which the objectives of the company are set, and the means of attaining those objectives and monitoring performance are determined" (OECD, 2004, p.11). While there is no clearly defined theory of CG (Larcker et al., 2007), there are some widely agreed elements to good CG, such as the protection of shareholder rights, the equitable treatment of shareholders, good disclosure practices and firm transparency, and an effective board (OECD, 2004). In practice, CG is shaped by the various stakeholders of the firm, such as controlling shareholders (e.g. individuals, family members, or other companies with substantial shareholdings or cross holdings) who may exert substantial influence on the firm's decision making. A second example is institutional investors, who have been shown to influence firms' governance structures (Wu, 2004). The existence of external creditors provides additional monitoring of the firm (Hart, 1995).

The overall legal and institutional framework of a country influences CG and investor protection. Investor protection is important as it constrains the ability of controlling shareholders to expropriate the rights of minority shareholders and creditors (La Porta et al., 2000). Shareholder rights are protected by the legal system, and these laws and the strength

of their enforcement are important aspects of CG (La Porta et al., 1998). However, the quality of a country's legal protection of minority shareholders and the enforcement of the law differ across the world (La Porta et al., 1998). In code law countries, laws are made by legislation, although when interpreting the law "judges are not supposed to go beyond the statutes and apply … fairness opinions," (La Porta et al, 2000, p.9). Therefore circumventing the rules to expropriate the rights of investors may be feasible in a code law country if the method used is not strictly prohibited. In common law countries, legal rules are based upon general principles and fairness, and consequently they result in greater investor protection. There is also greater litigation risk in common law countries because it is more likely that disclosure requirements will be enforced (La Porta et al., 1998); managers therefore have greater incentives to meet the disclosure needs of investors (Hung, 2001). Countries with strong protection of minority investors tend to have more highly developed stock markets, better CG and higher firm valuation (La Porta et al., 2000; 2002). Agency problems are more prevalent in weak investor protection environments as dominant shareholders can more easily expropriate benefits from minority shareholders (La Porta et al., 2002).

The Anglo-Saxon model of CG, typical in common law countries, highlights the interests and rights of shareholders. In contrast the stakeholder model of CG, typical in code law countries, involves major contracting parties (banks, customers, suppliers) being represented on the boards of individual firms and also shareholdings tend to be concentrated (e.g., among banks). These close relationships between the firm's managers and its major stakeholders are likely to resolve many of the problems of information asymmetry and reduce the free rider issue which is typical when there is dispersed ownership, as in the Anglo-Saxon model of CG. These differences are likely to impact on firms' disclosure policies and overall transparency, as discussed below.

2.3 The Role of Disclosure

Theory suggests the use of timely and transparent information flows to the firm's shareholders on a regular basis reduces information asymmetry (Jensen and Meckling, 1976; Bushman, Piotroski and Smith, 2004) and improves the ability of shareholders to monitor management's activities (Hermalin and Weisbach, 2012). It also facilitates signalling a firm's quality to current and potential investors (Akerlof, 1970). Disclosure can provide reassurance to investors, resulting in benefits such as a reduced cost of equity capital (Botosan, 1997; Sengupta and Zhang, 2015) or lower cost of debt (Sengupta, 1998). In addition, firms which disclose more information may experience an increase in analyst following due to the lower information processing costs, leading to an increase in the stock's liquidity (Healy et al., 1999). Therefore firms have incentives for disclosure irrespective of any market regulation that requires it.

There are of course limits. Hermalin and Weisbach (2012) show additional disclosure is not always optimal for a firm and may lead to additional agency problems; for example, monitoring by shareholders made possible through additional disclosures may be accompanied by additional compensation to managers if management has bargaining power in the relationship. Also disclosure can be costly to the firm; it can reveal information which could be detrimental to the firm's competitive position (Verrecchia, 1983) or managers may reveal some private information which they would prefer for opportunistic reasons to keep private (Kothari et al., 2009).

The differing models of CG (discussed in section 2.2) have implications for a firm's disclosure policies and the timeliness of information flows; higher levels of information asymmetry in the Anglo-Saxon model of CG imply the need for greater disclosure to keep

investors informed. However, due to the close relationships in a stakeholder model of CG, it is possible that even if fewer disclosures are made, information is revealed on a timely basis to stakeholders via other mechanisms.

2.4 Corporate Governance Codes and International Disclosure Standards

Many CG codes focus on transparency and disclosure.[5] The OECD principles of CG (2004), which are an international guide for good governance practice, specifically mention firm transparency and disclosure as a means to "discipline market participants and to promote accountability" (OECD, 2004, p.30). The OECD principles state:

> *The corporate governance framework should ensure that timely and accurate disclosure is made on all material matters regarding the corporation, including the financial situation, performance, ownership and governance of the company (OECD, 2004, p.22) [Emphasis added].*

These sentiments are echoed in the International CG Network's Global CG principles (International CG Network, 2009, p. 21). Individual country CG codes and guidelines have often originated as a response to major corporate failures or scandals which have involved a lack of transparency or poor management of companies (for example, Maxwell and the Cadbury Code in the UK and Enron, Worldcom and Sarbanes-Oxley in the USA, to name but a few examples) so their focus on disclosure is understandable.

CG guidelines often mention the need for corporate disclosures to be timely, accurate *and* balanced, and accessible to *all* investors. Examples of this exist for individual country CG codes with code and common law origins. For example, Principle 5 of the Australian Stock Exchange Corporate Governance Council's Principles of Good Governance (2003; p. 35) states:

[5] For example the Belgium CG Code states: "disclosure is essential for CG and crucial to allow effective outside monitoring," Belgian Corporate Governance Committee (2009, p.8).

> *...the company must put in place mechanisms designed to ensure ... [that] all investors have equal and timely access to material information concerning the company – including its financial situation, performance, ownership and governance [and] company announcements are factual and presented in a clear and balanced way. "Balance" requires disclosure of both positive and negative information.[Emphasis added]*

In Japan, the Tokyo Stock Exchange's CG principle 4 states:

> *Corporate governance for listed companies should ensure that timely and accurate disclosure is conducted on all material matters including the financial condition, performance results and ownership distribution… For this purpose, shareholders require periodic, reliable and comparable information sufficient to evaluate the operational conditions of businesses by the management, and further timely disclosure regarding material events taking place during the intervals between periodic disclosures. Such disclosure shall be conducted simultaneously to ensure equal treatment of shareholders (Tokyo Stock Exchange, 2009; p.9). [Emphasis added]*

The International Ongoing Disclosure Standards published by the International Organization of Securities Commissions (IOSCO) emphasises the importance of "reliable, timely and readily accessible information…[which should be] fairly presented, not be misleading or deceptive and contain no material omission of information," (IOSCO, 2002, pp.2, 6). It also states that there should be equal treatment of disclosures and they should be accessible to all stakeholders. These requirements apply to *all* listed entities in *all* jurisdictions irrespective of their regulatory approach to disclosure.[6]

[6] In broad terms there are two approaches to disclosure regulation. In the prescriptive approach (used in the USA and Japan) rules are provided to indicate what must be disclosed (for further details see IOSCO, 2002, p. 7 – 11). In other jurisdictions there is a general obligation to disclose price sensitive information which would materially impact on investors' decision making on an on-going basis.

Taking all of this together, there seems to be a general presumption among those who issue CG codes that improving the governance of firms will result in disclosures that are more frequent and more informative, and firms that are more transparent.

2.5 Corporate Governance and Disclosure Frequency

While there are reasons to predict better CG is associated with greater firm disclosure, following La Porta et al. (2000) there are also reasons to believe the influence of firm specific CG on disclosure varies with the degree of investor protection offered in the country. Doidge et al. (2007) suggest country-level mechanisms may be more important in shaping firm behaviour rather than firm-level choices, because if the legal environment is weak then the firm is less able to credibly commit to better CG. Given the greater incentives for disclosure in common law countries due to greater protection of investor rights and more strict enforcement of laws, combined with greater monitoring in firms with better CG, we predict:

Hypothesis 1: *The firm's CG is positively associated with the frequency of releases of documents to the stock exchange, and the influence of CG is greater in countries with stronger investor protection.*

2.6 Corporate Governance and the Timeliness of Information

In addition to the frequency of disclosures (measured, e.g., by the number of disclosures made over the course of a year), another important characteristic for information to be useful is its timeliness, or how soon it is released. Timely information is emphasised in CG codes and by stock market providers (e.g., Toronto Stock Exchange, 2004) and regulators (OECD, 2004; IOSCO, 2002). We distinguish two types of timeliness: the timeliness of documents (i.e. how soon documents are released to the firm's home exchange) and the timeliness of the incorporation of value-relevant information into the firm's share price. Inevitably the timing

of a news item's release may be opportunistically influenced by the firm's manager (Brown et al., 2012; Aboody and Kasznik, 2000; Kothari et al., 2009). Indeed prior empirical work finds a link between timeliness and good CG. For example, Beekes et al. (2015) find more timely price discovery among better-governed Australian firms.[7] In addition to the firm's CG, litigation pressure (Sengupta, 2004) and a desire to protect exposed parties against potential litigation costs (Skinner, 1994) may influence disclosure timeliness. Given the greater likelihood of litigation and greater enforcement of laws in common law countries, we predict:

Hypothesis 2: *The firm's CG is positively associated with the timeliness of document releases to the stock exchange, and the influence of CG is greater in countries with stronger investor protection.*

Hypothesis 3: *The firm's CG is positively associated with the timeliness of price discovery, and the influence of CG is greater in countries with stronger investor protection.*

Note that, in our models, timeliness is reverse coded such that a negative coefficient, which reduces the predicted value of the dependent variable, is to be interpreted as increasing the timeliness of information; i.e., it takes *less* time to release or incorporate new information.

3. Data

Our primary sample consists of firms with financial years ending between 1 January 2003 and 31 December 2008 that are covered by the ISS USA and Global CG databases.[8] We

[7] However a study of Japanese firms found *less* timely price discovery for better-governed firms (Aman et al., 2011). In further analysis, they find more traditional forms of CG in Japan (bank ownership, close shareholdings and insider membership of the board directors) are associated with more timely price discovery and greater transparency. To incorporate their findings into our research, we include close shareholdings as an explanatory variable.

[8] USA firms are covered by ISS if they appear in any of the following indices: Standard and Poors (S&P) 500, S&P Mid-Cap 400, S&P Small-Cap 600, Russell 3000 (ISS, 2005). This criterion results in more USA firms being covered and a greater diversity in their size. Only larger firms are included in the Global dataset (i.e. non-USA countries); specifically firms listed on the Morgan Stanley Capital International Europe, Australasia, and

exclude South Korea from our sample as ISS sample coverage is limited to 2007 and 2008. Financial and industrial sector data is collected from a variety of sources, detailed below, yielding a sample of 7,541 firm-year observations relating to 2,078 unique firms in 18 countries for the document analysis, and 26,126 firm-year observations relating to 5,859 unique firms in 23 countries for the price analysis (see Table 1).[9] Details of our variables and data sources are shown in Appendix Table A:1.

XX TABLE 1 XX

3.1 Measuring Corporate Governance, Close Ownership and Investor Protection

For individual firm level CG, we use ISS CG data. ISS CG data is recorded in such a way that firms meeting 'minimum standards' of governance (as determined by ISS) are identified and their data compiled on a comparable basis across all countries covered by the dataset. Rather than using the metric calculated by ISS to measure CG, the usefulness of which, for research purposes, has been questioned in the literature (Daines et al., 2010),[10] we use the underlying CG data to generate an index of CG. Following Chung et al., 2010, we use a measure of CG with 24 underlying governance characteristics "which are closely related to financial and operational transparency" (Chung et al., 2010, p.268; see Appendix Table A:2 for details).

