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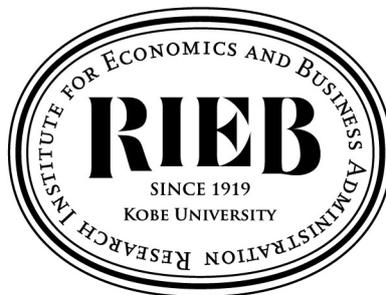
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**National Institutions, Transparency and
Accounting for Goodwill:
Impairment Recognition under IFRS in Europe**

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Abstract: We investigate how national institutions impacting accounting transparency norms may influence accounting practices, with particular reference to the use of management discretion, in the context of a global accounting standards setting regime. Specifically, we examine whether national institutions impacting on accounting transparency have a persistent influence on goodwill impairment recognition decisions in Europe following the implementation of International Financial Reporting Standards (IFRS). Using a sample of 870 firm-year observations from 13 European countries during 2007 to 2014, including the global financial crisis period, we find that firms in countries with strong equity financing, a common law tradition and higher culturally derived transparency values are more likely to recognize goodwill impairment losses. We also find some evidence that national institutions impacting accounting transparency norms persistently influence goodwill impairment practices under IFRS during the global financial crisis period similar to non-crisis periods.

Keywords: accounting transparency; national institution; accounting for goodwill; goodwill impairment; IFRS

Data availability statement: Data in this paper are publicly available.

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National Institutions, Transparency and Accounting for Goodwill: Impairment Recognition under IFRS in Europe

1. Introduction

Given the existence of international differences in accounting standards and practices, substantial efforts have been made in the context of growing globalization to converge them into a single set of financial reporting standards—International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB). While the objective of IFRS is to provide ‘high quality, transparent and comparable information in financial statements’ (IFRS foundation 2016, para. 2), prior research shows mixed results on enhanced comparability of financial data (e.g., Yip and Young, 2012; Cascino and Gassen, 2015) and reveals pervasiveness of earnings management under IFRS (Lin et al., 2012; Doukakis, 2014; Capkun et al., 2016). A major reason for the limited effects of IFRS on increased comparability is the influence of national institutions, or reporting incentives, on accounting norms and practices across countries (Ball, 2006). Evidence reveals that national institutions continue to remain important in respect of accounting policy choices (Nobes, 2011; Kvaal and Nobes, 2012; Nobes, 2013; Stadler and Nobes, 2014), earnings management (Jeanjean and Stolowy, 2008; Gray et al., 2015), accounting conservatism (André et al., 2015), and more broadly defined earnings quality (Ahmed et al., 2013). Thus, prior research suggests the need for research into the ways in which national institutions influence accounting practices in the context of a global standard setting regime. Moreover, the effects of national institutions on individual accounting practices have been under-researched. Notably, d’Arcy and Tarca (2018) point out a shortage of cross-country evidence on its influence on goodwill accounting practices and call for more research on this issue. In line with this research demand, goodwill disclosure compliance in the EU is influenced by national institutions such as the size of a country’s stock market (Glaum et al., 2013), corruption (Mazzi et al., 2018) and culture (Glaum et al., 2013; Mazzi et al., 2018). Accordingly, this study aims to extend prior research by investigating whether goodwill impairment recognition continues to be influenced by national institutions that affected accounting practice prior to IFRS adoption.

Accounting for goodwill impairment is a particularly controversial accounting practice among practitioners and academics (Amel-Zadeh et al., 2016). This involves a decision whether or not to report losses in a firm’s financial statements when goodwill, the purchase price paid in excess of the fair value of net assets, appears to be no longer sustainable in ‘fair value’ terms. This is referred to as ‘goodwill impairment’, an aspect of accounting practice we examine for four reasons. First, the book value of goodwill is increasing and accounts for a large part of firms’ balance sheets in Europe and the US (Glaum et al., 2018; Li and Sloan, 2017; ASBJ, 2016; EFRAG, 2016). The European Financial Reporting Advisory Group (EFRAG, 2016, pp. 41-42) shows, for example, that the aggregate amount of goodwill reported by large European firms has been increasing during the period 2005-2014 and

the ratio of goodwill to net assets (market capitalization) is approximately 30 (15) percent. Second, recognition of valuation losses involves a number of negative incentives such as a potentially large impact on earnings and downgrading of management reputation, which likely leads to recognition-avoiding accounting behaviors. Third, this practice permits managers to exercise their discretion to a significant extent, and the perceived rigor of this valuation process varies among countries (Wersborg et al., 2014). In the post-M&A valuation process, managers are required to self-assess expected future cash flows for their businesses. Outsiders such as auditors face difficulties in verifying estimates of future cash flows. Fourth, it is possible that investors' interpretations on goodwill impairments varies according to national institutions. For example, the information content of unexpected goodwill impairments differs between common and code law countries (Knauer and Wöhrmann, 2016). National culture also affects the value relevance of goodwill impairment losses (Alshehabi et al., 2021).

Country-level accounting transparency can play a significant role in goodwill impairment practices. The goodwill valuation procedure involves managers' estimates of future cash flows and provides private information (Knauer and Wöhrmann, 2016; Schatt et al., 2016). Thus, goodwill impairment loss recognition exposes a firm's negative future outlook and has the nature of disclosure of forward-looking information. If country-level transparency norms facilitate more transparent accounting practices in a country, firms in countries with highly transparent accounting norms are expected to be more likely to recognize goodwill impairment losses when goodwill impairments exist. The prior literature suggests that national institutions have influenced country-level accounting transparency and that this has varied across countries (e.g., Barrett, 1976; Choi and Mueller, 1984; Bushman et al., 2004). Accordingly, our focus on national institutions impacting accounting transparency norms will likely help us to understand better the variation in goodwill impairment practices.

Our sample consists of 870 firm-year observations from 13 European countries for the period 2007 to 2014. We employ three institutions: strong versus weak equity-outsider financing (Nobes, 1998, 2008), common versus code law traditions (Ball et al., 2000), and culturally derived accounting transparency (Gray, 1988; Hope et al., 2008). Our results reveal that firms in countries with higher accounting transparency norms are more likely to record goodwill impairment losses. Specifically, firms in countries with strong equity-outsider, a common law tradition and higher culturally derived accounting transparency values are more likely to recognize goodwill impairment losses during non-global financial crisis periods. We also provide some evidence that national institutions impacting transparency accounting norms persistently affect goodwill impairment practices during the global financial crisis period.

Our paper makes three main contributions. First, it investigates an economically significant accounting practice i.e. goodwill impairment that is complex and difficult to evaluate. While prior research shows international variations in earnings quality, including Ahmed et al. (2013), the ways in which accounting practice differs under a single set of accounting standards is under-researched. Some

exceptions investigate overt accounting choices (Nobes, 2011; Kvaal and Nobes, 2012; Nobes, 2013; Stadler and Nobes, 2014). Nobes (2006) distinguishes overt options from covert options in standards and measurement estimations. While observing differences in overt options is a robust research design to show international variations in accounting practices under IFRS, such a research design does not necessarily capture the economic significance of investigated accounting choices in practice (Hellman et al., 2015). An attempt to investigate practices of covert options is Wehrfritz and Haller (2014), who show no difference in the measurement of provisions between British and German accountants by using a survey method. Our focus on goodwill impairments allows for an investigation of an accounting practice impacting on financial statements that is economically significant. Further we investigate the outcome of decisions by managers and use a sample consisting of a large number of European countries, thereby extending the scope of the study by Wehrfritz and Haller (2014). In addition, we extend Hellman et al. (2015), who demonstrate differences in accounting practices among countries as measured on transition to IFRS, by showing that the influence of transparency norms in respect of a specific accounting practice continues to persist even under a single set of accounting standards such as IFRS.

Second, our paper extends prior research on international variations in goodwill impairment practices by investigating firms whose book value of goodwill is likely impaired. The Chairman of the IASB, Hans Hoogervorst, said, after acknowledging subjectivity in accounting for goodwill, that ‘in practice, entities might be hesitant to impair goodwill, so as to avoid giving the impression that they made a bad investment decision. The question is if our current rules provide sufficient rigor to these decisions. (KPMG 2014)’ In this regard, Glaum et al. (2018) investigate goodwill impairment practices among IFRS adopters and demonstrate the influence of firm-level incentives and the mitigating effect of enforcement on such incentives. As their sample includes firms whose goodwill is not economically impaired and required to be written off, our investigation of firms with a book-to-market ratio of more than one for two consecutive years provides more compelling evidence of the persistent influence of national institutions on goodwill impairment practices and hence the differing effectiveness of goodwill impairment standards among countries in the EU. We also extend Glaum et al. (2018) by investigating a number of national institutions in addition to legal enforcement. Moreover, this study extends Glaum et al. (2013) and Mazzi et al. (2018), who investigate the effect of country-level institutions on the compliance levels of goodwill disclosure. Goodwill disclosure compliance levels affect firm valuation as Mazzi et al. (2017) show that a high compliance level of mandatory goodwill disclosure lowers the implied cost of equity capital. Stock markets also react to announcements of unexpected goodwill impairments (Knauer and Wöhrmann, 2015). Thus, both goodwill disclosure and impairment recognition are important inputs for stock markets.

Third, our study also contributes to prior research on the culturally derived accounting transparency value proposed by Gray (1988). Prior research has focused on information disclosures

and auditor choice (Zarzeski, 1996; Jaggi and Low, 2000; Hope, 2003; Douppnik and Riccio, 2006; Han et al., 2012; Hooghiemstra et al., 2015; Chen et al., 2017; Luo and Tang, 2016). Recently, however, accounting standards increasingly require the reporting of forward-looking information in financial statements based on estimates of future cash flows. Our evidence extends the literature by suggesting that even if accounting standards are converged or unified, the long-sustained cultural orientation towards transparency in a country influences the extent to which forward-looking information is incorporated into financial statements.

Our paper also has implications for standard setters, especially the IASB. In its discussion paper issued in March 2020, *Business Combinations—Disclosures, Goodwill and Impairment*, the Board identifies two reasons for less timely impairment loss recognition—management optimism and a shielding effect—and has a view that if a cash flow estimate of a firm is optimistic in the impairment test, such an estimate should be addressed by auditors and regulators (paragraphs IN26, 3.29, and 3.75). Our findings propose another issue to discuss in the standard setting process by suggesting that the delay in goodwill impairment recognition in some countries may be influenced by country-level transparency norms, which have been sustained in the long term. Thus, a mere introduction of a new rule may not alter management opportunism and it will be useful to consider how countries with less transparent norms have addressed management discretion when an international standard setter deals with management optimism. Moreover, this implication is not limited to the IASB but to countries that consider the introduction of the impairment-only approach to post-M&A accounting for goodwill. For example, Japan has restarted the discussion on the introduction of the impairment-only approach instead of the current standard that requires periodic amortization since May 2025. A comprehensive discussion ranging from post-M&A accounting for goodwill to enforcement mechanisms and, hence, country-level transparency norms will contribute to the establishment of a better financial reporting system.