Far East (MSCI EAFE) index and for Canada, firms listed on the Toronto Stock Exchange and included in S&P's Composite index (ISS, 2003).

[9]There are 528, 1,051, 1,627, 1,659, 1,565 and 1,111 company-level observations for years 2003 to 2008, respectively, for the documents sample. For the prices sample there are 3,818, 3,882, 4,492, 4,545, 4,279, and 5,110 company-level observations again for years 2003 to 2008.

[10] Daines et al. (2010, 460) find that many commercially available CG ratings including those provided by ISS have little association with future firm performance and other outcomes relevant to shareholders, and any effect found is economically small.

This measure of CG includes an assessment of the functioning of the board of directors and its committees, directors' stock ownership and compensation, and provisions in the firm's charter and bylaws relating to take-over. Items 1 – 12 encompass the role of the board of directors in monitoring managers and how CG aligns management's interests with those of shareholders. Variables are included to indicate the level of independence of the principal board committees (audit, nomination and remuneration). In particular the audit committee oversees the firm's financial reporting and disclosures, and is responsible for monitoring the internal audit and independent external audit process.[11] The existence of such structures should reduce the likelihood of accounting misstatements, and improve overall disclosure and transparency. A measure of board size is included as smaller boards are thought to be more effective (Yermack, 1996).

Other measures relate to directors' share ownership and compensation (items 20 to 23); they are included as they can be used by firms to align managers' interests with those of the shareholders, and to reduce managers' incentives to take actions which would reduce firm value (Core and Larcker, 2002). The guidelines firms use for executives and directors specify minimum levels of ownership and limit the quantity of shares which can be sold, providing some assurance of the effectiveness of the directors' ownership in resolving agency conflict. Finally the measure includes features which may delay or prevent takeover activity if they are not present such as the rights of shareholders to call meetings and to vote on resolutions, the annual election of directors, the absence of a poison pill provision and additional voting requirements for amending bylaws or approving mergers. Individual country differences are taken into account by ISS when scoring items (ISS, 2003; 2005).[12]

[11] The ISS dataset does not identify the external audit firm, which may be a shortcoming.

[12] To determine a firm's CG rating, ISS collects CG data from publicly available company disclosure documents such as the annual report and regulatory filings, and the company CG profile is updated each time shareholders

In the absence of an accepted theory on how to weight the various aspects of CG, we weight all aspects equally. A firm scores one point for each characteristic successfully met and zero otherwise.[13] The total score is divided by 24 and recorded in the form of a percentage score. We measure CG as at 31 December each year for every firm in our sample and this data is matched to the firm's financial data, which is drawn from its financial statements of the same year.

The ISS CG dataset has at least two distinct advantages over other CG datasets. First, it uses a consistent measure of CG across countries thereby enabling us to examine the relation between country characteristics and CG. Second, firms covered in the dataset are generally larger firms, which are likely to be more important in their respective countries and to attract more interest from institutional investors and analysts.

In some countries in our study, concentrated ownership among family members or banks is common place, which can give rise to agency conflicts between controlling shareholders and outside investors (Fan and Wong, 2002). The ISS dataset focuses on the internal CG structures of firms (e.g., board and board committees) and does not specifically examine external factors, such as the firm's ownership. To address this issue we include a measure of close ownership. We collect data on the percentage of closely held shares, from Worldscope (as in Doidge et al., 2007 and Aggarwal et al., 2011). This item includes the shares held by officers, directors and their families, shares held in trust, shares held by another company, shares held by pension/benefit plans and shares held by individuals who own more than 5% of outstanding shares. For Japanese companies this "represents the holdings of the ten largest shareholders" (Thomson Financial, 2009, p.31).

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meet (ISS, 2003). Although ISS has daily files for CG data, our initial analysis confirms many items remain unchanged throughout the year, consistent with periodic updating.

[13] In constructing the CG variables, if an item is missing in the current year, we forward fill it with the previous year's value to maximise the potential number of observations in our sample, as in Aggarwal et al. (2011).

As noted, litigation risk and shareholders' rights in the firm's home country are likely to influence the role of other CG mechanisms. We proxy the level of investor protection and the litigation environment by the legal origin of each country (code law or common law), which is sourced from La Porta et al. (1998).

3.2 Other data sources

Data for company announcements (document releases) are sourced directly from the stock exchanges wherever possible although for some countries alternative sources were used as the data were unavailable from the stock exchange directly, such as Perfect Information for the UK. This data includes all announcements by the firm and provides a comprehensive measure of documents released directly to the market.[14] While such a measure has the limitation that it does not capture intermediate sources such as press items or security analysts' reports, it does have advantages in that it is restricted to the flow of salient information emanating from the firm itself and directed to the equity market, and it is comparable to measures used in BB06, Aman et al. (2011) and Beekes et al. (2012; 2015).

We obtain all share-related data (daily share price, return, number of shares outstanding, market index return) from Datastream except for the USA, for which the University of Chicago's Center for Research in Security Prices (CRSP) is the source. The date of the annual earnings release, which is used in both the documents and prices analysis, comes from a variety of sources (Bloomberg, Reuters, Compustat, Compustat Global, Institutional Brokers' Estimate System (I/B/E/S) and Worldscope) to maximise sample coverage.[15] Firm-level accounting data items (such as total debt, total assets and market capitalisation) are

[14] Examples of disclosures made by companies include information regarding acquisitions and takeovers, security holdings, periodic reports, quarterly earnings or cash flow reports, capital changes, asset acquisitions or disposals and dividend announcements.

[15] We require the release date to be greater than 14 days but less than 180 days from the financial year end date to help ensure data integrity. Where we have more than one source of data for the annual earnings release date for a particular firm year, we take the earliest plausible date.

taken from Worldscope except for the USA, for which Compustat is the source. Information on cross-listing on a US stock exchange comes from the Bank of New York, US Stock exchanges and the Securities and Exchange Commission web sites. Industrial sector is defined by the 10 Global Industrial Sector Classification (GICS) groupings. Country-level variables are sourced from the 2010 annual report on the Economic Freedom of the World (Gwartney et al., 2010), World Development Indicators published by the World Bank, the 2010 Financial Development and Structure database from the World Bank, cultural variables from Hofstede (2015), and the Audit and Enforcement indices of Brown et al. (2014).[16]

4. Method

4.1 Model

The model in Eq. (1) below tests whether a firm's disclosure (or timeliness) differs by country as a function of the country's investor protection environment and the firm's CG, plus a set of variables which may affect information flows. We estimate Eq. (1) using pooled Ordinary Least Squares (OLS) methods with standard errors clustered by firm. For brevity, the industry and year fixed effects are not reported in the tables.

$$\begin{aligned} DepVar_{it} = {} & \beta_0 + \beta_1 CG_{it} + \beta_2 Closeheld_{it} + \beta_3 Common_i + \beta_4 Common_i \cdot CG_{it} \\ & + \beta_5 Common_i \cdot Closeheld_{it} + \beta_6 Crosslist_{it} + \beta_7 Crosslist_{it} \cdot CG_{it} \\ & + \beta_8 Good\ News_{it} + \beta_9 Size_{it} + \beta_{10} Leverage_{it} \\ & + \beta_{11} Volatility_{it} + \boldsymbol{\gamma} \mathbf{X_{it}} + \varepsilon_{it} \end{aligned} \quad (1)$$

[16] All of the country-level variables vary by year except for the Audit and Enforcement Indices from Brown et al. (2014) which are for 2002, 2005 and 2008 (which we match as appropriate to sample years) and the cultural variables from Hofstede (2015), which are time invariant. The 2010 version of the Financial Development and Structure database is available to download from http://econ.worldbank.org/WBSITE/EXTERNAL/EXTDEC/EXTRESEARCH/0,,contentMDK:20696167~pagePK:64214825~piPK:64214943~theSitePK:469382,00.html. Economic Freedom of the World annual reports are available from http://www.freetheworld.com/efw_previous.html and Hofstede's cultural variables are available from http://www.geert-hofstede.com/hofstede_dimensions.php.

where *DepVar* is a measure of document count or timeliness (detailed below), *CG* is a measure of CG as described in section 3.1, *Closeheld* is the percentage of close ownership (by family, directors, companies and other individuals who own over 5 per cent of share capital) as defined by Worldscope, *Common* is a dummy variable equal to one if the firm is domiciled in a country of Common Law legal origin according to La Porta et al. (1998) and zero otherwise, *Crosslist* is a dummy variable equal to one if the firm is cross-listed on a US stock exchange for firms not domiciled in the USA and zero otherwise, and *Common·CG, Common·Closeheld* and *Crosslist·CG* are interaction terms. *Good News* is an indicator variable which takes the value of one when the firm's share price outperforms the firm's domestic market index over the year and zero otherwise, as in BB06,[17] *Size* is measured by the natural log of market capitalisation in USD at the end of the financial year, *Leverage* is measured by year-end total debt divided by total assets, as in Aggarwal et al. (2011), and *Volatility* is calculated from daily log returns in the 90 days prior to the first day of the measurement period for the document count, as in Beekes et al. (2015). $\mathbf{X}$ is a set of eight country-level variables (detailed below), with coefficients represented by $\boldsymbol{\gamma}$, and ε is the error term. *i* indexes the firm and *t* the year. Models are fitted with year and industry sector fixed effects although for convenience they are not shown in Eq. (1). We exclude country indicators from Eq. (1) because it includes other country-level variables, such as *Common*, which do not vary over time.

The primary coefficients of interest are β_1, β_3 and β_4. The coefficient on *CG* (β_1) captures the influence of better-CG for a firm in a low investor protection environment (a code law country). The coefficient on *Common* (β_3) captures the fixed effect of a stronger investor

[17] We acknowledge company events such as mergers, acquisitions, share issues etc. are likely to impact on firm disclosure. However data constraints mean we are unable to control for such events in a consistent format for our sample.

protection regime. The coefficient on *Common·CG* (β_4) captures the incremental effect of better CG in a stronger investor protection regime relative to a better-governed firm in a low protection regime. We also examine the effects of close ownership, reflected in the relevant coefficients (β_2) and (β_5). The coefficient on *Closeheld* (β_2) captures the effect of close ownership for a firm in a low investor protection regime. The coefficient on *Common·Closeheld* (β_5) captures the incremental effect of close ownership in a stronger investor protection regime.

4.2 Dependent Variables

The dependent variables in our study focus on corporate disclosures to equity markets and on share market transparency, which we proxy by the speed of price discovery. To obtain the document count measures we count the number of individual firm disclosure documents filed with the firm's home stock exchange over the 365 days ending on the firm's annual earnings release date, denoted day 0 in the documents analysis, as in BB06 and Beekes et al. (2015). All documents released by the firm are counted regardless of whether another document was released on that day.[18] The dependent variable is the log of the document count (*Ldocs*).

To measure the timeliness of price discovery, we use the BB06 metric adapted to calendar time as in Beekes et al. (2015). The price series is forward-filled (price is brought forward from the previous day if the stock is not traded that day). This metric traces the share price over 365 calendar days ending 14 days after the firm's annual earnings announcement, which

[18] To eliminate the possibility of incomplete or unreliable data, we impose the criterion that the firm must make at least five announcements during the year to be included in the sample. Imposition of this criterion results in deletion of 67 observations from our sample. Subsequent tests showed the results are not sensitive to this criterion.

is the primary statement of the year's financial results.[19] Specifically, the timeliness of prices (T) is given by Eq. (2):

$$T = ((\sum_{t=-365}^{t=-1} |\log(P_0) - \log(P_t)|) - 0.5)/365 \qquad (2)$$

where P_t is the daily market-adjusted share price and the constant -0.5/365 is an adjustment to recognise the flow of information is reflected in returns over the day;[20] day 0 is 14 days after the announcement date .

We compare 'timeliness' across firms; i.e. how quickly the firm reaches the terminal price on day 0. Assume a firm releases some value relevant information before the close of trading on day t = -364 and its share price moves to P_{-364}. Now assume no more firm-specific value relevant information is released in the next 364 days and that the firm's share price tracks the market index until the end of day t = 0. Under these extreme assumptions the speed of adjustment that year is at its maximum level possible and the timeliness metric is near zero (i.e. smaller values of timeliness indicate more timely price discovery). The timeliness measure, *T,* focuses solely on pricing outcomes and pays no attention to the method by which price discovery actually occurs. We also employ a deflated measure of timeliness, '*Tdef*', which BB06 used to adjust for the magnitude of the drift in price. This measure is calculated by deflating the raw timeliness metric in Eq. (2) by one plus the absolute return over the period for which timeliness is calculated.

The dependent variables described so far have limitations. For example, the document count measure does not consider when the documents were released, and the timeliness of prices

[19] Following Beekes and Brown (2006, 2007) we measure the speed with which information is reflected in share price up to the time of the annual earnings announcement. This is an important event and is common to all firms in all countries. During the year leading up to the annual earnings announcement, the market becomes progressively better informed, so much so that, as Ball and Brown (1968) – who pioneered this literature – show, the share price of a US listed company reflects most of the information relating to annual earnings long before its announcement to the market.

[20] If daily log returns were i.i.d. (independently and identically distributed), timeliness (T) would have an expected value of 0.5.

measures are biased due to share price volatility. To address these limitations we build upon Beekes and Brown (2007) and include measures that reflect the timeliness of document disclosures and the timeliness of prices in good and bad times.

We measure the timeliness of documents (*Tdocs*) as follows. The number of documents released each day is cumulated in a daily time series (CD_t) and the timeliness metric is calculated as in Eq. (3). Smaller values are associated with earlier (more timely) announcements to the share market.

$$Tdocs = ((\sum_{t=-365}^{t=-1}(CD_0 - CD_t)/CD_0) - 0.5)/365 \qquad (3)$$

To measure the timeliness of good news documents, we decide whether any news was 'good' or 'bad' based on the share's price change over the announcement period. First, we forward-fill any missing prices (if today's price is missing, bring forward yesterday's). Second, we identify the announcement period for today's documents; we assume it comprises today and tomorrow (to accommodate post-market-closing announcements), or today only if there is another announcement tomorrow. Good news documents are processed as a separate time series (as in Eq. 3). The same procedure is followed for bad news documents. Documents associated with no price change are discarded.

To measure the timeliness of good news in prices (*Tgood*), we first identify the third quartile of the absolute value of the share's raw (unadjusted) daily log returns, r_t, observed within the timeliness "window"; call the third quartile value Q_3. We then create a market-adjusted daily log return series, $(\mathrm{r}_t^*, t = s, \dots, 0)$, where s is the starting day of the series (when timeliness is calculated from returns, $s = -364$ for the annual timeliness measure and ends on day $t = 0$, as described earlier). Next we construct a time series of cumulative good news returns, C_t^G, by setting $C_{-365}^G = 0$ and cumulating the daily market-adjusted log return series $C_t^G = C_{t-1}^G + \mathrm{r}_t^G$

from day -364 to day 0, where $r_t^G = r_t^*$ if $|r_t| > Q_3$; otherwise $r_t^G = 0$. The timeliness of good news in prices (*Tgood*) is then calculated as in Eq. (4), which corresponds to Eq. (2) and Eq. (3):

$$Tgood = ((\sum_{t=-365}^{t=-1}(C_0^G - C_t^G)/C_0^G) - 0.5)/365 \quad (4)$$

The absolute value of the raw (unadjusted) return is used to filter the daily returns in order to mitigate undue noise due to bid-ask bounce and to allow for the fact that more than 2 in 7 prices are forward-filled (because calendar time includes non-trading days such as weekends and public holidays.) We chose the third quartile as the filter based on inspection of the empirical distributions of log returns for an ad hoc sample of about 100 firm-years. The equivalent procedure is adopted for bad news (*Tbad*). The all news measure (*Tall*) is the weighted sum of the good and bad news measures, where the weights sum to one and are $(C_0^G/[C_0^G + C_0^B])$ and $(C_0^B/[C_0^G + C_0^B])$ respectively and C_t^G and C_t^B are the *unsigned* good and bad news cumulative values at the end of day 0.

4.3 Explanatory Variables

The additional firm-level variables in Eq. (1) control for other firm-specific factors that can affect a firm's disclosures and timeliness. *Closeown* controls for the influence of close ownership on disclosure which could provide less incentive for disclosure (Andersen and Reeb, 2003; Chen et al., 2008). *Good News* controls for the positive association observed between disclosure and firm performance (Lang and Lundholm, 1993; Lev and Penman, 1990). Firm size controls for the positive association observed between disclosure and size (Lang and Lundholm, 1993). *Leverage* is included as more highly levered firms are more risky and therefore may be under greater scrutiny (Taylor et al., 2012), and may be prompted to release more information to the market as a consequence. Stock return volatility proxies

for the expectation that greater volatility in performance could result in additional disclosures due to investors' greater demand for information. Cross-listing on a US exchange via level II or level III American Depository Receipts (ADRs) requires additional disclosures to meet the greater reporting requirements of US exchanges (Durand and Tarca, 2005) and prior research has shown cross-listed firms are associated with a better information environment (Lang et al., 2003). Models also control for industry sector as some firms may have less incentive to disclose due to their greater proprietary costs (Core, 2001; Verrecchia, 1983), especially in sectors with large research and development expenditures such as health care or information technology.

We include a number of country-level variables to capture potentially significant differences across sample countries. First, we control for the level of information dissemination, which is proxied by the log of the number of internet users per 100 people (*Internet),* and the level of stock market development which could influence the timeliness of prices and level of disclosure. Following Doidge et al. (2007) and Yu (2011), we use the ratio of stock market capitalisation to Gross Domestic Product [GDP] (*Stkmkcap*) to proxy for stock market development. Higher values of *Stkmkcap* are associated with greater stock market development. We also include a variable capturing the amount of state involvement in a particular country's enterprises and the overall level of state investment (Gwartney, et al., 2010). *Govei* measures the extent to which countries rely on governments and political processes to make decisions, rather than individuals and markets, and is coded such that higher values are associated with greater independence from government. The level of a country's economic development could also affect disclosure and timeliness and we include *log*(GDP) per capita based upon current purchasing power to capture it (Yu, 2011).

The overall quality of financial reporting and audit in a country may influence firm disclosures and transparency. To incorporate this we include the audit and enforcement indices of Brown et al. (2014). *Audit* measures the "quality of the public company auditors' working environment" and *Enforce* measures the "degree of accounting enforcement activity by independent enforcement bodies" Brown et al. (2014, p.1). Higher values of these indices are associated with better audit quality and more effective enforcement practices.

Country culture is likely to affect perceived costs of disclosure, with societies which have a preference to avoid uncertainty focusing on potential costs more than the benefits of disclosure. We use Hofstede's construct *Uncertainty avoidance (UAI),* which refers to the "extent to which people feel uncomfortable with ambiguity or unknown situations", to represent country culture (as in Hope, 2003; Hooghiemstra et al., 2015). Higher values of *UAI* are associated with a preference for avoiding uncertainty. We also include Hofstede's *Individualism* (*IDV*) construct, as in Hooghiemstra et al. (2015). Individualism measures the extent to which people are focussed on individual versus collective interests, with higher values being associated with more individualistic cultures. More individualistic cultures are likely to be associated with greater disclosures and timeliness as managers build a reputation for credible and 'full' disclosure.

5. Results

5.1 Descriptive Statistics

XX TABLE 2 XX

Table 2, panel A presents descriptive statistics for the documents sample (*N*=7,541). Firms in our sample release on average 79 documents per year which equates to roughly one and a half documents per week, although the standard deviation (108) indicates some firms release many more documents than the average. Recall smaller values of timeliness indicate more

timely outcomes and greater transparency. The firm level timeliness of documents (*Tdocs*) ranges from 0.10 to 0.99 with an average of 0.52. On average firms meet 48 per cent of the CG characteristics. Just under half the observations relate to years when firm performance was above the market level (*Good News*). Analysis by country (not tabulated) shows that Australia has the greatest number of firm documents per year on average. Japan has the lowest overall CG rating (*CG* mean = 0.33) perhaps due to the existence of large boards of directors and a lack of independent board membership (Uchida, 2011),[21] whereas Canada has the highest (*CG* mean = 0.68). Just over half the sample observations ($N = 4{,}094$) are from countries with a common law legal origin. Tests of the difference in means for documents and the timeliness of documents (not tabulated) show significantly greater document disclosure levels and more timely disclosures in common law countries ($p < 0.001$). In addition, CG is 'better' on average for firms in common law countries (mean *CG*: 0.56 vs 0.37; $p < 0.001$).

Table 2 panel B presents the descriptive statistics for the prices sample ($N = 26{,}126$). Timeliness, *T*, (Timeliness Deflated, *Tdef*) for the overall sample ranges between 0.03 (0.03) and 0.97 (0.43) with a mean of 0.19 (0.13), after winsorising at the top and bottom 1 per cent. The timeliness of good (*Tgood)*, bad *(Tbad)* and all *(Tall)* news have similar distributions with means of 0.52 for the full sample. Again, the average firm meets about half the 24 governance characteristics measured by *CG*. Analysis by country (not tabulated) shows Norway has the least timely price discovery (*T* mean = 0.22) as measured by the raw timeliness metric. Belgium has the lowest overall CG on average with only 31 per cent of ISS governance criteria being satisfied (*CG* mean = 0.31), whereas Canada has the highest (*CG* mean = 0.68). In the prices sample, 75 per cent of observations ($N = 19{,}642$) relate to

[21] In the documents sample less than 1 per cent of Japanese firms meet the criterion for board independence, (item 2) although 81 per cent meet the criterion for board size (item 7) (details not tabulated). This compares with 34 per cent and 87 per cent respectively for the full sample (see Appendix Table A:2).

countries of common law legal origin. A test for the difference of means (not tabulated) shows CG quality is statistically higher in common law countries (0.58 vs. 0.37; $p < 0.001$).

XX TABLE 3 XX

Variable correlations for the documents sample are shown in Table 3, panel A. *CG* is positively correlated with the log of the number of documents released (*Ldocs*) ($r = 0.43$) and negatively correlated with all measures of the timeliness of documents (*Tdocs, Tdocs Good, Tdocs Bad*). This suggests firms with better CG are associated with greater disclosure and their documents are released in a timelier fashion. Also larger firms are positively associated with document disclosure (*Ldocs)* ($r = 0.21$), but interestingly we find no evidence of a significant relationship between *CG* and *Size*. Common law countries are found to be associated with a greater number of disclosure documents (*Ldocs*) and they tend to be timelier (*Tdocs)*. There is also a positive correlation ($r = 0.67$) between *CG* and *Common*, suggesting better overall individual firm level CG in common law countries.