2. Background, prior literature and hypothesis development

2.1. Accounting for goodwill impairment

Goodwill in financial statements is defined and recorded as the excess of the purchase price over the fair value of an acquired firm's net assets. Post-M&A there is a process of allocating any reduction in the value of the excess price paid as an expense i.e. goodwill impairment. Accounting for business combinations and goodwill impairment under IFRS (IAS 36, 2004) requires an impairment-only approach that eliminates periodical amortization of book goodwill and introduces goodwill impairment tests. Under this procedure, goodwill impairment losses are recognized when a firm's (or cash-generating unit's) carrying amounts of goodwill exceed their recoverable amounts. The procedure involves managers' estimations of future cash flows and choices relating to discount rates and reporting units, which allows for management discretion.

Managers can have strong incentives to avoid recording goodwill impairment losses, as seen in conflicts in goodwill accounting standard setting (Ramanna, 2008), increased tension in auditor–client relationships around goodwill impairment recognition (Ayres et al., 2019), and real earnings management to avoid loss recognition (Filip et al., 2015). Below, we discuss the timeliness and timing of goodwill impairment loss recognition and the incentives to avoid such loss recognition.¹

Prior research shows that goodwill impairment losses are not normally recognized in a timely manner. Studies with U.S. samples suggest that goodwill impairment losses are recognized in a less timely manner both before and after SFAS 142² (Hayn and Hughes, 2006; Jarva, 2009; Li and Sloan, 2017). Moreover, management characteristics such as overconfidence affect the timeliness of goodwill impairment losses (Chung and Hribar 2021). André et al. (2016) compare goodwill impairment practices between European and U.S. firms. Notably, a larger proportion of European firms recognize goodwill impairment losses regardless of impairment indications, whereas U.S. firms are more likely to do so when impairment indications are observed. These results are consistent with the fact that European firms record a smaller amount of goodwill impairment losses relative to book goodwill more frequently. Moreover, they show that European firms are less likely to recognize the losses during the great financial crisis during 2008-2009 than U.S. counterparts. These differences between European and U.S. firms imply effects of national institutions on goodwill impairment practices. A mitigating factor concerning the lack of timeliness of goodwill impairment losses, as Glaum et al. (2018) suggest, is the degree of legal enforcement at the country level. However, enforcement has some limitations. For example, firms attempt to avoid goodwill impairment recognition by inflating valuation assumptions such as discount rates and engaging in real activity management to a greater extent (Filip et al., 2021).

Consistent with less timely impairments, previous studies suggest that goodwill impairments are recorded for the purposes of ‘big bath’ reporting and income smoothing (Giner and Pardo, 2018; Glaum et al., 2018) and when new CEOs are appointed (Glaum et al., 2018). In addition, previous studies demonstrate the agency incentives of non-impairment decisions such as management compensation and reputation (Beatty and Weber, 2006; Ramanna and Watts, 2012; Darrough et al., 2014; Kabir and Rahman, 2016), and debt contracting and exchange delisting (Beatty and Weber, 2006).

¹ Another aspect the International Accounting Standard Board pays attention to is the value relevance of goodwill impairment losses. Chen et al. (2008) show supportive evidence for the value relevance of goodwill impairment losses. Li et al. (2011) find that goodwill impairments negatively impact on investors’ and analysts’ expectations. However, Bens et al. (2011) suggest that goodwill impairment losses under SFAS 142 are less informative than pre-SFAS 142 impairment losses. Hamberg and Beisland (2014) do not find any relationship between goodwill impairment losses and stock returns under an IFRS regime. Knauer and Wöhrmann (2016) suggest that unexpected goodwill impairment losses have different levels of informativeness across legislative regimes or investor protection institutions. For a literature review regarding value relevance of goodwill impairment losses in IFRS settings, see Schatt et al. (2016).

² This accounting standard introduced an impairment-only approach in the United States.

2.2. Accounting transparency and national institutions

Institutions in a society, formal or informal, establish incentive structures i.e. ‘rules of the game’ (North, 1990, 1994). Here, formal institutions are stated rules; informal institutions are conventions and codes of behavior. The international accounting literature has viewed transparency versus secrecy norms as one of the key differences in accounting systems/practices among countries (e.g., Jaggi, 1975; Choi and Mueller, 1984; Arpan and Radebaugh, 1985; Gray, 1988; Nobes, 1998; Bushman et al., 2004). Informal institutions are persistent even when a new, conflicting rule is introduced in a society (North, 1990). Thus, transparency norms can persistently affect accounting practices even under a global standard setting regime such as IFRS.

Bushman et al. (2004) define corporate transparency as “the availability of firm-specific information to those outside publicly traded firms” (p. 208). Transparent practices reduce information asymmetry between the insiders and outsiders of a firm. In the context of our focus on goodwill impairment practices, accounting transparency (of a country) is defined as the extent to which firms in a country disclose firm-specific accounting information to outsiders through publicly disclosed financial statements.

Prior research suggests that reporting incentives, or national institutions, in countries influence the degree of timely loss recognition (Ball et al., 2000; Bushman and Piotroski, 2006), including the practice of goodwill impairment (e.g., Watts, 2003). To the extent that reporting incentives persist even after the introduction of IFRS in the EU, the timeliness of goodwill impairment loss recognition varies among countries. In Europe, the UK and Germany are often contrasted as true/fair versus conservative accounting systems (e.g., Joos and Lang, 1994; Leuz et al., 1998). The former is viewed as more transparent in terms of timeliness of economic loss recognition. In the post-IFRS period, Christensen and Nikolaev (2013) show that German firms do not switch from historical cost to a fair value approach in accounting for investment property and intangible assets, where IFRS permits both the historical cost and fair value methods, in contrast to UK firms who maintain a fair value approach to investment property. Kvaal and Nobes (2012) and Stadler and Nobes (2014) also identify persistent differences in accounting policy choices under IFRS. Accordingly, we expect that accounting transparency norms will persistently influence goodwill impairment practices in the EU countries and thus hypothesize as follows:

H1: Countries with stronger (weaker) transparency norms are more (less) likely to recognize goodwill impairment losses when the book value of goodwill is economically impaired.

Prior research has explained the differences in accounting transparency norms among countries,

relating it to many national institutions. Nobes and Stadler (2013) demonstrate that international accounting classifications are arbitrary, but argue that a classification is useful if it fits the purpose of the research. Our purpose is to explore the influence of country-level accounting transparency norms on goodwill impairment practices. In addition, they call for the usage of classifications that are demonstrated by analyzing data. Accordingly, we follow the classifications of Hellman et al. (2015), who show that traditional differences in international accounting systems persisted at least just before the adoption of IFRS in the EU in terms of shareholders' equity measurement. They identify three key informal institutions which are often referred to in the literature: strong (Class A) versus weak (Class B) equity-outsider financing (Nobes, 1998), common versus code law (Ball et al., 2000), and national culture (Gray, 1988). Figure 1 represents the relationship among these classifications. While they are mutually overlapping, the use of these three institutions mitigates any likely subjectivity of international accounting classification. We now discuss how these institutions influence accounting transparency and hence goodwill impairment practice.

Our first informal institution is strong (Class A) versus weak (Class B) equity-outsider financing systems as proposed by Nobes (1998). He emphasizes a country's equity-outsider system because countries' financial reporting purposes are a major cause of international differences in accounting practices.

Nobes (1998) classifies financial systems based on equity versus credit economies and outsider versus insider economies. Outsiders 'do not have a privileged relationship with the company' (p. 166), whereas insiders 'have close, long-term relationships with their investees' (p. 167). Outsider economies establish an accounting system that provides a larger amount of disclosure to address less frequent access to accounting information. Equity/credit economies are related to the objectives of financial reporting. Credit-based countries are more concerned with the prudent calculation of distributable profits to protect creditors, whereas financial reporting users in equity-based countries demand accounting information relevant to performance to predict future cash flows. Relevant information needs to be timely and transparent. Therefore, countries can be classified into strong (Class A) versus weak (Class B) equity-outsider systems. Accounting practices in Class A countries are more transparent, as in Ali and Hwang (2000) who demonstrate higher value relevance of financial data in market oriented (as opposed to bank-oriented) financial systems. This argument leads to our first sub-hypothesis:

H1a: Firms in strong outsider equity oriented (Class A) countries compared to weak outsider equity oriented (Class B) countries are more likely to recognize goodwill impairment losses when the book value of goodwill is economically impaired.

Our second informal institution is the common versus code law classification.³ Legal system has long been viewed as an institution affecting a country's accounting system and practices (e.g., Mueller, 1967; Seidler, 1967). Ball et al. (2000) develop a hypothesis concerning the influences of legal systems on accounting systems/practices, especially conditional accounting conservatism or timely loss recognition, noting that it is a proxy for political versus market orientation accounting differences.

The two legal systems develop their distinctive mechanisms to resolve information asymmetry between managers and potential users of accounting income such as investors, employees, suppliers and customers. In code law countries, important stakeholders have close relationships with managers, and thus the demand for timely loss recognition is smaller than in common law countries.⁴ In common law countries, where shareholder governance prevails, public disclosure plays a greater role in resolving information asymmetry between managers and shareholders. Thus, shareholders prefer accounting income that incorporates economic income in a timelier fashion. In IFRS settings, previous studies show differences in the effects of IFRS on earnings comparability and value relevance (Yip and Young, 2010; Barth et al., 2012) as well as market reaction to IFRS adoption (Armstrong et al., 2010). Following Ball et al. (2000), we expect that firms in common law countries record losses in a more timely manner:

H1b: Firms in common law countries compared to code law countries are more likely to recognize goodwill impairment losses when the book value of goodwill is economically impaired.

Our third informal institution is national culture. Gray (1988) proposed a framework (elaborated by Douppnik and Tsakumis, 2004) that links societal values to accounting values/system/practices based on Hofstede (1980). One of the accounting values which accountants widely share is transparency i.e. culturally derived accounting transparency. Gray (1988) identifies a spectrum of secrecy relative to transparency where 'secrecy' is 'a preference for confidentiality and the restriction of disclosure of information about the business only to those who are closely involved with its management and financing' and where transparency is 'a more transparent, open and publicly accountable approach' (p. 8). In countries with higher accounting transparency values, there is a tendency to be more open, timely and accountable in recognizing value changes. A large volume of research shows the influence of accounting transparency on disclosure practices (Zarzeski, 1996; Jaggi and Low, 2000; Hope, 2003; Douppnik and Riccio, 2006; Han et al., 2012; Hooghiemstra et al., 2015;

³ While Lindahl and Schadéwitz (2013) criticize the common/code law dichotomy because of the increasing importance of legislation, the increasing use of precedent in civil law countries and forces inducing harmonization in Europe, this classification can be useful to explain international differences in goodwill impairment practices if traditional accounting practices persist after IFRS adoption in the EU.

⁴ Moreover, accounting income is viewed as a 'pie' distributed among stakeholders, including shareholders, shareholding banks, governments, and managers and employees. Amplified by asymmetric payouts to banks and employees (Faleye et al., 2006), stakeholders prefer reduced volatility in payouts, and hence in accounting income.

Luo and Tang, 2016; Chen et al., 2017). This accounting value affects not only managers' decisions on accounting judgments (Chand et al., 2012), but also related arrangements in an organization, so that organizations in lower accounting transparency countries tend to be structured so as to avoid conflicts and reduce information disclosure (Hope, 2003; Han et al., 2012). As the exposure of a goodwill impairment loss can be viewed as information disclosure, we expect that in higher transparency countries, firms are more likely to recognize goodwill impairment losses when the book value of goodwill is economically impaired:

H1c: Firms in countries with higher culturally derived accounting transparency values compared to those with lower culturally derived accounting transparency values are more likely to recognize goodwill impairment losses when the book value of goodwill is economically impaired.

During the global financial crisis beginning in 2008, a larger proportion of firms recorded goodwill impairment losses in U.S. and the EU (Potepa and Thomas 2023; André et al. 2016). However, managers faced difficulties in estimating future cash flows during the crisis. Practitioners have raised concerns about goodwill impairment testing during the global financial crisis (e.g., ESMA 2011). In fact, during the crisis, compared to U.S. firms, a larger proportion of European firms experienced economic impairments of book goodwill, but were less likely to recognize impairment losses (André et al., 2016). Consistently, in their investigation of Spanish firms, Giner and Pardo (2015) find a negative association between goodwill impairments and market-to-book ratios only before the crisis but not during it. To the extent that the U.S. has more transparent norms than average European countries, firms in countries with strong transparency norms are expected to impair even in the face of fair value estimation difficulties. Thus, we predict that the influence of transparency norms on goodwill impairment practices persists even during the crisis period, and therefore propose the following hypothesis:

H2: Accounting transparency norms will persistently influence accounting for goodwill practices during the global financial crisis similar to non-crisis periods.

3. Research design

3.1. Empirical model

To investigate the influence of informal institutions impacting accounting transparency on goodwill impairment loss decisions, we run a probit regression model, examining the likelihood of goodwill impairment recognition. Following Beatty and Weber (2006) and Ramanna and Watts (2012), we run the following probit regression:

$$\begin{aligned}
Pr(DImp_{i,t}) = & \beta_0 + \alpha_1 Transparency_c + \alpha_2 Transparency_c \times Crisis_{i,q} \\
& + \beta_1 LnSize_{i,t} + \beta_2 PropGW_{i,t} + \beta_3 BHRet_{i,t} + \beta_4 LnSeg_{i,t} \\
& + \beta_5 RUVA10_{i,t} + \beta_6 Big4_{i,t} + \beta_7 DSmooth_{i,t} + \beta_8 DBath_{i,t} \\
& + \beta_9 DBath_{i,t} \times Crisis_{i,q} + \beta_{10} Enforcement_c \\
& + \beta_{11} Enforcement_c \times Crisis_{i,q} + \beta_{12} ChgGDP_{c,q} \\
& + \beta_{13} Crisis_{i,q} + \varepsilon_{i,t}
\end{aligned} \tag{1}$$

The dependent variable in equation (1), $DImp_{i,t}$, takes the value of one if firm i records goodwill impairment losses in year t . We argue that equation (1) captures the timeliness of goodwill impairment recognition decisions. While the probit regression model examines the likelihood of goodwill impairment recognition, our sample consists of firms whose book value of goodwill is assumed to be economically impaired, as explained in the following sub-section. Thus, when a rule requires a firm to recognize a goodwill impairment loss, its decision to follow the rule in that fiscal year can be viewed as timely. In another respect, a non-impairment decision can be viewed as opaque if a rule requires a firm to recognize impairment of its goodwill. Therefore, examining the likelihood of goodwill impairments provides evidence relating to the timeliness of goodwill impairments.

The variable of main interest is $Transparency_c$, which represents informal institutions impacting accounting transparency norms. c denotes a country in which firms locate. Based on Hellman et al. (2015), we employ three classifications of accounting systems/practices: financing systems (Class A versus Class B), legal origins (common versus code laws), and national culture. $ClassA_c$ is equal to one if a firm locates in a Class A country classified by Nobes (2013). Similarly, $Common_c$ is equal to one if a firm locates in a common-law country. Based on Gray (1988) and following Hope et al. (2008), we construct $Culture_c$ as the sum of the individualism score minus the uncertainty avoidance and power distance scores using Hofstede's (1980, 2001) societal values. These three variables are incorporated into equation (1) one by one because they mutually overlap on a conceptual basis. We expect the coefficients of $Transparency_c$ to be positive.

$Crisis_{i,q}$ is equal to one if firm i 's fiscal year ends between the first quarters of 2009 and 2010 (five quarters), and zero otherwise. We define this period as the global financial crisis because the values of $ChgGDP_{c,q}$ for most countries are negative. Hypothesis 2 predicts that country-level transparency norms persist during the crisis period. Thus, we expect that the combination of $Transparency_c$ and $Transparency_c * Crisis_{i,q}$ will be positive. Since other national institutions may affect the use of discretion differently (Glaum et al., 2018), we include the interaction term between enforcement and

$Crisis_{i,q}$.

We control for factors that affect goodwill impairment recognition decisions.⁵ Following Ramanna and Watts (2012), the model includes $LnSize_{i,t}$, $PropGW_{i,t}$, $BHRet_{i,t}$, $LnSeg_{i,t}$, $RUVA10_{i,t}$,⁶ where $LnSize_{i,t}$ is firm size; $PropGW_{i,t}$ is the proportion of book goodwill to total assets; $BHRet_{i,t}$ is the annual buy-and-hold return; $LnSeg_{i,t}$ is the number of business segments; and $RUVA10_{i,t}$ is the ten-scaled ranking of the ratio of [cash + all investments and advances – debt – preferred equity] to [assets – liabilities]. Although Ramanna and Watts (2012) simply rank unverifiable assets (UVA), our sample is much larger than theirs and thus we rank UVA by decile. In addition, we control for big 4 auditors, $Big4_{i,t}$, as auditing practices affect the timeliness of goodwill impairments (Albersmann and Quick 2020; Ghosh and Xing 2021).⁷

We also add $DSmooth_{i,t}$, $DBath_{i,t}$, $Enforcement_c$, and $ChgGDP_{c,q}$ into the model. $DSmooth_{i,t}$ and $DBath_{i,t}$ are proxies for income smoothing and big bath incentives, respectively.⁸ Following Glaum et al. (2018), we employ dummy variables for $DSmooth_{i,t}$ and $DBath_{i,t}$.⁹ $DBath_{i,t}$ is interacted with $Crisis_{i,q}$ because Giner and Pardo (2015) find that firms record goodwill impairment losses for big bath purposes in the crisis period.¹⁰

Prior research on the effects of IFRS adoption shows that its effects are higher in countries with stronger enforcement (e.g., Li, 2010; Barth et al., 2012; Cascino and Gassen, 2015). We define $Enforcement_c$ as enforcement scores from the Economic Freedom of the World: 2010 Annual Report, employed by Kanagaretnam et al. (2014). The change in a country's gross domestic product during a firm's fiscal year, $ChgGDP_{c,q}$, is included to control for a country's economic condition. We use quarterly GDP to compute this variable. The details of variable definitions are provided in Appendix.

⁵ Prior research shows international variations in disclosure compliance regarding IAS 36 *Impairment of Assets*, using data hand-collected from large listed firms (e.g., Mazzi et al., 2017; André et al., 2018; Mazzi et al., 2018). We do not control for disclosure compliance levels because of data availability. Moreover, to the extent that a country-level transparency norm influences disclosure practices, it is expected to influence not only goodwill impairment practices but also those of related disclosure. Therefore, although Mazzi et al. (2018) provide country-level disclosure compliance scores regarding goodwill accounting practices, we do not control for them in consideration of multicollinearity. Pearson's correlations between *Transparency* and disclosure compliance scores of Mazzi et al. (2018) are 0.5847 and 0.9026 for *ClassA* and *Culture*, respectively. Moreover, narrative disclosure quality also affects the timeliness of goodwill impairment losses (Iatridis et al. 2022). Similar to disclosure compliance, we do not control the quality of narrative disclosure because of data availability.

⁶ Ramanna and Watts (2012) include $numBTM > 1_{i,t}$, which is defined as the number of quarters in year t with $BTM > 1$. We do not incorporate it due to data non-availability.

⁷ Because Worldscope provides only latest data of auditors, we assume that auditors are constant. The exclusion of $Big4_{i,t}$ does not alter the results.

⁸ Although prior research suggests that managers' reputational concerns affect goodwill impairment recognition (Beatty and Weber, 2006; Ramanna and Watts, 2012; Glaum et al., 2018), it is difficult to obtain sufficient data about CEO changes. Thus, as discussed later, we use a reduced sample and present results incorporating changes in CEO, $ChgCEO_{i,t}$, as a robustness check and reported in Table 6.

⁹ To compute $DSmooth_{i,t}$ and $DBath_{i,t}$, we divided our sample into non-crisis and crisis periods based on $Crisis_{i,q}$ because of the relatively small number of our observations, while previous studies do so on an annual basis.

¹⁰ We incorporate the interaction term between $DSmooth_{i,t}$ and $Crisis_{i,q}$, but the coefficients are not statistically significant and the inclusion does not change other results.

3.2. Sample selection

We obtain financial data from Worldscope and price data from Datastream. The sample period is from 2007 to 2014, which results in retrieving data from 2005, the first year of mandatory IFRS adoption in the EU. We restrict our sample of firms to those whose legal and physical domicile is in the 13 European (EU) countries with well-developed capital markets, consistent with our use of the Book-to-Market ratio in our sample selection process. Most cross-country studies assume the same level of equity market efficiency. As this is rarely met in practice (see Richardson et al., 2010 for a review), Gordon et al. (2013) argue that this fact can weaken the conclusions of such studies. However, our focus on the developed EU countries likely reduces this concern. Our country selection is based on Gray (1988).

Our sampling approach is based on Ramanna and Watts' (2012) selection criteria which involves using a firm's book value compared to its market value as an indicator of loss in value where the book value exceeds market value. First, we eliminate observations with a Book-to-Market (BTM) ratio of more than 1 in year $t-2$. The remaining observations are assumed not to have their book value of goodwill impaired in year $t-2$. Next, we retain those observations recognizing the book value of goodwill of more than €1 million in year $t-2$. Further, we consider firms to have their book value of goodwill economically impaired when BTMs (before goodwill impairments) are more than 1 in the subsequent two years, that is, year $t-1$ and t . Finally, we eliminate observations: whose other data from Worldscope are unavailable; with impairment losses less than 0; in financial industries; and with $PropGW_{i,t}$ equal to 0. The final sample comprises 870 firm-year observations with potential goodwill impairments from 13 EU countries.

Table 1 presents the numbers of observations and proportions of observations recording goodwill impairment losses by country. It also presents scores of national institutions for each country. In our sample, 27.70 percent of observations have recognized goodwill impairment losses. The proportion in Ramanna and Watts (2012) sample is similar at 31 percent. Thus, our sample comprises firms with a significant percentage that would appear to have economically impaired book values of goodwill. In addition, Table 1 reports that more than 27 percent of observations are of UK firms. Thus, we also estimate equation (1) by excluding UK observations to eliminate the possibility that UK firms drive our results.