Table 3, panel B shows the variable correlations for the prices sample. Correlations between all measures of timeliness and CG are positive (i.e. the correlations indicate better CG accompanies less timely price discovery). Larger firms have more timely price discovery as indicated by the negative correlation between firm size (*Size*) and Timeliness. Close ownership *(Closeheld)* is negatively associated with *CG* ($r = -0.30$), indicating substitution effects may be at work between ownership structures and other CG mechanisms. Being a firm in a common law country is positively associated with all measures of timeliness, implying longer term price discovery is less timely (i.e. slower) for firms in common law countries. However, the correlations are relatively low, ranging from 0.05 to 0.16 over the five measures.

5.2 Multivariate Results

XX TABLE 4 XX

Table 4 shows the results for four models estimating the relationship, for all countries combined, between CG and (1) the number of disclosures (documents), (2) the timeliness of those disclosures, and (3, 4) the timeliness of prices. The models are estimated by pooled OLS methods with standard errors clustered by firm. All models include fixed effects for year and GICS sector. All coefficients relate to variables that have been standardized to assist interpretation.[22] In the interests of brevity we do not tabulate the results for the raw timeliness metric (*T*); the results for *T* are comparable to those reported below for timeliness deflated, *Tdef*.

Column 1 shows the results for the quantity of disclosure (*Ldocs*). We find a complementary relation between CG and disclosure in code law countries, as reflected in a positive and significant coefficient on *CG*. Common law countries are associated with greater disclosure as seen in the positive and significant coefficient on *Common*. The coefficient on *Common·CG* is not statistically significant, which suggests CG has comparable effects on disclosure across firms irrespective of the level of investor protection and is inconsistent with hypothesis 1. However the interaction *Common·Closeheld* is negative and significant suggesting close ownership is associated with greater secrecy and fewer disclosures in common law countries, consistent with Andersen and Reeb (2003) and Chen et al. (2008).

[22] The standardization procedure, which is applied to the explanatory variables only, is as follows. Continuous variables are transformed by subtracting the mean and dividing by the standard deviation; indicator variables are transformed by subtracting the mean. For interacted terms, we subtract the mean of the variable created by the interaction of the indicator variable and the standardized continuous variable. The transformations are based on the means and standard deviations of the sub-sample of cases used to fit the particular model. The mean-centring of right hand side variables causes the constant term to be the mean of the dependent variable, so that marginal effects (as reflected in the size of the coefficients) are readily interpreted relative to the average value of the dependent variable. The advantage of this process is that it removes the arbitrary scale of the continuous independent variables and allows easier identification of variables with greater influence on the dependent variable.

The implication is that even with strong investor protection, close ownership can mean fewer disclosures, which could detrimentally affect minority shareholders.

The results for the Timeliness of Documents and the Timeliness of Prices are shown in columns 2 to 4. Recall a negative coefficient indicates more timely disclosures. First, we consider the timeliness of documents. In code law countries, the relation between CG and the timeliness of documents *(Tdocs)* is complementary (i.e. better-governed firms release documents on a more timely basis), as reflected in a negative and significant coefficient on *CG* (column 2). Close ownership in code law countries is also associated with more timely disclosures. Common law countries are less timely in disclosures relative to code law countries. However CG has a larger effect on the timeliness of disclosures in common law than in code law countries. This confirms hypothesis 2, that better CG is associated with more timely document disclosures in common law countries.

Next we turn to the timeliness with which value-relevant information is priced.[23] Column 3 shows the results for Timeliness Deflated (*Tdef*). We find the relation between CG and timeliness of prices is positive in code law countries (i.e. firms substitute between CG quality and timeliness). Firms in common law countries are associated with more timely price discovery, as reflected in a negative and significant coefficient on *Common.* This is not unexpected given the greater likelihood of litigation and enforcement of laws in common law countries. The interaction *Common·CG* is insignificant implying there is no difference in the effect of CG between code and common law countries; i.e. CG and the timeliness of prices are substitutes for firms in both groups of countries, inconsistent with hypothesis 3. A possible explanation for the inconsistency is that market participants have more information available about the performance of better-governed firms which takes longer to process and

[23] The results reported for the timeliness of prices (*Tdef and Tall*) in Table 4 do not control for cross-listing in the USA because firms domiciled in the USA are included in our sample.

be reflected in prices. We examine this issue further in robustness testing (section 6.1). For the timeliness of all news in prices, *Tall* (column 4), which specifically controls for volatility, results are comparable to our previous results for *Tdef*. We find better-governed firms in both code and common law countries have less timely price discovery. However, according to the *Tall* measure, firms that are more closely held are associated with more timely price discovery.

The estimated influence of the control variables is largely as expected: larger firms, more highly levered firms, and firms with more volatile performance release more documents. Larger firms are associated with more timely disclosures and prices. Also cross-listed firms with better CG appear to be quicker in getting documents to the market. Country characteristics also influence disclosures: more individualistic cultures are associated with fewer disclosures, while countries with greater enforcement and less government intervention release more documents. Firms domiciled in countries with a stronger cultural preference for avoiding uncertainty are less timely when releasing documents. We also find a positive association between economic development, as measured by per capita GDP, and the timeliness of documents and prices.

XX TABLE 5 XX

CG Codes and stock market regulators are particularly concerned about the balance between good and bad news disclosures (see for example, Australian Stock Exchange Corporate Governance Council, 2003; Toronto Stock Exchange, 2004). In table 5 we examine the timeliness results according to whether the firm apparently had good or bad news for the market. In columns 1 and 2 we analyse the timeliness of good or bad news for documents. For both good and bad news documents, we find better-governed firms are associated with

more timely disclosures in code law countries. However for bad news documents, we find CG has a larger effect in common law than in code law countries, as reflected in the negative and significant coefficient (-0.012) on *Common·CG*. This indicates a bias towards bad news document timeliness for better-governed firms in common law countries, perhaps due to a greater fear of costly litigation. This result for bad news documents is consistent with hypothesis 2. In order to assess the importance of disclosures made to the market, we weight each day on which at least one document was released by the return on that day[24] and construct return-weighted measures of *Tdocs Good* and *Tdocs Bad.* Our results (not tabulated) show firms in common law countries are more timely in releasing their disclosures irrespective of whether it is for good or bad news, but better governed firms in common law countries are incrementally more timely for bad, but not good news documents.

Examining the timeliness of prices for good and bad news (columns 3 and 4), we find CG has a positive association with both types of news timeliness (i.e. a substitution relation) in code law countries. Close ownership in code law countries is associated with more timely price discovery when there is good news. Also, in common law countries there is more timely price discovery for good, but not bad news. We find insignificant coefficients on the interaction term, *Common·CG,* and also conclude there is no incremental effect of CG in common law countries relative to code law countries. This means comparable effects of CG exist in code and common law countries, i.e. CG also has a substitution relation in common law countries for good and bad news timeliness.

[24] To implement this procedure, all document release dates that are non-trading days are "bumped forward" to the first trading day after that release date. Then, to allow for the possibility a given release was made after the last sale for the day, we use the size of the market-adjusted log return from the close of the previous trading day until the close of the trading day after the release date as the weight, unless a further disclosure was also made on the day after. In the latter case, we use the closing price on the (possibly "bumped") release date, in order to avoid double counting of returns. (Further details are available from the corresponding author.)

In summary, our results show there is a complementary relationship between CG and disclosure frequency for all countries. Results also indicate that the individual firm's CG is important in common law countries in determining the timeliness of releases to the market, particularly for bad news documents, consistent with hypothesis 2. However, results for the timeliness of price discovery are contradictory: CG appears to substitute for the timeliness of price discovery in both code and common law countries, inconsistent with hypothesis 3. These results are however consistent with Ferreira et al. (2011), who find evidence of a substitution relationship between board independence and stock price informativeness. A reason for this result may be that insider trading laws are stricter and enforced more strongly in common law countries, which results in less insider trading (Beny, 2005; Bhattacharya and Daouk, 2002). As a consequence, value-relevant information is slower in coming to the market over the year leading up to the annual earnings announcement.

6. Robustness

We subjected our main results to a number of robustness tests (results not tabulated): (i) excluding cross-listed firms (and USA firms from the prices sample) as they may have differing incentives for disclosure than other firms given the additional requirements of USA exchanges and regulators; (ii) using the natural log of total assets (in USD) for *Size*; (iii) excluding observations from the financials and utilities sectors due to differing regulations on these sectors;[25] (iv) controlling for growth opportunities using the book to market ratio, as firms with more growth opportunities may have less incentive for disclosure due to proprietary costs (Verrecchia, 1983); (v) restricting our results to cases where we have documents and prices data, resulting in exclusion of Austria, France, New Zealand, Switzerland and USA and a smaller sample ($N = 7{,}451$); (vi) using alternative measures of

[25] There are 1,604 observations in the documents sample and 5,769 observations in the prices sample which relate to the financial and utility sectors.

ownership from OSIRIS in place of *Closeheld*;[26] (vii) substituting an alternative measure of CG known as *Gov7* for CG, as used by Aggarwal et al. (2009) and Yu (2011);[27] (viii) excluding 2008 due to the global financial crisis,[28] and (ix) using above the sample median level of the anti-self-dealing and anti-director indices (Djankov et al., 2008) as alternative measures to capture investor protection, in place of *Common*.[29]

In addition to the above, we conducted the following tests for the documents model (*Ldocs)*. First, we used Poisson estimation methods to allow for count dependent variables. Second, we included a control for last year's reporting lag, defined as the number of days from the financial year end date to the annual earnings release date. Third, we used four alternative measures of documents to control for the effect of mandated country-specific disclosures and industry-specific disclosures.[30] For the timeliness of prices models we excluded the USA

[26] We identify the percentage of block institutional shareholding (*Instown)* and family ownership (*Family)*, which reduces our sample size to $N = 4{,}759$ for the documents and $N = 17{,}615$ for the prices samples respectively. Descriptive statistics for the new ownership variables (not tabulated) are for the documents (prices) sample respectively: *Family,* mean = 3 (5.39), S.D. = 9.48 (12.79); *Instown,* mean = 16 (9.86), S.D. = 19.46 (15.51). Results show family ownership is associated with more disclosures in code law countries, but fewer disclosures in common law countries. For block institutional ownership, we find fewer disclosures in code law countries, but incrementally more disclosures in common law countries. Family and institutional ownership has no significant effect on the timeliness of documents or prices. Results also show better CG in common law countries is associated with more timely price discovery, although we cannot rule out that this is due to the decrease in observations for this sample.

[27] This measure of CG includes two new CG factors not included in *CG* (see Appendix Table A:2). The correlation between *CG* and *Gov7* is $r = 0.86$ for the documents sample and $r = 0.77$ for the prices sample. Results (not tabulated) suggest that better-governed firms in common law countries make incrementally fewer disclosures than better-governed firms in code law countries. They are also found to have incrementally slower release of good news, but comparable timeliness for bad news documents. We argue our measure of CG is more focussed on transparency aspects and therefore provides a more appropriate measure to assess firm's CG, which could explain the somewhat differing results for the documents models.