4. Empirical results

4.1. Descriptive statistics and correlations

Table 2 presents descriptive statistics for non-institutional variables.¹¹ The 25th percentile and median values of $PropGW_{i,t}$ are 0.053 and 0.150, respectively. This indicates that firms in our sample

¹¹ $LnSeg_{i,t}$ is winsorized at the 99th percentile by year to mitigate the effects of outliers. $LnSize_{i,t}$, $PropGW_{i,t}$, and $BHRet_{i,t}$ are winsorized at the 1st and 99th percentiles by year. We obtain similar results when trimming the outliers of $LnSeg_{i,t}$, $LnSize_{i,t}$, $PropGW_{i,t}$, and $BHRet_{i,t}$.

potentially report ‘material’ losses which affect managers’ incentives.¹² The median and 75th percentile values of $BHRet_{i,t}$ are -0.055 and 0.235 , respectively, suggesting that some firms experience an improvement in their operations in their second year of $BTM > 1$. The mean value of $LnSeg_{i,t}$ is 0.919 . On average, the observations in our sample have two or three business segments.

Table 3 reports the Pearson correlations. $ClassA_c$, $Common_c$ and $Culture_c$ are highly correlated as the international accounting literature suggests. Thus, we incorporate them into equation (1) one by one.

4.2. Main Results

We present our main results in Table 4. Panels A and B present the results of full and UK-excluded samples, respectively. In Panel A, the coefficients of $ClassA_c$ and $Culture_c$ are positive and statistically significant at the 1% level ($z = 2.77$ and 3.67 , respectively). The coefficient of $Common_c$ is positive and statistically significant at the 10% level ($z = 1.80$). We obtain similar results for $ClassA_c$ and $Culture_c$ in Panel B, excluding UK observations. Consistent with hypothesis 1, the results indicate that informal institutions impacting accounting transparency norms are positively associated with the likelihood of goodwill impairment recognition during non-crisis periods.

The coefficients of $ClassA_c * Crisis_{i,q}$ and $Common_c * Crisis_{i,q}$ are negative and statistically significant at the 1% level ($z = -3.19$ and -4.89 , respectively) in Panel A. It is argued that an interaction term in a non-linear regression is difficult to interpret (Ai and Norton 2003, Green 2010). Thus, we also report mean z-statistics adjusted using the method proposed by Ai and Norton (2003). Consistently, A&N adjusted interaction effects for the two variables are negative and statistically significant at the 1% level (mean $z = -3.60$ and -3.76). The combination of $Common_c$ and $Common_c * Crisis_{i,q}$ is negative and statistically significant at the 1% level ($z = -3.90$). However, that of $ClassA_c$ and $ClassA_c * Crisis_{i,q}$ is insignificant ($z = -1.14$). The coefficient of $Culture_c * Crisis_{i,q}$ is insignificant ($z = -0.32$) and the combination of $Culture_c$ and $Culture_c * Crisis_{i,q}$ is insignificant ($z = 0.87$). The results for $ClassA_c$ and $Culture_c$ are thus not consistent with hypothesis 2. However, Panel B reports that the coefficients of $Transparency_c * Crisis_{i,q}$ are insignificant ($z = -1.07$ and 1.42 for $ClassA_c$ and $Culture_c$, respectively). A&N adjusted interaction effects are similar to the above results. Interestingly, however, the combinations of $Transparency_c$ and $Transparency_c * Crisis_{i,q}$ are positive and statistically significant at the 1% level ($z = 3.51$ and 4.95 for $ClassA_c$ and $Culture_c$, respectively). The results in Panel B are thus consistent with hypothesis 2 that accounting transparency norms persistently influence goodwill accounting practices during the global financial crisis. As shown for $Common_c$ in Panel A, UK firms with potential goodwill impairments appear less likely to record goodwill impairment losses during the crisis period. This may be either because UK firms are highly market-

¹² Previous studies consider impairment losses more than 0.5 or 1 percent of total assets as “material” losses (e.g., Elliott and Shaw, 1988; Rees et al., 1996).

oriented and the crisis negatively affected their stock prices to a greater extent than in other countries, causing a large deviation of stock prices from firms' fundamentals (See Chen et al., 2019 for a study on consequences of BTM-driven goodwill impairments) or because firms in Anglo-Saxon countries tend to be more optimistic (Gray, 1988) and such optimism affects managers' accounting choices when an unprecedented event happens and the future outlook is uncertain, or both.

In Panel A, the coefficient of $DSmooth_{i,t}$ is insignificant. Given our focus on BTM ratios of more-than-one, which indicates a firm-level deterioration in financial position, on average, our sample firms do not have incentives to recognize goodwill impairment losses for smoothing purposes when their earnings increase or recover. The coefficient of $DBath_{i,t}$ is significantly positive, suggesting that firms take big baths at the time of goodwill impairment recognition. Similarly, the combination of $DBath_{i,t}$ and $DBath_{i,t} * Crisis_{i,q}$ is significantly positive, indicating that firms behave in the crisis period similarly to non-crisis periods. However, it is important to carefully interpret the results regarding the difference in the likelihood of big bath reporting between the crisis and non-crisis periods. While the interaction term between $DBath_{i,t} * Crisis_{i,q}$ is insignificant, its A&N adjusted interaction effect is negative and statistically significant at the 5% level.¹³ The A&N adjusted result suggests that firms are less likely to record goodwill impairments for the purpose of big bath reporting in the crisis period, although this is not the case as shown in Panel B.

In addition to firm-level reporting incentives, while prior research suggests that enforcement in a country is a determinant of the effect of IFRS (e.g., Li, 2010; Barth et al., 2012; Cascino and Gassen, 2015; Glaum et al., 2018), our results do not necessarily support the relationship between enforcement and goodwill impairment recognition decisions. This may reflect our choice of sample countries. We employ countries with relatively highly developed capital markets. Because EU countries have similar capital market regulations in a broad sense, the effect of enforcement may be a weak differentiator among developed EU countries. However, the coefficient of $Enforcement_c * Crisis_{i,q}$ is positive and statistically significant. More importantly, the combination of $Enforcement_c$ and $Enforcement_c * Crisis_{i,q}$ is significantly positive. These results suggest that enforcement had a significant influence during the crisis period but not otherwise.

4.3. Robustness checks

We conduct several analyses to further test the relationship between transparency norms and goodwill impairment decisions.

4.3.1. Other cultural measures

Countries are grouped into cultural areas. As Hofstede's societal values were measured in the 1970's, the relative positions of countries and cultural groupings may have changed. To mitigate this effect,

¹³ Note that Kolasinski and Siegel (2010) argue that an interaction term in a probit regression is interpretable.

we employ two cultural group classifications: the World Values Survey (WVS 2015) and Ronen and Shenkar (2013).

The results are reported in Table 5. WVS shows that EU countries with the same religion or language have similar societal values. Specifically, it divides our sample countries into English-Speaking, Protestant-Europe and Catholic-Europe areas. Classification by religion/language is helpful in understanding the effect of informal institutions across countries (Stulz and Williamson, 2003).¹⁴ We divide our sample countries into English-speaking/Protestant (EP) and Catholic countries and replace $Transparency_c$ with EP dummy, EP_c . The coefficients of EP_c are positive and statistically significant ($z = 2.69$ and 2.09 for full and UK-excluded samples, respectively). The coefficients of $EP_c * Crisis_{i,q}$ and its A&N adjusted interaction effects are statistically insignificant. The combination of EP_c and $EP_c * Crisis_{i,q}$ is insignificant for the full sample but significant at the 1% level for the UK-excluded sample. This difference between full and UK-excluded samples is consistent with our main results.

Ronen and Shenkar (2013) classify EU countries into Anglo-Saxon, Nordic, Germanic and Latin areas. We incorporate dummies of these cultural areas one by one.¹⁵ $Latin_c$ is significantly negatively associated with goodwill impairment decisions ($z = -2.94$ and -2.47 for full and UK-excluded samples, respectively). $Nordic_c$ is positively associated with goodwill impairment decisions at the 1% level ($z = 2.84$ and 4.26). The results suggest that firms in Latin countries are less likely to record goodwill impairments and that firms in Nordic countries are more likely to do so. In the crisis period, the result indicates that goodwill impairment practice in the Latin countries is similar to that in non-crisis periods. The results also suggest that firms in Nordic and Germanic countries are more likely to recognize goodwill impairments in the crisis period ($z = 5.56$ and 3.76 for Nordic and Germanic countries in the full sample analyses, respectively). Moreover, we estimate the probit models incorporating dummies of Anglo-Saxon, Nordic and Germanic countries at the same time (Panel B of Table 6). The results suggest that firms in Anglo-Saxon and Nordic countries are more likely to record goodwill impairment losses in non-crisis periods compared to those in Latin countries. In the crisis period, firms in Anglo-Saxon countries are less likely to recognize goodwill impairments compared to those in the Latin countries. The difference in goodwill impairment practices between Nordic and Latin countries in the crisis period is similar to that in the non-crisis periods. While firms in Germanic countries are more likely to recognize goodwill impairments in the crisis period, this is not the case for non-crisis periods.

In sum, the results are consistent with our main analyses, but show some variations in goodwill impairment practice among regional groupings. In addition to regional groupings of cultures, we rank $Culture_c$ to mitigate the time effect on relative positioning of countries, and obtain results similar to

¹⁴ Alshehabi et al. (2023) suggest the effect of time orientation in languages on the timeliness of goodwill impairment losses.

¹⁵ Note that the UK and Ireland are the only Anglo-Saxon countries in our sample. We do not incorporate an Anglo-Saxon dummy because it is the same as $Common_c$.

our main analyses (untabulated).

4.3.2. Changes in CEO

We incorporate changes in CEO into equation (1). While prior research suggests that new incoming CEOs record goodwill impairment losses so as to attribute them to prior CEO's decisions (e.g., Glaum et al., 2018), it is difficult to obtain sufficient data of CEO changes. Thus, we use a reduced sample and present results incorporating changes in CEO, $ChgCEO_{i,t}$, as a robustness check in Table 6.¹⁶¹⁷

The coefficients of $Transparency_c$ are consistently positive and statistically significant ($z = 3.36$, 1.84 and 2.46 for $ClassA_c$, $Common_c$ and $Culture_c$, respectively), consistent with the main results. The results for the crisis period are slightly different from but similar to those of the main results. The coefficients of $ClassA_c * Crisis_{i,q}$ and $Common_c * Crisis_{i,q}$ are significantly negative ($z = -2.05$ and -1.95 for $ClassA_c$ and $Common_c$, respectively) but that of $Culture_c * Crisis_{i,q}$ is statistically insignificant ($z = -0.69$), consistent with the main results. Note that A&N adjusted mean interaction effects for $ClassA_c$ and $Common_c$ are insignificant (mean $z = -0.77$). As this is observed even when excluding $ChgCEO_{i,t}$ (untabulated), the reduced observations may cause the insignificant results. The combinations of $Transparency_c$ and $Transparency_c * Crisis_{i,q}$ are insignificant for all the three variables ($z = 0.30$, -0.76 and 0.97 for $ClassA_c$, $Common_c$ and $Culture_c$, respectively). The analysis of the UK-excluded sample is similar to our main results except for the combination of $Culture_c$ and $Culture_c * Crisis_{i,q}$, which is positive as predicted but not statistically significant ($z = 1.61$; $p = 0.107$). In sum, we obtain inferences similar to the main results (in Panel A of Table 4) by incorporating $ChgCEO_{i,t}$.

4.3.3. Other enforcement measures

We estimate equations (1) using other measures of enforcement. Prior research employed a variety of enforcement measures: (1) rule of law from La Porta et al. (1998) (Salter et al., 2013); (2) mean value of efficiency of judicial system, rule of law, and corruption from La Porta et al. (1998) (Leuz et al., 2003; Burgtähler et al., 2006; Hope et al., 2008; Han et al., 2012; Li, 2010); (3) mean value of efficiency of judicial system, rule of law, corruption, risk of expropriation, and repudiation of contracts by government from La Porta et al. (1998) (Han et al., 2010; Kanagaretnam et al., 2011); (4) enforcement score from Economic Freedom of the World: 2010 Annual Report (Kanagaretnam et al.,

¹⁶ Worldscope does not provide historical CEO data and we use BoardEx. Then, our data have two limitations: BoardEx does not entirely cover EU listed companies, and we do not have access to UK data because BoardEx separately provides UK and EU data. We collected the UK data by hand, obtaining annual reports from the website of Companies House (<https://www.gov.uk/government/organisations/companies-house>). We checked the amount of total assets to ensure the matching of Worldscope and Companies House. We also use the ISIN code to identify firms. Consequently, our sample size decreased from 870 to 534 firm-year observations.

¹⁷ The coefficients of $ChgCEO_{i,t}$ are not statistically significant at the conventional level. This may reflect the findings of Siggelkow and Zülch (2013) and Iatridis and Senfleichner (2014), who show that changes in CEO are not associated with impairment recognition in Germany and Austria, respectively. Managers in some countries may not have incentives to record goodwill impairment losses for various reasons. See d'Arcy and Tarca (2018) for a review of management incentives in goodwill impairment settings.

2014); and (5) enforcement, auditing, or total index from Brown et al. (2014) (André et al., 2015; Cascino and Gassen, 2015). While we use enforcement measure (4) for the main analysis, the other four measures are also examined in this robustness check.

The coefficients of *Transparency_c* for probit regressions are statistically significant in the same directions as the main analyses except for *Common_c* using (2) mean value of efficiency of judicial system, rule of law, and corruption and (3) mean value of efficiency of judicial system, rule of law, corruption, risk of expropriation, and repudiation of contracts by government from La Porta et al. (1998) (untabulated). Overall, the results of the main analyses are robust to our sample and variable selection.

4.3.4. Dividing the sample into crisis and non-crisis periods

As the interaction terms in the probit regressions may not be interpretable, we divide the full sample into crisis and non-crisis periods and estimate the coefficients of *Transparency_c*, excluding *Crisis_{i,q}* and the interaction terms with *Crisis_{i,q}* in equation (1). The results are presented in Table 7. For the full sample, the coefficient of *Transparency_c* is statistically significant and positive at the 10% and 5 % levels for *ClassA_c* and *Culture_c*, respectively ($z = 1.80$ and 2.10 for *ClassA_c* and *Culture_c*, respectively), but insignificant for *Common_c* ($z = 1.12$). For the UK-excluded sample, both coefficients of *Transparency_c* for *ClassA_c* and *Culture_c* are statistically significant at the 1% level ($z = 4.31$ and 3.25 for *ClassA_c* and *Culture_c*, respectively). Although the result for *Common_c* is not consistent with the main result, other results are similar to those in the main test.

For the crisis period, we obtain qualitatively similar results, except for the coefficient of *Culture_c* for the full sample. It is statistically significant at the 5% level and positive ($z = 2.03$), whereas that for the main test is insignificant. The result for *Culture_c* in this robustness check is consistent with those of the UK-excluded sample in both main and robustness tests.

4.3.5. OLS regression

A probit regression examines the likelihood of goodwill impairments. We consider both the likelihood and magnitude of goodwill impairments by using an OLS regression.¹⁸ Moreover, the use of interaction terms is not problematic when using an OLS regression (Ramanna and Watts, 2012). The results for OLS regressions are presented in Table 8.

The results are qualitatively similar to those in the main tests, except for *ClassA_c* for the full sample

¹⁸ We also estimate a tobit regression by dividing the sample into the crisis and non-crisis periods like the results presented in Table 7. However, we do not present the results because pseudo R-squared is not properly calculated. The results are qualitatively similar to those in the main tests, except for the coefficient of *Common_c* for the full sample in the non-crisis period and that of *Culture_c* for the full sample in the crisis period. The coefficient of *Common_c* for the full sample in the non-crisis period is insignificant ($t = 1.01$), similar to that in Table 7. The coefficient of *Culture_c* for the full sample in the crisis period is positive and statistically significant at the 5% level ($t = 2.55$), consistent with hypothesis 2. That in the main test is positive but statistically insignificant.

in the crisis period and $Culture_c$ for the UK-excluded sample in the crisis period. The coefficient of $ClassA_c$ for the full sample in the crisis period is statistically significant at the 5% level ($t = -2.35$) and negative, which is opposite to that for the UK-excluded sample. Thus, observations from the UK can drive the conflicting results. The coefficient of $Culture_c$ for the UK-excluded sample in the crisis period is positive but statistically insignificant ($t = 0.97$). When considering the magnitude of goodwill impairments, managers might make decisions on the recognition and measurement of goodwill impairment losses separately.¹⁹

5. Conclusions

Our study investigates the ways in which national institutions impacting accounting transparency norms may continue to influence accounting practices, in particular the use of management discretion, in the context of a global accounting standards setting regime. Specifically, we examine whether informal institutions related to accounting transparency norms influence goodwill impairment loss decisions in Europe following the implementation of IFRS. This is a key reporting decision, in line with the growing importance of M&A in recent years and possibly significant impacts of impairments on performance and financial position.

The prior international accounting literature has established that the national institutions we examine have explained international differences in accounting systems/practices in past times when national standard setting regimes have been prominent. We hypothesize that these institutions continue to influence accounting transparency norms and practices in the European EU member countries where the global standards of IFRS have been required to be followed since 2005. The results suggest, consistent with our hypothesis, that firms in countries with strong equity-outsider financing, a common law tradition, and higher culturally derived accounting transparency values are more likely to engage in more highly transparent accounting practices. This is especially the case during the non-global financial crisis periods. We also find some evidence that the influence of accounting transparency norms persists during the global financial crisis period.

Our study contributes to the literature in three ways. First, our paper extends prior research examining international variations in accounting choices under IFRS by investigating goodwill impairment recognition, an accounting practice that has significant economic impacts on financial statements. Second, our paper extends Glaum et al. (2018) by focusing on firms whose book value of goodwill is assumed to be economically impaired and provides more compelling evidence suggesting limitations in the current standards governing goodwill impairment across countries. Third, we contribute to prior research on the culturally derived accounting transparency values proposed by Gray (1988). Recently, accounting standards increasingly require the reporting of forward-looking

¹⁹ The result should be interpreted cautiously because the coefficient from the tobit regression is positive and statistically significant at the 1% level, consistent with that from the probit regressions.

information in financial statements based on estimates of future cash flows. Our evidence extends this literature by suggesting that even if accounting standards are converged or unified, the long-sustained cultural orientation towards transparency in a country influences the extent to which forward-looking information is incorporated into financial statements. Our findings also have implications for accounting standards setters in that a long-sustained country-level accounting norm, i.e. transparency, seems worthy of consideration if the aim is to promote timelier goodwill impairment recognition.

Our findings are, of course, limited to firms based in 13 IFRS-adopting European countries, with well-developed capital markets, and to the time period examined i.e., 2007-2014. Hence our findings may not necessarily apply to other countries/regions around the world that have adopted IFRS or to different time periods. Future research could examine institutional influences on M&A practices in other geographic areas and could also be expanded to include countries such as the US where similar goodwill impairment standards are in place.

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APPENDIX: VARIABLE DEFINITIONS

Dependent variables

$DImp_{i,t}$: the value of one if firm i records goodwill impairment losses in year t .

$Imp_{i,t}$: the amount of goodwill impairment losses, divided by total assets at the end of fiscal year $t-1$.

Transparency variables

$ClassA_c$: the value of one if a firm locates in a Class A country classified by Nobes (2013).

$Common_c$: the value of one if a firm locates in a common-law country.

$Culture_c$: the sum of Individualism minus Uncertainty Avoidance and Power Distance. This variable is divided by 100 for presentation purpose.

Control variables

$LnSize_{i,t}$: the natural log of beginning-of-period total assets.

$PropGW_{i,t}$: the ratio of beginning-of-period book goodwill to beginning-of-period assets.

$BHRet_{i,t}$: the buy-and-hold return in year t .

$LnSeg_{i,t}$: the natural log of the number of business segments.

$RUVA10_{i,t}$: the ten-scaled ranking of the ratio of [cash + all investments and advances – debt – preferred equity] to [assets – liabilities].

$DSmooth_{i,t}$: one if the change in net income before goodwill impairment losses in year t , divided by total assets in year $t-1$, is positive and above the median of non-zero positive values in non-crisis or crisis periods, and net income in year t is positive.

$DBath_{i,t}$: one if the change in net income before goodwill impairment losses in year t , divided by total assets in year $t-1$, is negative and below the median of non-zero negative values in non-crisis or crisis periods, and net income in year t is negative.

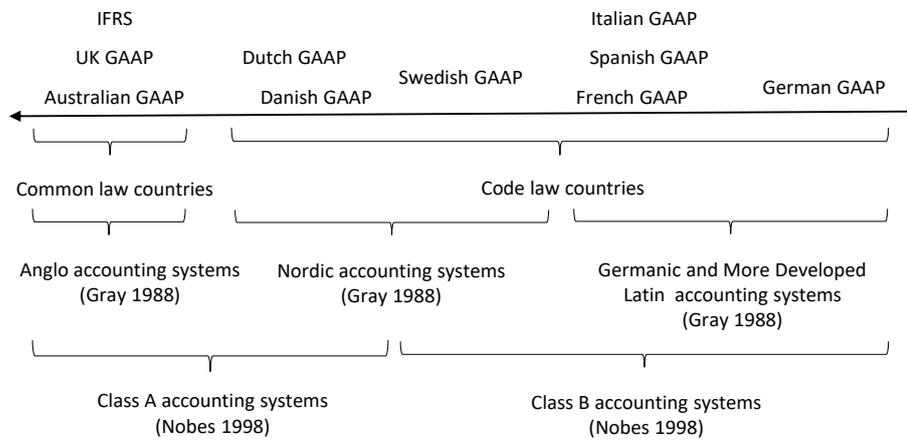
$Enforcement_c$: law enforcement score from Economic Freedom of the World: 2010 Annual Report. This measure is employed by Kanagaretnam et al. (2014).

$ChgGDP_{i,q}$: the percentage change in a country's gross domestic product (GDP) during the fiscal year of a firm. Annual GDP is computed on a quarterly basis.

$Crisis_{i,q}$: the value of one if firm i 's fiscal year ends between the first quarters of 2009 and 2010 (five quarters), and zero otherwise.