[28] Our results show better-governed firms in common law countries are associated with significantly fewer disclosures relative to better-governed firms in code law countries, but overall the coefficient is still positive (0.161+[-0.085] = 0.076). Also *CG* is no longer a significant variable in the *Tbad* model, suggesting no impact of CG on the timeliness of bad news in prices.

[29] The correlation between *Common* and *High-Anti Director (High Anti-Self)* indices is $r = 0.59$ (0.65). Our results are sensitive to the use of the anti-self-dealing index: for firms in countries with a low score on the anti-self-dealing index (below the median) we find CG is associated with more timely good news disclosure, but there is no association with the timeliness of bad news documents or the overall level of disclosure. Firms with better CG in countries with a high score on the anti-self-dealing index (above the median) are associated with greater disclosure, and more timely disclosures and price discovery.

[30] Specifically, we use the following four alternative measures for documents: (1) the number of documents less the minimum number of documents for the country across our entire sample period; (2) the number of documents less the minimum number of documents for the country in that particular year; (3) the number of

($N = 15{,}179$) from the sample, enabling us to control for firms in other countries that cross-list in the USA, and an interaction term between cross-listing and CG.[31] The results are broadly consistent across all of the different specifications, except where identified. This suggests our results are relatively robust and not driven by any specific details of how we have performed the analysis.

6.1 Further Results

To investigate our results for the timeliness of prices further, we used the sample for which we have prices and document data ($N = 7{,}451$). Acknowledging that there can be differing incentives to disclose by country and also by industry, we sorted our sample by country and industry, and split the sample into quartiles based upon the level of documents disclosed. We took observations in the 75th percentile or greater to represent 'High' disclosure and those in the 25th percentile or lower to represent 'Low' disclosure. We then re-estimated the timeliness of prices models (*Tdef*, *Tall*, *Tgood* and *Tbad*) for both partitions. Results (not tabulated) for firms with low disclosure ($N = 1{,}944$) show firms with better CG in code law countries have less timely price discovery. However, better-governed firms in common law countries are significantly more timely relative to better-governed firms in code law countries. A comparison of the results for the timeliness of good and bad news revealed the increase in timeliness relates primarily to bad, rather than good news.

For firms with high disclosure ($N = 1{,}887$), we find those with better CG are less timely in code law countries. For the *Tdef* model, we find a weak negative association with timeliness

documents less the minimum number of documents for the industry across our entire sample; and (4) the number of documents less the minimum number of documents for the industry in that particular year.

[31] We find cross-listing in the USA is associated with less timely price discovery. Cross-listed firms with weaker CG have an increased timeliness of bad news in prices, but no comparable effect for the timeliness of good news in prices. Cross-listed firms with better CG appear less timely for good news but have comparable levels of timeliness for bad news relative to other firms (results not tabulated).

for better-governed firms in common law countries. However, the improved measures of timeliness, *Tall, Tgood* and *Tbad*, show no significant difference in timeliness between better governed firms in common and code law countries, suggesting a substitution relationship between CG and timeliness regardless of legal origin. From this we infer CG has a noticeably larger effect on timeliness of prices for firms with lower levels of disclosure, which may indicate limits on investors' capacity to process information.

7. Endogeneity

We considered the potential influence of endogeneity in CG and ownership on our documents and prices results, and explored at some length the use of instrumental variables (IV) estimation. Use of IV requires the selection of instruments that are both highly correlated with the variable for which they are instruments while at the same time being uncorrelated with the error (Kennedy, 2003, p.159; Larcker and Rusticus, 2007; Brown et al., 2011). The instruments investigated are as follows: the average industrial sector level of CG, the average year level of CG (the current firm is excluded from the calculation of both instruments), and interactions of these variables with legal origin (*Common*). We used the Hansen J-test to check the validity of instruments used in our estimations, where a rejection of the null hypothesis casts doubt on validity. The Hansen test indicated these instruments are not robust and may yield unreliable IV results. It would seem likely that IV estimates would be inappropriate in this case: as Larcker and Rusticus (2010; 187) argue "it is likely that IV estimates are more biased and more likely to provide the wrong statistical inference than simple OLS estimates that make no correction for endogeneity." For this reason we rely principally on pooled OLS results.

8. Conclusion

We examine whether disclosure and timeliness are jointly affected by the investor protection regime in which the firm is domiciled and the firm's CG. We use a multi-country sample of firms over the period 2003 to 2008 to investigate the relation between the firm's CG and its disclosures, and the timeliness of price discovery. We proxy the investor protection and litigation environment by the legal origin of countries, where common law countries are associated with greater investor protection (La Porta et al., 1998).

The results suggest better CG in code and common law countries is associated with a greater number of disclosures to the stock market (i.e. a complementary relationship between CG and firm disclosure). This is consistent with prior research for Australia (Beekes and Brown (2006), Canada (Beekes et al., 2012) and Japan (Aman et al., 2011). Our results also indicate better-governed firms on the whole release their documents to the stock market in a more timely manner. To be more specific, where there is better investor protection, firms with better CG are more timely when releasing documents relating to bad news items, demonstrating a conservative bias which is consistent with arguments made by Skinner (1994).

In relation to equity market transparency, we find better CG is associated with less, not more, timely price discovery in code or common law countries. The implication is that firms with better CG substitute governance processes for greater transparency, or alternatively that market participants take longer to digest the greater amount of information disclosed by better-governed firms. Prior single-country studies found the opposite for Australia (BB06) and Canada (Beekes et al., 2012), although results for Japan (Aman et al., 2011) are consistent with ours. Additional analysis suggests CG is effective at increasing the timeliness of prices for firms in common law countries where there is a low level of firm disclosure

relative to the industry and country norm. This perhaps points to the notion of a "preferred" level of disclosure which market participants are able to process more effectively.

Our analysis includes the influence of share ownership. Firms in common law countries with a greater proportion of closely held shares make fewer disclosures, which is consistent with the view that firms controlled by insiders are less willing to release information to outside parties. We do find some evidence, in both documents and stock prices, that closely held shares are associated with more timely release of good news.

We contribute to a growing literature on CG and show it can have a positive influence on the amount of information available about a firm, but some results relating to the association between CG and the timeliness of price discovery may be worthy of further investigation. Work we have in progress examines the effect of CG and ownership on the activities of information intermediaries, including analyst following and the properties of analysts' forecasts. Although the present study shows better-governed firms release more information, a question remains unaddressed: is this information processed effectively by analysts, and if so, how is it reflected in attributes of their forecasts? The answer to this question may, indirectly, shed light on our possibly surprising result for the timeliness of price discovery.

References:

Aboody, D. and R. Kasznik (2000), 'CEO Stock Option Awards and the Timing of Corporate Voluntary Disclosures', Journal of Accounting and Economics, Vol. 29, No. 1, pp. 73-100.

Aggarwal, R. I. Erel, R. Stulz and R. Williamson (2009), 'Differences in Governance Practices Between U.S. and Foreign Firms: Measurement, Causes, and Consequences', The Review of Financial Studies, Vol. 22. No. 8, pp. 3131-3169.

Aggarwal, R., I. Erel, M. Ferreira, and P. Matos (2011), 'Does Governance Travel Around the World. Evidence from Institutional Investors', Journal of Financial Economics, Vol. 100, No.1, pp. 154-181.

Akerlof, G.A. (1970), 'The Market for 'Lemons': Quality Uncertainty and the Market Mechanism', The Quarterly Journal of Economics, Vol. 84, No. 3, pp. 488-500.

Aman, H., W. Beekes and P. Brown (2011), 'Corporate Governance and Transparency in Japan', Working Paper (Universities of Kwansei Gakuin, Lancaster, New South Wales and Western Australia). Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1874611.

Anderson, R.C. and D.M. Reeb (2003), 'Founding-Family Ownership and Firm Performance: Evidence from the S&P 500', The Journal of Finance, Vol. 58, No. 3, pp. 1301-1328.

Australian Stock Exchange Corporate Governance Council (2003), 'Principles of Good Corporate Governance and Best Practice Recommendations', Australian Stock Exchange Ltd. Available at: http://www.asx.com.au/documents/asx-compliance/principles-and-recommendations-march-2003.pdf.

Ball, R. and P. Brown (1968), 'An Empirical Evaluation of Accounting Income Numbers', Journal of Accounting Research, Vol. 6, No. 2, pp. 159-178.

Basu, S. (1997), 'The Conservatism Principle and the Asymmetric Timeliness of Earnings', Journal of Accounting and Economics, Vol. 24, No. 1, pp. 3-37.

Beekes, W. and P. Brown (2006), 'Do Better-Governed Australian Firms Make More Informative Disclosures?' Journal of Business Finance and Accounting, Vol. 33, No. 3-4, pp. 422-450.

Beekes, W. and P. Brown (2007), 'On the Timeliness of Price Discovery', Working Paper (Universities of Lancaster, New South Wales and Western Australia). Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=938982.

Beekes, W., P. Brown, and Q. Zhang (2015), 'Corporate Governance and the Informativeness of Disclosures in Australia: A Re-examination', Accounting and Finance, Vol. 55, No. 4, pp. 931-963.

Beekes, W., P. Brown, G. Chin, and Q. Zhang (2012), 'The Effects of Corporate Governance on Information Disclosure, Timeliness and Market Participants' Expectations', Working Paper (Universities of Lancaster, New South Wales and Western Australia). Available at: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2122300.

Belgian Corporate Governance Committee (2009), 'The 2009 Belgian Code on Corporate Governance,' Belgian Corporate Governance Committee. Available at: http://www.corporategovernancecommittee.be/sites/default/files/generated/files/page/corporategovukcode2009.pdf.

Beny, L.N. (2005), 'Do Insider Trading Laws Matter? Some Preliminary Comparative Evidence', American Law and Economics Review, Vol. 7, No. 1, pp. 144-183.

Bhattacharya, U. and H. Daouk (2002), 'The World Price of Insider Trading', The Journal of Finance, Vol. 57, No.1, pp. 75-108.

Botosan, C.A. (1997), 'Disclosure Level and the Cost of Equity Capital', The Accounting Review, Vol. 72, No. 3, pp. 323-349.

Brown, N.C., T.E. Christensen and W. Brooke Elliott (2012), 'The Timing of Quarterly 'Pro Forma' Earnings Announcements', Journal of Business Finance and Accounting, Vol. 39, No. 3-4, pp. 315 – 359.

Brown, P., G.W. Dobbie and A.B. Jackson (2011b), 'Measures of the Timeliness of Earnings', Australian Accounting Review, Vol. 21, No. 3, pp. 222-234.

Brown, P., J. Preiato and A. Tarca (2014), 'Measuring Country Differences in Enforcement of Accounting Standards: An Audit and Enforcement Proxy', Journal of Business Finance and Accounting, Vol. 41, No. 1-2, pp. 1-52.

Brown, P., W. Beekes and P. Verhoeven (2011), 'Corporate Governance, Accounting and Finance: A Review', Accounting and Finance, Vol. 51, No. 1, pp. 96-172.

Bushman, R.M., J.D. Piotroski and A.J. Smith (2004), 'What Determines Corporate Transparency?', Journal of Accounting Research, Vol.42, No. 2, pp. 207-252.

Chen, S., X. Chen and Q. Cheng (2008), 'Do Family Firms Provide More or Less Voluntary Disclosure?' Journal of Accounting Research, Vol. 46, No. 3, pp. 499-536.

Chung, K.H., J. Elder and J.C. Kim (2010), 'Corporate Governance and Liquidity', Journal of Financial & Quantitative Analysis, Vol. 45, No. 2, pp. 265-291.