$ChgCEO_{i,t}$: the value of one if a firm experiences a change in CEO in year t .

Figure 1. International accounting classifications, IFRS and accounting standards of countries



Source: Hellman et al. (2015)

Table 1. The distribution of observations by country and scores of national institutions

	Total	Non-crisis periods	Crisis period	<i>Class A</i>	<i>Common</i>	<i>Culture</i>
Austria	20 (9) 45.00%	6 (2) 33.33%	14 (7) 50.00%	0	0	-26
Belgium	32 (5) 15.63%	17 (2) 11.76%	15 (3) 20.00%	0	0	-84
Denmark	29 (10) 34.48%	14 (4) 28.57%	15 (6) 40.00%	1	0	33
Finland	36 (12) 33.33%	27 (8) 29.63%	9 (4) 44.44%	0	0	-29
France	163 (47) 28.83%	86 (23) 26.74%	77 (24) 31.17%	0	0	-83
Germany	120 (37) 30.83%	68 (16) 23.53%	52 (21) 40.38%	0	0	-33
Ireland	5 (3) 60.00%	4 (3) 75.00%	1 (0) 0.00%	1	1	7
Italy	80 (15) 18.75%	46 (11) 23.91%	34 (4) 11.76%	0	0	-50
Netherlands	24 (10) 41.67%	15 (7) 46.67%	9 (3) 33.33%	1	0	-11
Portugal	17 (3) 17.65%	11 (3) 27.27%	6 (0) 0.00%	0	0	-140
Spain	39 (7) 17.95%	24 (5) 20.83%	15 (2) 13.33%	0	0	-92
Sweden	68 (18) 26.47%	41 (10) 24.39%	27 (8) 29.63%	0	0	11
UK	237 (65) 27.43%	108 (34) 31.48%	129 (31) 24.03%	1	1	19
Total	870 (241) 27.70%	467 (128) 27.41%	403 (113) 28.04%			

Note: Table 1 presents the distribution of observations by country and scores of national institutions. The first row for each country reports the number of observations in the sample and impairment observations in parentheses from the first to third columns. In the first to third columns, the second row (percentage value) for each country-period reports the proportion of impairment observations to all observations in the country-period. The crisis period is based on $Crisis_{i,q}$ in Equation (1). The scores of national institutions are displayed from the fourth to sixth columns.

Table 2. Descriptive statistics

	Mean	SD	Min.	25 %ile	Median	75 %ile	Max.	Skewness	N
<i>LnSize</i>	12.700	2.133	8.127	11.146	12.351	14.014	18.982	0.566	870
<i>PropGW</i>	0.208	0.187	0.000	0.053	0.150	0.314	0.812	1.010	870
<i>BHRet</i>	0.025	0.551	-0.974	-0.303	-0.055	0.235	2.374	1.505	870
<i>LnSeg</i>	0.919	0.584	0.000	0.693	1.099	1.386	2.235	-0.214	870
<i>RUNA10</i>	5.500	2.874	1.000	3.000	5.500	8.000	10.000	0.000	870
<i>Big4</i>	0.714	0.452	0.000	0.000	1.000	1.000	1.000	-0.946	870
<i>D_Smooth</i>	0.120	0.325	0.000	0.000	0.000	0.000	1.000	2.345	870
<i>D_Bath</i>	0.259	0.438	0.000	0.000	0.000	1.000	1.000	1.102	870
<i>Enforcement</i>	5.893	1.071	3.180	5.550	6.040	6.620	7.010	-1.359	870
<i>ChgGDP</i>	-0.020	0.064	-0.158	-0.040	-0.015	0.021	0.193	-0.426	870
<i>Crisis</i>	0.463	0.499	0.000	0.000	0.000	1.000	1.000	0.148	870

Note: Table 2 provides descriptive statistics for non-institutional variables. Definitions of variables are provided in the appendix. $LnSeg_{i,t}$ is winsorized at the 99th percentile. $LnSize_{i,t}$, $PropGW_{i,t}$, and $BHRet_{i,t}$ are winsorized at the 1st and 99th percentiles.

Table 3. Pearson correlations

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
(1) <i>DImp</i>	1													
(2) <i>ClassA</i>	0.0341	1												
(3) <i>Common</i>	0.0055	0.8667	1											
(4) <i>Culture</i>	0.0494	0.7546	0.6681	1										
(5) <i>LnSize</i>	0.1348	-0.1717	-0.2169	-0.268	1									
(6) <i>PropGW</i>	0.0150	0.1804	0.2473	0.176	-0.3637	1								
(7) <i>BHRet</i>	-0.1148	-0.0129	-0.0163	-0.004	0.0744	0.0075	1							
(8) <i>LnSeg</i>	0.0085	-0.2199	-0.2712	-0.213	0.3840	-0.2047	0.0643	1						
(9) <i>RUNA10</i>	0.0067	-0.1196	-0.1411	-0.150	0.2974	-0.1670	0.0176	0.1198	1					
(10) <i>Big4</i>	0.0055	-0.0836	-0.1461	-0.008	0.3808	-0.1261	0.0684	0.1588	0.1191	1				
(11) <i>D_Smooth</i>	-0.0539	0.0504	0.0559	0.065	-0.0876	0.0493	0.1605	-0.0459	-0.0863	-0.0724	1			
(12) <i>D_Bath</i>	0.1506	0.0705	0.0610	0.108	-0.0453	-0.0639	-0.2092	-0.0630	0.0315	-0.0035	-0.2176	1		
(13) <i>Enforcement</i>	0.0676	0.0452	0.0721	-0.101	-0.0523	0.0155	0.0236	-0.0752	-0.1238	-0.1729	0.0235	0.0297	1	
(14) <i>ChgGDP</i>	-0.0366	-0.3142	-0.3596	-0.275	0.0000	-0.0590	-0.2199	0.0684	-0.0304	-0.0601	0.0448	-0.0335	0.0443	1
(15) <i>Crisis</i>	0.0070	0.0845	0.0921	0.059	-0.0360	0.0068	0.4141	-0.0289	0.0100	-0.0340	-0.0368	0.0041	0.0302	-0.6825

Note: Table 3 presents Pearson correlations. Definitions of variables are provided in the appendix. Bold denotes the coefficients are statistically significant at the 5 percent level (two-tailed).

Table 4. The influence of transparency on goodwill impairment decisions

Panel A: Full sample

	<i>ClassA</i>			<i>Common</i>			<i>Culture</i>		
	Coef.	z-statistic	ME	Coef.	z-statistic	ME	Coef.	z-statistic	ME
<i>Constant</i>	-2.582***	-4.49		-2.497***	-4.61		-2.676***	-4.98	
<i>Transparency</i>	0.240***	2.77	0.080	0.143*	1.80	0.047	0.298***	3.67	0.097
<i>Transparency</i> × <i>Crisis</i>	-0.448***	-3.19	-0.131	-0.587***	-4.89	-0.164	-0.080	-0.32	-0.026
<i>LnSize</i>	0.145***	3.72	0.047	0.145***	3.81	0.047	0.158***	4.42	0.052
<i>PropGW</i>	0.675*	1.92	0.220	0.730**	2.08	0.238	0.645*	1.78	0.210
<i>BHRet</i>	-0.301**	-2.09	-0.098	-0.311**	-2.26	-0.101	-0.305**	-2.13	-0.100
<i>LnSeg</i>	-0.031	-0.31	-0.010	-0.046	-0.46	-0.015	-0.022	-0.24	-0.007
<i>UVA10</i>	-0.016	-1.05	-0.005	-0.019	-1.22	-0.006	-0.014	-0.92	-0.005
<i>Big4</i>	-0.155	-0.99	-0.052	-0.172	-1.15	-0.057	-0.172	-1.04	-0.057
<i>D_Smooth</i>	-0.018	-0.11	-0.006	0.006	0.04	0.002	-0.026	-0.16	-0.008
<i>D_Bath</i>	0.470***	4.27	0.163	0.478***	4.32	0.165	0.471***	4.33	0.163
<i>D_Bath</i> × <i>Crisis</i>	-0.155	-1.41	-0.049	-0.170	-1.61	-0.053	-0.168	-1.47	-0.053
<i>Enforcement</i>	-0.008	-0.29	-0.003	-0.008	-0.27	-0.002	0.003	0.13	0.001
<i>Enforcement</i> × <i>Crisis</i>	0.212***	4.01	0.069	0.222***	4.72	0.072	0.212***	3.31	0.069
<i>ChgGDP</i>	-1.350*	-1.86	-0.440	-2.325***	-4.34	-0.757	-0.087	-0.12	-0.028
<i>Crisis</i>	-1.004***	-3.10	-0.313	-1.120***	-3.78	-0.345	-1.074***	-3.38	-0.332
# of observations		870			870			870	
LR chi2		72.05***			74.34***			72.36***	
Log likelihood		-477.36728			-476.22214			-477.21604	
Pseudo R-squared		0.0702			0.0724			0.0705	

	Coef.	z-statistic	Coef.	z-statistic	Coef.	z-statistic
<i>Transparency</i>						
+ <i>Transparency</i> × <i>Crisis</i>	-0.208	-1.14	-0.444***	-3.90	0.218	0.87
<i>D_Bath</i>						
+ <i>D_Bath</i> × <i>Crisis</i>	0.315***	3.21	0.307***	3.16	0.303***	3.33
<i>Enforcement</i>						
+ <i>Enforcement</i> × <i>Crisis</i>	0.205***	3.62	0.214***	4.02	0.215***	3.94

	A&N interaction effect	mean z	A&N interaction effect	mean z	A&N interaction effect	mean z
<i>Transparency</i> × <i>Crisis</i>	-0.116***	-3.60	-0.120***	-3.76	-0.052	-1.45
<i>D_Bath</i> × <i>Crisis</i>	-0.087**	-2.10	-0.090**	-2.23	-0.090**	-2.16
<i>Enforcement</i> × <i>Crisis</i>	0.069***	3.73	0.071***	4.22	0.068***	3.01

Panel B: Sample excluding UK observations

	<i>ClassA</i>			<i>Culture</i>		
	Coef.	z-statistic	ME	Coef.	z-statistic	ME
<i>Constant</i>	-2.514***	-3.12		-2.672***	-3.68	
<i>Transparency</i>	0.522***	4.55	0.189	0.407***	2.98	0.132
<i>Transparency</i> × <i>Crisis</i>	-0.189	-1.07	-0.058	0.332	1.42	0.107
<i>LnSize</i>	0.132**	2.56	0.043	0.158***	3.56	0.051
<i>PropGW</i>	1.182***	3.28	0.384	1.216***	3.43	0.393
<i>BHRet</i>	-0.239	-1.20	-0.078	-0.264	-1.42	-0.085
<i>LnSeg</i>	0.067	0.90	0.022	0.061	0.81	0.020
<i>UVA10</i>	-0.011	-0.53	-0.004	-0.007	-0.38	-0.002
<i>Big4</i>	-0.346***	-3.03	-0.118	-0.398***	-2.94	-0.136
<i>D_Smooth</i>	-0.003	-0.01	-0.001	-0.013	-0.05	-0.004
<i>D_Bath</i>	0.568***	5.27	0.199	0.548***	4.97	0.190
<i>D_Bath</i> × <i>Crisis</i>	-0.211	-1.57	-0.065	-0.241*	-1.90	-0.073
<i>Enforcement</i>	-0.003	-0.11	-0.001	0.005	0.18	0.002
<i>Enforcement</i> × <i>Crisis</i>	0.228***	5.12	0.074	0.262***	6.90	0.085
<i>ChgGDP</i>	-2.604***	-3.65	-0.847	-0.959	-0.94	-0.310
<i>Crisis</i>	-1.195***	-4.10	-0.357	-1.142***	-4.84	-0.341
# of observations	633			633		
LR chi2	58.54***			66.51***		
Log likelihood	-344.89466			-340.90822		
Pseudo R-squared	0.0782			0.0889		