Core, J.E. (2001), 'A Review of the Empirical Disclosure Literature: Discussion', Journal of Accounting and Economics, Vol. 31, No.1-3, pp. 441-456.

Core, J.E. and D.F. Larcker (2002), 'Performance Consequences of Mandatory Increases in Executive Stock Ownership', Journal of Financial Economics, Vol 64, No.3, pp. 317-340.

Daines, R.M., I.D. Gow and D.F. Larcker (2010), 'Rating the Ratings: How Good are Commercial Governance Ratings?' Journal of Financial Economics, Vol. 98 No. 3, pp. 439-461.

Djankov, S., R. La Porta, F. Lopez-de-Silanes and A. Shleifer (2008), 'The Law and Economics of Self-Dealing', Journal of Financial Economics, Vol. 88, No. 3, pp. 430-465.

Doidge, C., G.A. Karolyi and R.M. Stulz (2007), 'Why Do Countries Matter So Much for Corporate Governance?' Journal of Financial Economics, Vol. 86, No.1, pp.1-39.

Durand, R.B. and A. Tarca (2005), 'The Impact of US GAAP Reconciliation Requirements on Choice of Foreign Stock Exchange For Firms From Common Law and Code Law Countries', European Accounting Review, Vol. 14, No. 4, pp. 789-813.

Fama, E.F., and M.C. Jensen (1983a), 'Separation of Ownership and Control', Journal of Law and Economics, Vol. 26, No. 2, pp. 301-325.

Fama, E.F. and M.C. Jensen (1983b), 'Agency Problems and Residual Claims', Journal of Law and Economics, Vol. 26, No. 2, pp. 327-349.

Fan, J.P.H. and T.J. Wong (2002), 'Corporate Ownership Structure and the Informativeness of Accounting Earnings in East Asia', Journal of Accounting and Economics, Vol. 33, No. 3, pp. 401 – 425.

Ferreira, D., M.A. Ferreira, and C.C. Raposo (2011), 'Board Structure and Price Informativeness', Journal of Financial Economics, Vol. 99, No. 3, pp. 523-545.

Gwartney, J. J. Hall and R. Lawson (2010), 'Economic Freedom of the World 2010 Annual Report', The Fraser Institute. Available at: http://www.freetheworld.com/efw_previous.html.

Hart, O. (1995), 'Corporate Governance: Some Theory and Implications', The Economic Journal, Vol. 105, No. 430, pp.678-689.

Hass, L.H., S. Vergauwe and Q. Zhang (2014), 'Corporate Governance and the Information Environment: Evidence From Chinese Stock Markets', International Review of Financial Analysis, Vol. 36, pp. 106-119.

Healy, P.M., A.P. Hutton and K.G. Palepu (1999), 'Stock Performance and Intermediation Changes Surrounding Sustained Increases in Disclosure', Contemporary Accounting Research, Vol. 16, No. 3, pp. 485-520.

Hermalin, B.E. and M.S. Weisbach (2012), 'Information Disclosure and Corporate Governance', The Journal of Finance, Vol. 67, No.1, pp. 195-233.

Hofstede, G. (2015), 'The Hofstede Centre'. Available at: http://geert-hofstede.com/countries.html.

Hooghiemstra, R., N. Hermes and J. Emanuels (2015), 'National Culture and Internal Control Disclosures: A Cross-Country Analysis', Corporate Governance: An International Review, Vol. 23, No. 4, pp. 357-377.

Hope, O-K. (2003), 'Disclosure Practices, Enforcement of Accounting Standards, and Analysts' Forecast Accuracy: An International Study', Journal of Accounting Research, Vol. 41, No. 2, pp. 235 – 272.

Hung, M. (2001), 'Accounting Standards and Value Relevance of Financial Statements: An International Analysis', Journal of Accounting and Economics, Vol. 30, No. 3, pp. 401-420.

International Corporate Governance Network (2009), 'ICGN Global Corporate Governance Principles: Revised (2009)', International Corporate Governance Network.

International Organization of Securities Commissions (2002), 'Principles for Ongoing Disclosure and Material Development Reporting by Listed Entities', IOSCO. Available at: http://www.iosco.org/library/pubdocs/pdf/IOSCOPD132.pdf.

ISS (2003), ISS Corporate Governance. Best practices user guide and glossary, Revision 2.4, Wednesday, October 8, 2003.

ISS (2005), ISS Corporate Governance. Best practices user guide and glossary, Revision 3.0, September 27, 2005.

Jensen, M.C., and W.H. Meckling (1976), 'Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure', Journal of Financial Economics, Vol. 3, No. 4, pp. 305-360.

Kennedy, P. (2003), A Guide to Econometrics, 5th Ed. (Oxford: Blackwell Publishing).

Kothari, S.P., S. Shu and P.D. Wysocki (2009), 'Do Managers Withhold Bad News?' Journal of Accounting Research, Vol. 47, No. 1, pp. 241-276.

La Porta, R., F. Lopez-De-Silanes, A. Shleifer and R.W. Vishny (1998), 'Law and Finance', Journal of Political Economy, Vol. 106, No. 6, pp. 1113-1155.

La Porta, R., F. Lopez-De-Silanes, A. Shleifer and R.Vishny (2000), 'Investor Protection and Corporate Governance', Journal of Financial Economics, Vol. 58, No. 1-2, pp.3-27.

La Porta, R., F. Lopez-De-Silanes, A. Shleifer and R.W. Vishny (2002), 'Investor Protection and Corporate Valuation', Journal of Finance, Vol. 57, No. 3, pp.1147-1170.

Lang, M.H., and R.J. Lundholm (1993), 'Cross-sectional Determinants of Analyst Ratings of Corporate Disclosures', Journal of Accounting Research, Vol. 31, No. 2, pp. 246-271.

Lang, M.H., K.V. Lins and D.P. Miller (2003), 'ADRs, Analysts, and Accuracy: Does Cross Listing in the United States Improve a Firm's Information Environment and Increase Market Value?', Journal of Accounting Research, Vol. 41, No. 2, pp. 317 – 345.

Larcker, D.F., and T.O. Rusticus (2007), 'Endogeneity and Empirical Accounting Research', European Accounting Review, Vol. 16, No. 1, pp. 207-215.

Larcker, D.F., and T.O. Rusticus (2010), 'On the Use of Instrumental Variables in Accounting Research', Journal of Accounting and Economics, Vol. 49, No. 3, pp. 186-205.

Larcker, D.F., S.A. Richardson and I. Tuna (2007), 'Corporate Governance, Accounting Outcomes and Organizational Performance', The Accounting Review, Vo. 82, No.4, pp.963-1008.

Lev, B. and S.H. Penman (1990), 'Voluntary Forecast Disclosure, Nondisclosure, and Stock Prices', Journal of Accounting and Research, Vol. 28, No. 1, pp. 49–76.

Lim, M., J. How and P. Verhoeven (2014), 'Corporate Ownership, Corporate Governance Reform and Timeliness of Earnings: Malaysian Evidence', Journal of Contemporary Accounting and Economics, Vol. 10, No. 1, pp. 32-45.

OECD (2004), 'OECD Principles of Corporate Governance', Paris: OECD. Available at: http://www.oecd.org/corporate/oecdprinciplesofcorporategovernance.htm.

OECD (2009), 'Corporate Governance and the Financial Crisis: Key Findings and Main Messages', Paris: OECD. Available at: http://www.oecd.org/corporate/ca/corporategovernanceprinciples/43056196.pdf.

Sengupta, P. (1998), 'Corporate Disclosure Quality and the Cost of Debt', The Accounting Review, Vol. 73, No. 4, pp. 459-474.

Sengupta, P. (2004), 'Disclosure Timing: Determinants of Quarterly Earnings Release Dates', Journal of Accounting and Public Policy, Vol. 23, No. 6, pp.457-482.

Sengupta, P. and S. Zhang (2015), 'Equity-based Compensation of Outside Directors and Corporate Disclosure Quality', Contemporary Accounting Research, Vol. 32, No. 3, pp.1073-1098.

Skinner, D.J. (1994), 'Why Firms Voluntarily Disclose Bad News', Journal of Accounting Research, Vol. 32, No. 1, pp. 38-60.

Taylor, G., G. Richardson, G. Tower, and P. Hancock (2012), 'The Determinants of Reserves Disclosure in the Extractive Industries: Evidence from Australian Firms', Accounting and Finance, Vol. 52 (Supplement), pp. 373-402.

Thomson Financial (2009), 'Worldscope Data Definitions', Thomson Financial.

Tokyo Stock Exchange, Inc. (2009), 'Principles of Corporate Governance for Listed Companies', Tokyo Stock Exchange, Inc. Available at: http://www.jpx.co.jp/english/equities/listing/cg/03.html.

Toronto Stock Exchange, Inc. (2004), 'Policy Statement on Timely Disclosure', Toronto Stock Exchange, Inc. Available at: http://apps.tmx.com/en/pdf/PolicyStatementOnTimelyDisclosure.pdf.

Uchida, K. (2011), 'Does Corporate Board Downsizing Increase Shareholder Value? Evidence from Japan', International Review of Economics and Finance, Vol. 20, No. 4, pp. 562-573.

Verrecchia, R.E. (1983), 'Discretionary Disclosure', Journal of Accounting and Economics, Vol. 5, pp. 179-194.

Wu, Y. (2004), 'The Impact of Public Opinion on Board Structure Changes, Director Career Progression, and CEO Turnover: Evidence from CalPERS' Corporate Governance Program', Journal of Corporate Finance, Vol. 10, No. 1, pp. 199-227.

Yermack, D. (1996), 'Higher Market Valuation of Companies with a Small Board of Directors', Journal of Financial Economics, Vol. 40, No. 2, pp. 185-211.

Yu, J. (2011), 'Stock Price Informativeness and Corporate Governance: An International Study', International Review of Finance, Vol. 11, No. 4, pp. 477-514.

APPENDIX

Table A.1: Variable Definitions and Sources of data

Variable	Acronym	Description of Variable. Sources of data provided in parentheses
Measures of Disclosure and Transparency:		
Release date	*Release Date*	Date of the firm's release (announcement) of its annual earnings. The release date is defined as the earliest date, more than 15 days and less than 180 days after the balance sheet date, reported by any one of Bloomberg, Compustat, Compustat Global, I/B/E/S, Reuters and Worldscope.
Document Count	Docs	Number of documents released by the firm measured on an annual basis ending on the Release Date. The number of documents are as reported by the Australian Stock Exchange for Australia, NYSE Euronext for Belgium, France, Netherlands and Portugal, SEDAR for Canada, Nasdaq OMX for Denmark, Finland and Sweden, Athens Exchange for Greece, Hong Kong Exchange for Hong Kong, Irish Stock Exchange for Ireland, Borsa Italia for Italy, Timely Disclosure Network of Tokyo Stock Exchange for Japan, OSLO Bors for Norway, Singapore Exchange for Singapore, Comison Nacional Del Mercado de Valores for Spain, Perfect Information for UK.
Log of Document Count	*Ldocs*	Natural log of *Docs*.
Timeliness of documents	*Tdocs*	The timeliness of documents.
Timeliness of good news documents	*Tdocs Good*	The timeliness of good news documents.
Timeliness of bad news documents	*Tdocs Bad*	The timeliness of bad news documents.
Timeliness of price discovery	*T*	The timeliness metric, measured as the average daily absolute difference between the log of the market-adjusted share price that day and the log of market-adjusted share price 14 trading days after the Release Date. (Daily stock and market index returns are sourced from CRSP and Datastream.)
Timeliness deflated	*Tdef*	The timeliness metric divided by one plus the absolute market-adjusted rate of return on the share over the 365 day period used to calculate the share's timeliness metric.
Timeliness of good news	*Tgood*	The timeliness of good news, based on daily market-adjusted returns >0.
Timeliness of bad news	*Tbad*	The timeliness of bad news, based on daily market-adjusted returns <0.

Timeliness of all news	*Tall*	The timeliness of all news, based on the absolute value of daily market-adjusted returns.
Measure of Corporate Governance and Ownership:		
Corporate Governance	*CG*	Aggregate measure of CG based upon meeting 24 indicators of CG "Quality" as in Chung et al. (2010) [see Table A:2 for details]. The measure sums the number of criteria a firm meets and divides the total by 24. CG ranges between 0 and 1 where 1 represents best governance (Institutional Shareholder Services).
Corporate Governance	*Gov7*	Aggregate Measure of CG based upon meeting 7 indicators of CG "Quality" as in Aggarwal et al. (2009) and Yu (2011) [see Table A:2 for details]. The measure sums the number of criteria a firm meets and divides the total by 7. CG ranges between 0 and 1 where 1 represents best governance (Institutional Shareholder Services).
Closely Held Shares	*Closeheld*	Measure of ownership concentration based on the fraction of shares which are closely held [Worldscope Item: WS.CloselyHeldSharesPct] (Worldscope).
Firm-Level Variables:		
Firm Size	*Size*	Natural log of the firm's market value of equity at balance sheet date in USD. (CRSP, Worldscope)
Leverage	*Lev*	Leverage at the balance sheet date defined as Total $Debt_t$/Total $Assets_t$ [Compustat items: lt/at and Worldscope items: WS.TotalDebt/WS.TotalAssets]. (Compustat, Worldscope).
Volatility	*Volatility*	Volatility calculated from daily log return in the 90 days ending the day before we observe the first price for the timeliness metric. (CRSP, Datastream).
Good News	*Good News*	Dummy variable, representing favourable news about individual performance relative to the market performance, equal to one if the market-adjusted return over the 365 days ended 14 calendar days after the release date is positive, and zero otherwise. For each country we use the appropriate country-specific market index as the benchmark level of performance. (CRSP, Worldscope).
Cross-Listing	*Crosslist*	Dummy variable, representing cross-listing on a US exchange for firms not domiciled in USA. This variable has a value of one if the firm is cross-listed on a USA stock exchange using a level II or level III American Depository Receipt; and zero otherwise. (Bank of New York; US stock exchanges, Securities and Exchange Commission).
Firm Industry	*GICS Sector*	Firm's industrial sector as defined by the 10 Global Industrial Sector Classification Groupings (GICS)
Country-Level Variables:		

Legal Origin	*Common*	A dummy variable coded 1 for countries with a common law legal origin, and 0 otherwise. (La Porta et al. 1998).
Government involvement	*Govei*	This variable is based upon underlying data on the "number, composition and share of output supplied by state enterprises and the overall level of government investment" (p.219). It measures "the extent to which a country relies on personal choice and markets, rather than government budgets and political decision-marking" (p.3). Ratings range from 0 to 10 where a higher rating is associated with less government involvement. (Gwartney et al., 2010).
Individualism	*IDV*	The Individualism index measures the extent to which individuals have a "preference for a loosely-knit social framework in which individuals are expected to take care of only themselves and their immediate families" versus collectivism which "represents a preference for a tightly-knit framework in society in which individuals can expect their relatives or members of a particular in-group to look after them in exchange for unquestioning loyalty," (Hofstede, 2015). *Individualism* ranges from 0 (collectivism) to 100 (very individualistic).
Uncertainty Avoidance index	*UAI*	The Uncertainty Avoidance index measures "the extent to which the members of a culture feel threatened by ambiguous or unknown situations and have created beliefs and institutions that try to avoid these". A higher score is associated with a greater preference for avoiding uncertainty. (Hofstede, 2015) *Uncertainty avoidance* ranges from 0 (no fear of uncertainty) to 100 (very concerned about uncertainty).
Information Dissemination	*Internet*	Natural log of the number of internet users per 100 people (World Development Indicators, The World Bank, 2010).
Stock Market Development	*Stmkcap*	Stock market capitalization / GDP (Financial Structure Database, The World Bank, 2010).
Audit index	*Audit*	Audit index which measures the "quality of public company auditors' working environment" where higher values are associated with better quality (Brown et al., 2014, p.1).
Enforcement index	Enforce	Enforcement index measures the "degree of accounting enforcement activity by independent enforcement bodies" where higher values are associated with greater enforcement (Brown et al., 2014, p.1).
Gross Domestic Product	*GDPPC*	A proxy for country size. Natural log of GDP per capita based on purchasing power parity (PPP) in current USD as at 2010 (World Development Indicators, the World Bank, 2010).

Table A.2: Governance Categories and Mean Values for Individual Firm Level Corporate Governance

PANEL A: Measure of Corporate Governance as Chung et al. (2010)

			Data Sample	
Item No	**Aspect of CG**	**ISS Governance Variable Definitions**	**Documents *N*=7,541**	**Prices *N*= 26,626**
1	AUDIT	Audit committee consists solely of independent outside directors.	0.43	0.69
2	BOARD	Board is controlled by more than 50% independent outside directors.	0.34	0.68
3	BOARD	Nominating committee is comprised solely of independent outside directors.	0.20	0.49
4	BOARD	Compensation committee is comprised solely of independent outside directors.	0.37	0.62
5	BOARD	Governance committee meets at least once during the year.	0.16	0.43
6	BOARD	Board members are elected annually.	0.40	0.41
7	BOARD	Size of board of directors is at least six but not more than 15 members.	0.87	0.88
8	BOARD	Shareholders have cumulative voting rights to elect directors.	0.01	0.06
9	BOARD	CEO serves on no more than two additional boards of other public companies.	0.86	0.91
10	BOARD	No former CEO serves on board.	0.76	0.81
11	BOARD	The CEO and chairman duties are separated or a lead director is specified.	0.67	0.61
12	BOARD	Board guidelines are disclosed publicly.	0.63	0.55
13	CHARTER	Company has no poison pill.	1.00	0.82
14	CHARTER	A majority vote is required to amend charter/bylaws (not supermajority).	0.02	0.28
15	CHARTER	A simple majority vote is required to approve a merger (not supermajority).	0.12	0.43
16	CHARTER	Shareholders may act by written consent, and the consent is not unanimous.	0.08	0.17
17	CHARTER	Shareholders are allowed to call special meetings.	0.99	0.67
18	CHARTER	Board cannot amend bylaws without shareholders' approval or only in limited circumstances.	1.00	0.44
19	CHARTER	Company is not authorized to issue blank check preferred stock.	0.94	0.49
20	COMPENSATION	Directors receive all or a portion of their fees in stock.	0.23	0.61
21	OWNERSHIP	All directors with more than one year of service own stock.	0.59	0.77
22	OWNERSHIP	Executives are subject to stock ownership guidelines.	0.22	0.43
23	OWNERSHIP	Directors are subject to stock ownership guidelines.	0.13	0.20

24	STATE	Incorporation in a state without any takeover provisions.	0.41	0.20
	OVERALL	***Overall Index of Corporate Governance.***	**0.48**	**0.53**

PANEL B: Measure of Corporate Governance as Aggarwal et al. (2009), Yu (2011) known as *Gov7*

			Data Sample	
Item No	**Aspect of CG**	**ISS Governance Variable Definitions**	**Documents *N*=7,541**	**Prices *N*= 26,626**
1	BOARD	Board is controlled by more than 50% independent outside directors.	0.34	0.68
2	BOARD	Size of board of directors is at least six but not more than 15 members.	0.87	0.88
3	BOARD	The CEO and chairman duties are separated or a lead director is specified.	0.67	0.61
4	BOARD	Board members are elected annually.	0.40	0.41
5	AUDIT	Audit committee consists solely of independent outside directors.	0.43	0.69
6*	AUDIT	Auditors ratified at most recent annual meeting	0.64	0.68
7*	STOCK CLASS	Only one class of common stock (not dual class)	0.94	0.94
	OVERALL	*Measure of CG: Gov7*	0.61	0.70

Note: Panel A of this table shows the mean values for the twenty-four CG standards relating to financial and operating transparency included in our measure of CG for the two data samples used in this study (N=7,541) for the documents and (N=26,126) for the prices samples respectively for firms with year ends between 1 January 2003 and 31 December 2008. These CG standards are taken from data compiled by Institutional Shareholder Services (ISS) and are the same 24 items used in the measure of CG in Chung, Elder, Kim (2010). Panel B shows the mean values for the seven CG standards included in the measure of CG as in Aggarwal et al. (2009), Yu (2011). Note: * indicates item is not included in the 24-aspect measure of CG shown in Panel A. Country coverage of the ISS Global and USA CG datasets is as follows: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Greece, Hong Kong, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, South Korea, Spain, Sweden, Switzerland, UK and USA. Sample coverage on the ISS dataset for South Korea is minimal (limited to 2007 and 2008), and for this reason we decided to exclude South Korea from our sample. The documents sample excludes Austria, Germany, New Zealand, Switzerland and USA due to unavailability of document data.

Table 1: Country Coverage

Country	No of obs in documents analysis	No of obs in prices analysis	Common/Code Law
AUSTRALIA	482	556	Common
AUSTRIA	0	109	Code
BELGIUM	77	134	Code
CANADA	750	762	Common
DENMARK	118	124	Code
FINLAND	167	168	Code
FRANCE	190	468	Code
GERMANY	0	432	Code
GREECE	56	99	Code
HONG KONG	492	513	Common
IRELAND	81	89	Common
ITALY	131	364	Code
JAPAN	2,018	3,323	Code
NETHERLANDS	100	211	Code
NEW ZEALAND	0	84	Common
NORWAY	125	127	Code
PORTUGAL	34	79	Code
SINGAPORE	97	313	Common
SPAIN	249	273	Code
SWEDEN	182	270	Code
SWITZERLAND	0	303	Code
UK	2,192	2,146	Common
USA	0	15,179	Common
Total	7,541	26,126	

Note: The documents sample excludes Austria, Germany, New Zealand, Switzerland and USA due to unavailability of document data. The documents sample contains 7,541 firm-year observations for 2,078 unique firms. The prices sample contains 26,126 firm year observations for 5,859 unique firms. The sample period for the documents and prices analysis is 1 January 2003 to 31 December 2008.