	Coef.	z-statistic	Coef.	z-statistic
<i>Transparency</i> + <i>Transparency</i> × <i>Crisis</i>	0.334***	3.51	0.739***	4.95
<i>D_Bath</i> + <i>D_Bath</i> × <i>Crisis</i>	0.357***	2.76	0.307**	2.49
<i>Enforcement</i> + <i>Enforcement</i> × <i>Crisis</i>	0.224***	4.80	0.267***	10.57

	A&N interaction effect	mean z	A&N interaction effect	mean z
<i>Transparency</i> × <i>Crisis</i>	-0.091	-0.46	0.009	-0.18
<i>D_Bath</i> × <i>Crisis</i>	-0.104	-1.21	-0.110	-1.43
<i>Enforcement</i> × <i>Crisis</i>	0.072*	1.65	0.086*	1.71

Note: Table 4 presents the results by running the following probit regressions:

$$\begin{aligned}
 \Pr(DImp_{i,t}) = & \beta_0 + \alpha_1 Transparency_c + \alpha_2 Transparency_c \times Crisis_{i,q} + \beta_1 LnSize_{i,t} + \beta_2 PropGW_{i,t} \\
 & + \beta_3 BHRet_{i,t} + \beta_4 LnSeg_{i,t} + \beta_5 RUVA10_{i,t} + \beta_6 Big4_{i,t} + \beta_7 DSmooth_{i,t} + \beta_8 DBath_{i,t} \\
 & + \beta_9 DBath_{i,t} \times Crisis_{i,q} + \beta_{10} Enforcement_c + \beta_{11} Enforcement_c \times Crisis_{i,q} \\
 & + \beta_{12} ChgGDP_{i,q} + \beta_{13} Crisis_{i,q} + \varepsilon_{i,t}
 \end{aligned}$$

Panels A and B report the results of full and UK-excluded samples, respectively. $Dimp_{i,t}$ takes the value of one if firm i records goodwill impairment losses in year t , and zero otherwise. $Transparency_c$ is $ClassA_c$, $Common_c$ or $Culture_c$. $ClassA_c$ takes the value of one if a firm locates in a Class A country classified by Nobes (2013). $Common_c$ takes the value of one if a firm locates in a common-law country. $Culture_c$ is the sum of Individualism minus Uncertainty Avoidance and Power Distance. Definitions of other variables are provided in the appendix. z-statistics are clustered by country. The values of $Culture_c$ are divided by 100 for presentation purposes. *, ** and *** denote significance at the 10%, 5% and 1% levels (two-tailed), respectively.

Table 5. Robustness checks by using regional groupings

Panel A: Incorporating regional and religious groupings one by one

	Full sample				UK-excluded sample			
	<i>CountryGroup</i>		<i>CountryGroup</i> × <i>Crisis</i>		<i>CountryGroup</i>		<i>CountryGroup</i> × <i>Crisis</i>	
	Coef.	z-statistic	Coef.	z-statistic	Coef.	z-statistic	Coef.	z-statistic
English-speaking /Protestant from WVS	0.233***	2.69	-0.017	-0.09	0.253**	2.09	0.162	1.33
Nordic countries from Ronen/Shenkar	0.248***	2.84	0.313**	2.17	0.336***	4.26	0.134	1.04
Germanic countries from Ronen/Shenkar	-0.111*	-1.91	0.482***	4.15	-0.072	-0.92	0.349***	4.62
Latin countries from Ronen/Shenkar	-0.252***	-2.94	-0.038	-0.21	-0.278**	-2.47	-0.204*	-1.71

	<i>CountryGroup</i> + <i>CountryGroup</i> × <i>Crisis</i>		Mean interaction effect of <i>CountryGroup</i> * <i>Crisis</i>	Mean z	<i>CountryGroup</i> + <i>CountryGroup</i> × <i>Crisis</i>		Mean interaction effect of <i>CountryGroup</i> * <i>Crisis</i>	Mean z
	Coef.	z-statistic			Coef.	z-statistic		
English-speaking /Protestant from WVS	0.215	1.35	-0.032	-0.92	0.415***	4.27	0.002	-0.21
Nordic countries from Ronen/Shenkar	0.561***	5.56	0.042	0.71	0.470***	3.17	-0.009	-0.27
Germanic countries from Ronen/Shenkar	0.371***	3.76	0.129***	2.92	0.277***	3.38	0.081	0.44
Latin countries from Ronen/Shenkar	-0.291*	-1.91	0.024	0.79	-0.482***	-6.08	-0.006	0.26

Panel B: Incorporating all the regional groupings

	Full sample				UK-excluded sample			
	<i>CountryGroup</i>		<i>CountryGroup</i> × <i>Crisis</i>		<i>CountryGroup</i>		<i>CountryGroup</i> × <i>Crisis</i>	
	Coef.	z-statistic	Coef.	z-statistic	Coef.	z-statistic	Coef.	z-statistic
Anglo countries from Ronen/Shenkar	0.277***	3.08	-0.431***	-4.03	0.324***	3.37	0.283**	2.38
Nordic countries from Ronen/Shenkar	0.362***	5.41	0.191*	1.88	0.020	0.25	0.393***	3.46
Germanic countries from Ronen/Shenkar	0.072	0.86	0.325***	4.34				

	<i>CountryGroup</i> + <i>CountryGroup</i> × <i>Crisis</i>		Mean interaction effect of <i>CountryGroup</i> * <i>Crisis</i>	Mean z	<i>CountryGroup</i> + <i>CountryGroup</i> × <i>Crisis</i>		Mean interaction effect of <i>CountryGroup</i> * <i>Crisis</i>	Mean z
	Coef.	z-statistic			Coef.	z-statistic		
	Anglo countries from Ronen/Shenkar	-0.154**	-2.44		-0.112***	-3.56	0.607 ***	
Nordic countries from Ronen/Shenkar	0.552***	7.14	0.007	-0.07	0.413 ***	4.32	0.079	0.29
Germanic countries from Ronen/Shenkar	0.397***	4.48	0.063**	2.20				

Note: Table 6 presents the results by running the following probit regressions:

$$\Pr(DImp_{i,t}) = \beta_0 + \alpha_1 Transparency_c + \alpha_2 Transparency_c \times Crisis_{i,q} + \beta_1 LnSize_{i,t} + \beta_2 PropGW_{i,t} + \beta_3 BHRet_{i,t} + \beta_4 LnSeg_{i,t} + \beta_5 RUVA10_{i,t} + \beta_6 Big4_{i,t} + \beta_7 DSmooth_{i,t} + \beta_8 DBath_{i,t} + \beta_9 DBath_{i,t} \times Crisis_{i,q} + \beta_{10} Enforcement_c + \beta_{11} Enforcement_c \times Crisis_{i,q} + \beta_{12} ChgGDP_{i,q} + \beta_{13} Crisis_{i,q} + \varepsilon_{i,t}$$

$DImp_{i,t}$ takes the value one if firm i records goodwill impairment losses in year t , and zero otherwise. $Transparency_c$ is replaced with country groupings. English-speaking /Protestant countries from WVS are Denmark, Finland, Germany, Ireland, Netherlands, Sweden and UK. Anglo countries are Ireland and UK; Nordic countries are Denmark, Finland, Netherland and Sweden; Germanic countries are Austria and Germany; and Latin countries are Belgium, France, Italy, Portugal and Spain. Definitions of other variables are provided in the appendix. z-statistics are clustered by country. *, ** and *** denote significance at the 10%, 5% and 1% levels (two-tailed), respectively.

Table 6. Robustness check by incorporating changes in CEO

Panel A: Full sample

	<i>ClassA</i>			<i>Common</i>			<i>Culture</i>		
	Coef.	z-statistic	ME	Coef.	z-statistic	ME	Coef.	z-statistic	ME
<i>Constant</i>	-4.504***	-5.95		-4.132***	-4.66		-4.227***	-5.07	
<i>Transparency</i>	0.420***	3.36	0.138	0.245*	1.84	0.081	0.328**	2.46	0.107
<i>Transparency</i> × <i>Crisis</i>	-0.362**	-2.05	-0.110	-0.406*	-1.95	-0.122	-0.154	-0.69	-0.050
<i>LnSize</i>	0.201***	4.64	0.066	0.191***	4.03	0.062	0.202***	4.63	0.066
<i>PropGW</i>	0.350	1.28	0.114	0.387	1.38	0.126	0.377	1.32	0.123
<i>BHRet</i>	-0.546***	-3.77	-0.178	-0.559***	-4.15	-0.182	-0.554***	-3.90	-0.181
<i>LnSeg</i>	-0.114	-1.53	-0.037	-0.139 **	-2.04	-0.045	-0.124 *	-1.86	-0.040
<i>UVA10</i>	-0.003	-0.12	-0.001	-0.004	-0.19	-0.001	-0.002	-0.08	-0.001
<i>Big4</i>	-0.155	-1.03	-0.052	-0.155	-1.04	-0.052	-0.156	-1.05	-0.052
<i>D_Smooth</i>	0.231	1.30	0.079	0.270	1.48	0.094	0.249	1.39	0.086
<i>D_Bath</i>	0.356**	2.35	0.122	0.379**	2.51	0.130	0.375**	2.38	0.129
<i>D_Bath</i> × <i>Crisis</i>	-0.013	-0.09	-0.004	-0.031	-0.20	-0.010	-0.030	-0.18	-0.010
<i>ChgCEO</i>	0.199	0.94	0.067	0.207	0.98	0.070	0.188	0.89	0.064
<i>Enforcement</i>	0.168 ***	2.90	0.055	0.149 *	1.83	0.049	0.164 **	2.09	0.054
<i>Enforcement</i> × <i>Crisis</i>	0.243***	2.76	0.079	0.241***	3.43	0.079	0.264***	2.78	0.086
<i>ChgGDP</i>	-0.548	-0.60	-0.179	-1.243	-1.03	-0.406	-0.261	-0.30	-0.085
<i>Crisis</i>	-1.226**	-2.10	-0.370	-1.254***	-2.74	-0.378	-1.522***	-2.99	-0.448
# of observations	534			534			534		
LR chi2	78.22***			75.24***			75.94***		
Log likelihood	-281.66445			-283.15484			-282.8048		
Pseudo R-squared	0.1219			0.1173			0.1184		
	Coef.	z-statistic		Coef.	z-statistic		Coef.	z-statistic	
<i>Transparency</i>	0.058	0.30		-0.161	-0.76		0.174	0.97	
+ <i>Transparency</i> × <i>Crisis</i>									
<i>D_Bath</i>	0.343**	2.33		0.348**	2.33		0.346***	2.32	
+ <i>D_Bath</i> × <i>Crisis</i>									
<i>Enforcement</i>	0.412***	3.28		0.390***	3.09		0.428***	3.32	
+ <i>Enforcement</i> × <i>Crisis</i>									
	A&N			A&N			A&N		
	interaction	mean z		interaction	mean z		interaction	mean z	
	effect			effect			effect		
<i>Transparency</i> × <i>Crisis</i>	-0.116	-0.77		-0.100	-1.10		-0.067	-0.50	
<i>D_Bath</i> × <i>Crisis</i>	-0.044	-0.75		-0.052	-0.81		-0.050	-0.73	
<i>Enforcement</i> × <i>Crisis</i>	0.080	1.46		0.078	1.17		0.428***	3.32	

Panel B: UK-excluded sample

	<i>ClassA</i>			<i>Culture</i>		
	Coef.	z-statistic	ME	Coef.	z-statistic	ME
<i>Constant</i>	-4.588***	-3.47		-4.143***	-2.91	
<i>Transparency</i>	0.844***	3.81	0.314	0.500**	2.11	0.165
<i>Transparency</i> × <i>Crisis</i>	0.048	0.14	0.016	0.038	0.09	0.013
<i>LnSize</i>	0.182**	2.32	0.060	0.190**	2.48	0.063
<i>PropGW</i>	0.660*	1.79	0.216	0.643	1.54	0.212
<i>BHRet</i>	-0.661**	-2.24	-0.216	-0.637**	-2.14	-0.210
<i>LnSeg</i>	-0.047	-0.41	-0.015	-0.085	-0.84	-0.028
<i>UVA10</i>	0.019	0.69	0.006	0.021	0.83	0.007
<i>Big4</i>	-0.421***	-3.49	-0.148	-0.380***	-2.62	-0.134
<i>D_Smooth</i>	0.533**	2.17	0.194	0.511**	2.11	0.186
<i>D_Bath</i>	0.475**	2.11	0.167	0.465**	2.07	0.164
<i>D_Bath</i> × <i>Crisis</i>	0.117	0.46	0.040	0.076	0.28	0.026
<i>ChgCEO</i>	0.050	0.13	0.016	0.017	0.05	0.006
<i>Enforcement</i>	0.233***	5.11	0.076	0.202**	2.46	0.067
<i>Enforcement</i> × <i>Crisis</i>	0.264**	2.58	0.086	0.262***	2.89	0.087
<i>ChgGDP</i>	-7.464**	-2.16	-2.441	-6.491**	-1.99	-2.144
<i>Crisis</i>	-1.720**	-2.07	-0.463	-1.649**	-2.52	-0.453
# of observations		318			318	
LR chi2		56.30***			75.94***	
Log likelihood		-165.76521			-168.44552	
Pseudo R-squared		0.1452			0.1313	
	Coef.	z-statistic		Coef.	z-statistic	
<i>Transparency</i> + <i>Transparency</i> × <i>Crisis</i>	0.892***	4.00		0.538	1.61	
<i>D_Bath</i> + <i>D_Bath</i> × <i>Crisis</i>	0.593***	3.00		0.542**	2.57	
<i>Enforcement</i> + <i>Enforcement</i> × <i>Crisis</i>	0.497***	3.85		0.465***	3.11	
	A&N	mean z		A&N	mean z	
	interaction	effect		interaction	effect	
<i>Transparency</i> × <i>Crisis</i>	-0.078	-0.38		-0.063	-0.28	
<i>D_Bath</i> × <i>Crisis</i>	-0.036	-0.44		-0.047	-0.51	
<i>Enforcement</i> × <i>Crisis</i>	0.069	0.86		0.071	0.84	

Note: Table 7 presents the results by incorporating changes in CEO and running the following probit regressions:

$$\begin{aligned}
Pr(DImp_{i,t}) = & \beta_0 + \alpha_1 Transparency_c + \alpha_2 Transparency_c \times Crisis_{i,q} + \beta_1 LnSize_{i,t} + \beta_2 PropGW_{i,t} \\
& + \beta_3 BHRet_{i,t} + \beta_4 LnSeg_{i,t} + \beta_5 RUVA10_{i,t} + \beta_6 Big4_{i,t} + \beta_7 DSmooth_{i,t} + \beta_8 DBath_{i,t} \\
& + \beta_9 DBath_{i,t} \times Crisis_{i,q} + \beta_{10} ChgCEO_{i,t} + \beta_{11} Enforcement_c \\
& + \beta_{12} Enforcement_c \times Crisis_{i,q} + \beta_{13} ChgGDP_{i,q} + \beta_{14} Crisis_{i,q} + \varepsilon_{i,t}
\end{aligned}$$

$DImp_{i,t}$ takes the value of one if firm i records goodwill impairment losses in year t , and zero otherwise. $Transparency_c$ is $ClassA_c$, $Common_c$ or $Culture_c$. $ClassA_c$ takes the value of one if a firm locates in a Class A country classified by Nobes (2013). $Common_c$ takes the value of one if a firm locates in a common-law country. $Culture_c$ is the sum of Individualism minus Uncertainty Avoidance and Power Distance. Definitions of other variables are provided in the appendix. z-statistics are clustered by country. $ChgCEO_{i,t}$ takes the value of one if a firm experiences a change in CEO in year t . The values of $Culture_c$ are divided by 100 for presentation purposes. *, ** and *** denote significance at the 10%, 5% and 1% levels (two-tailed), respectively.

Table 7. Robustness check by dividing the sample into crisis and non-crisis periods

	<i>ClassA</i>			<i>Common</i>			<i>Culture</i>		
	Coef.	z-statistic	ME	Coef.	z-statistic	ME	Coef.	z-statistic	ME
[Non-crisis period]									
<u>Full sample</u>									
<i>Transparency</i>	0.220*	1.80	0.071	0.135	1.12	0.044	0.306**	2.10	0.096
<i>Other variables</i>		Yes			Yes			Yes	
# of observations		467			467			467	
Pseudo R-squared		0.1233			0.1206			0.1257	
<u>UK-excluded sample</u>									
<i>Transparency</i>	0.507***	4.31	0.175				0.498***	3.25	0.152
<i>Other variables</i>		Yes			Yes			Yes	
# of observations		359			359			359	
Pseudo R-squared		0.1273			0.1273			0.1295	
[Crisis period]									
<u>Full sample</u>									
<i>Transparency</i>	-0.225	-0.99	-0.073	-0.701***	-6.16	-0.210	0.418**	2.03	0.138
<i>Other variables</i>		Yes			Yes			Yes	
# of observations		403			403			403	
Pseudo R-squared		0.0458			0.058			0.0495	
<u>UK-excluded sample</u>									
<i>Transparency</i>	0.349****	3.17	0.126				0.750***	3.88	0.252
<i>Other variables</i>		Yes			Yes			Yes	
# of observations		274			274			274	
Pseudo R-squared		0.066			0.066			0.0832	

Note: Table 7 presents the results by running the following probit regressions:

$$\Pr(DImp_{i,t}) = \beta_0 + \alpha_1 Transparency_c + \beta_1 LnSize_{i,t} + \beta_2 PropGW_{i,t} + \beta_3 BHRet_{i,t} + \beta_4 LnSeg_{i,t} + \beta_5 RUVA10_{i,t} + \beta_6 Big4_{i,t} + \beta_7 DSmooth_{i,t} + \beta_8 DBath_{i,t} + \beta_9 Enforcement_c + \beta_{10} ChgGDP_{i,q} + \varepsilon_{i,t}$$

$DImp_{i,t}$ takes the value one if firm i records goodwill impairment losses in year t , and zero otherwise. $Transparency_c$ is $ClassA_c$, $Common_c$ or $Culture_c$. $ClassA_c$ takes the value of one if

a firm locates in a Class A country classified by Nobes (2013). $Common_c$ takes the value of one if a firm locates in a common-law country. $Culture_c$ is the sum of Individualism minus Uncertainty Avoidance and Power Distance. Definitions of other variables are provided in the appendix. z-statistics are clustered by country. The values of $Culture_c$ are divided by 100 for presentation purposes. *, ** and *** denote significance at the 10%, 5% and 1% levels (two-tailed), respectively.

Table 8. Robustness check by using OLS regressions

	<i>ClassA</i>		<i>Common</i>		<i>Culture</i>	
	Coef.	t-statistic	Coef.	t-statistic	Coef.	t-statistic
[Full sample]						
<i>Transparency</i>	0.008***	4.13	0.005**	2.55	0.009***	9.60
<i>Transparency</i> × <i>Crisis</i>	-0.016***	-5.96	-0.019***	-16.72	-0.015***	-3.37
<i>Transparency</i> + <i>Transparency</i> × <i>Crisis</i>	-0.009**	-2.35	-0.013***	-5.59	-0.006	-1.35
<i>Other variables</i>	Yes		Yes		Yes	
# of observations	870		870		870	
Adj R-squared	0.1117		0.1134		0.1099	
[UK-excluded sample]						
<i>Transparency</i>	0.011**	2.72			0.010***	5.27
<i>Transparency</i> × <i>Crisis</i>	-0.007	-1.66			-0.008**	-2.29
<i>Transparency</i> + <i>Transparency</i> × <i>Crisis</i>	0.004***	3.74			0.002	0.97
<i>Other variables</i>	Yes				Yes	
# of observations	633				633	
Adj R-squared	0.1174				0.1204	

Note: Table 8 presents the results by running the following OLS regressions:

$$\begin{aligned}
Imp_{i,t} = & \beta_0 + \alpha_1 Transparency_c + \alpha_2 Transparency_c \times Crisis_{i,q} + \beta_1 LnSize_{i,t} + \beta_2 PropGW_{i,t} \\
& + \beta_3 BHRet_{i,t} + \beta_4 LnSeg_{i,t} + \beta_5 RUVA10_{i,t} + \beta_6 Big4_{i,t} + \beta_7 DSmooth_{i,t} + \beta_8 DBath_{i,t} \\
& + \beta_9 DBath_{i,t} \times Crisis_{i,q} + \beta_{10} Enforcement_c + \beta_{11} Enforcement_c \times Crisis_{i,q} \\
& + \beta_{12} ChgGDP_{i,q} + \beta_{13} Crisis_{i,q} + \varepsilon_{i,t}
\end{aligned}$$

$Imp_{i,t}$ is the amount of goodwill impairment losses, divided by total assets at the end of fiscal year $t-1$. $Transparency_c$ is $ClassA_c$, $Common_c$ or $Culture_c$. $ClassA_c$ takes the value of one if a firm locates in a Class A country classified by Nobes (2013). $Common_c$ takes the value of one if a firm locates in a common-law country. $Culture_c$ is the sum of Individualism minus Uncertainty Avoidance and Power Distance. Definitions of other variables are provided in the appendix. t-statistics are clustered by country. The values of $Culture_c$ are divided by 100 for presentation purposes. ** and *** denote significance at the 5% and 1% levels (two-tailed), respectively.