Table 2: Descriptive Statistics for Firm Level Variables

Panel A: Documents Analysis (N = 7,541)

Variables	Mean	Median	Standard Deviation	Min	Max
Docs	78.52	49	107.9	7	804
Ldocs	3.95	3.89	0.84	1.95	6.69
Tdocs	0.52	0.51	0.10	0.10	0.99
Tdocs Good	0.52	0.51	0.14	0.06	1
Tdocs Bad	0.52	0.51	0.14	0	1
CG	0.48	0.46	0.14	0.17	0.88
Closeheld	29.41	25.53	22.46	0	99.03
Size	7.75	7.74	1.56	1.44	12.78
Lev	0.23	0.22	0.18	0	0.74
Volatility	1.65	1.46	0.83	0.09	14.28
Good News = 1	48%			0	1
Crosslist = 1	13%			0	1

Panel B: Prices Analysis (N = 26,126)

Variables	Mean	Median	Standard deviation	Min	Max
T	0.19	0.13	0.17	0.03	0.97
Tdef	0.13	0.11	0.09	0.03	0.43
Tgood	0.52	0.52	0.08	0.08	0.93
Tbad	0.52	0.51	0.09	0.10	0.90
Tall	0.52	0.51	0.07	0.09	0.90
CG	0.53	0.54	0.14	0.17	0.96
Closeheld	26.92	21.94	22.33	0	100
Size	6.89	6.97	1.95	-0.15	13.13
Lev	0.41	0.37	0.28	0	1.07
Volatility	1.96	1.68	1.15	0.09	22.47
Good News =1	48%			0	1
Crosslist = 1	12%			0	1

Note: Docs is the annual number of documents released by the firm and *Ldocs* is the natural logarithm of *Docs*. *Docs* is winsorised at the top and bottom 1% to control for outliers. *Tdocs* is the timeliness of documents. *Tdocs Good (Bad)* is the timeliness of documents when there is good (bad) news. *T* is the timeliness metric, measured as the average daily absolute difference between the log of the market-adjusted share price that day and the log of market-adjusted share price 14 days after the release of the firm's financial results for the year. *Tdef* is Timeliness deflated, measured as the timeliness metric divided by one plus the absolute rate of return on the share over the period used to calculate the share's timeliness metric. Both *T* and *Tdef* are winsorised at the top and bottom 1% to control for outliers. *Tgood* is the timeliness of good news and *Tbad* is the timeliness of *Bad News. Tgood* and *Tbad* are additional measures of timeliness in times of good and bad news respectively where news is classified as good or bad dependent upon the return for that particular day; a share price return above the market return is classified as 'good news' and a return below the market return is classified as 'bad news'. *Tall* is the timeliness of all news which is a measure of timeliness taking both good and bad news into account. *CG* is a measure of corporate governance between 0 and 1 where higher values are associated with 'better' corporate governance according to the ISS CG classification of 24 underlying CG aspects (see Appendix Table A:2 for details). *Closeheld* is the percentage of shares which are closely held at the year-end according to Worldscope. *Size* is measured as the natural log of year end market value in USD. *Lev* is year-end leverage defined as total

debt divided by total assets. Leverage has been winsorised at the top and bottom 1% to control for outliers. *Volatility* is calculated from daily log returns in the 90 days ending the day before we observe the first price for the timeliness metric. Values for Volatility have been multiplied by 100 in the above table to increase precision. *Good News* is a dummy variable with a value of one if the market-adjusted return over the 365 days ended 14 days after the release date is positive, and is zero otherwise. *Crosslist* is a dummy variable with a value of one if the firm is cross-listed on a major US stock exchange, and is zero otherwise. For the prices sample *Crosslist* is based upon the sample excluding US firms ($N = 10{,}947$). For further details on variable measurement and data sources, see the Appendix Table A:1.

Table 3: Bivariate Relationships

Panel A: Variables in the Documents Analysis (*N* = 7,541)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. Docs										
2. Ldocs	0.79*									
3. Tdocs	-0.02*	-0.13*								
4. Tdocs Good	-0.01	-0.08*	0.66*							
5. Tdocs Bad	-0.03*	-0.11*	0.63*	-0.02						
6. CG	**0.30***	**0.43***	**-0.33***	**-0.18***	**-0.24***					
7. Closeheld	**-0.22***	**-0.31***	**0.02**	**-0.01**	**0.03***	**-0.34***				
8. Size	0.23*	0.21*	-0.01	-0.04*	0.03*	**0.01**	**-0.09***			
9. Lev	0.06*	0.11*	-0.01	-0.02*	0.01	**0.04***	**-0.07***	0.11*		
10. Volatility	-0.03*	0.00	0.00	0.01	-0.03*	**-0.04***	**0.05***	-0.31*	-0.01	
11. Common	0.27*	0.37*	-0.34*	-0.18*	-0.25*	**0.67***	**-0.16***	-0.19*	-0.01	0.05*
12. Crosslist	0.18*	0.24*	-0.13*	-0.08*	-0.09*	**0.30***	**-0.21***	0.35*	0.04*	-0.02
13. Good News	0.01	0.02	0.02	0.06*	-0.02	**0.00**	**-0.06***	0.14*	-0.01	-0.02*

Panel B: Variables in the Prices Analysis (*N* = 26,126)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
1. T										
2. Tdef	0.94*									
3. Tgood	0.27*	0.28*								
4. Tbad	0.27*	0.28*	0.67*							
5. Tall	0.31*	0.32*	0.91*	0.91*						
6. CG	**0.12***	**0.12***	**0.15***	**0.15***	**0.16***					
7. Closeheld	**0.05***	**0.06***	**-0.01**	**-0.01**	**-0.01**	**-0.30***				
8. Size	-0.32*	-0.33*	-0.06*	0.00	-0.04*	**0.00**	**-0.15***			
9. Lev	0.08*	0.06*	0.09*	0.07*	0.09*	**0.28***	**-0.16***	-0.13*		
10. Volatility	0.42*	0.43*	-0.09*	-0.09*	-0.10*	**0.02***	**0.08***	-0.43*	0.00	
11. Common	0.15*	0.16*	0.07*	0.05*	0.06*	**0.62***	**-0.21***	-0.31*	0.36*	0.14*
12. Crosslist	-0.02*	-0.03*	-0.04*	-0.04*	-0.04*	**0.29***	**-0.21***	0.33*	0.03*	-0.02
13. Good News	-0.10*	-0.08*	-0.12*	-0.11*	-0.12*	**-0.03***	**-0.05***	0.12*	-0.04*	-0.00

Note: Common is an indicator variable equal to 1 if the country has a common law legal origin which is sourced from La Porta et al. (1998). Other variables as defined in Table 2. For variables 1 to 10, product moment correlations are reported between continuous firm-level variables. For variables 11 to 13, point-biserial correlations are reported between categorical and continuous variables. Note in Panel B, point bi-serial correlations for Crosslist and the other continuous variables are for a reduced sample excluding the USA (N=10,947) Correlations significant at the 5% level or better (two-tailed test) are denoted by *.

Table 4: The Relationship Between Corporate Governance, Disclosure and Timeliness

Dependent Variable:	*Ldocs*	*Tdocs*	*Tdef*	*Tall*
Column No:	(1)	(2)	(3)	(4)
CG	0.103***	-0.012***	0.003**	0.004***
Closeheld	-0.018	-0.004**	0.001	-0.002**
Common	0.686***	0.013**	-0.004*	-0.005**
Common·CG	-0.027	-0.006*	0.002	-0.001
Common·Closeheld	-0.071***	-0.002	0.001	0.001
Crosslist	0.070	-0.004		
Crosslist·CG	-0.083**	-0.010***		
Goodnews	-0.024	0.004**	-0.004***	-0.006***
Size	0.283***	-0.004**	-0.014***	-0.005***
Lev	0.057***	0.000	0.005***	0.003***
Volatility	0.068***	-0.001	0.025***	-0.013***
Govei	0.089***	-0.017***	0.000	-0.001**
IDV	-0.123***	0.004	0.001	0.001
UAI	-0.045	0.023***	-0.004***	-0.002***
Internet	0.245***	0.011***	-0.003***	-0.001**
Stmkcap	-0.327***	-0.001	0.001	0.001**
Audit	0.007	0.011***	-0.005***	-0.005***
Enforce	0.065*	-0.013***	0.002**	0.005***
GDPPC	0.016	-0.012***	-0.001	-0.004***
Intercept	3.947***	0.516***	0.132***	0.519***
F-test	60.76***	64.21***	251.42***	378.69***
Adj. R^2	0.43	0.21	0.31	0.35
N	7,541	7,541	26,126	26,126
Year & Industry FE	Yes	Yes	Yes	Yes

* $p<0.1$; ** $p<0.05$; *** $p<0.01$ (one-tailed *t*-tests for hypothesised effects and two-tailed *t*-tests for control variables)

Note: All coefficients relate to variables that have been standardized to assist interpretation. The sample comprises firms with year ends between 1 January 2003 and 31 December 2008 covered by the ISS Database. For details of country coverage see Table 1. Results are estimated using pooled cross section and time series regression fitted by Ordinary Least Squares (OLS) with standard errors robust to the presence of heteroskedasticity. All standard errors are clustered by firm. *Govei* measures the extent of government involvement (a higher value means *less* government involvement), *IDV* and *UAI* are cultural constructs from Hofstede (2015): *IDV* is Individualism and *UAI* is Uncertainty Avoidance. *Internet* represents information dissemination and is measured as the natural log of internet users per 100 people, *Stmkcap* is stock market development measured as stock market capitalisation divided by Gross Domestic Product, *Audit* and *Enforce* are the audit and enforcement indices from Brown et al. (2014) and *GDPPC* is economic development measured as the natural log of GDP per capita based upon purchasing power parity in USD. Other variables are as previously defined. Additional details on variable measurement and data sources are provided in the Appendix Table A:1.

Table 5: The Relation Between Corporate Governance and Timeliness of Documents and Prices in Good and Bad Times

Dependent Variable:	*Tdocs Good*	*Tdocs Bad*	*Tgood*	*Tbad*
Column No:	(1)	(2)	(3)	(4)
CG	-0.018***	-0.006*	0.004***	0.003**
Closeheld	-0.005*	-0.005	-0.002***	-0.001
Common	0.003	-0.001	-0.008***	-0.001
Common·CG	0.005	-0.012**	-0.000	-0.002
Common·Closeheld	-0.003	0.002	0.002	0.001
Crosslist	-0.001	-0.008		
Crosslist·CG	-0.008*	-0.010**		
Size	-0.007***	0.001	-0.008***	-0.002***
Lev	-0.002	0.003*	0.004***	0.003***
Volatility	0.001	-0.002	-0.014***	-0.012***
Govei	-0.015***	-0.012***	-0.001	-0.002**
IDV	0.019***	0.001	0.001	0.001
UAI	0.020***	0.021***	-0.003***	-0.002*
Internet	0.006**	0.007***	-0.002**	-0.001**
Stmkcap	0.010***	-0.000	0.002***	0.001
Audit	0.007	0.017***	-0.003*	-0.008***
Enforce	-0.013***	-0.012***	0.003***	0.006***
GDPPC	-0.012***	-0.009***	-0.004***	-0.004***
Intercept	0.516***	0.516***	0.520***	0.518***
F-test	21.38***	24.63***	301.71***	331.17***
Adj. R^2	0.08	0.10	0.29	0.30
N	7,541	7,541	26,126	26,126
Year & Industry FE	Yes	Yes	Yes	Yes

* $p<0.1$; ** $p<0.05$; *** $p<0.01$ (one-tailed *t*-tests for hypothesised effects and two-tailed *t*-tests for control variables)

Note: All coefficients relate to variables that have been standardized to assist interpretation. The sample comprises firms with year ends between 1 January 2003 and 31 December 2008 covered by the ISS Database. For details of country coverage see Table 1. Results are estimated using pooled cross section and time series regression fitted by Ordinary Least Squares (OLS) with standard errors robust to the presence of heteroskedasticity. All standard errors are clustered by firm. Variables are as previously defined. Additional details on variable measurement and data sources are provided in the Appendix Table A:1.