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## Disclosure quality of goodwill impairment testing: evidence from Turkey

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**Abstract:** Goodwill-related disclosure quality is an emerging research question that needs to be investigated. In practice, audit firms control the disclosures in financial reports by using a checklist that results in a boilerplate reporting format of insufficient information. This study examines possible determinants of goodwill-related disclosure quality in Turkey. We use a unique hand-collected panel dataset of listed Turkish non-financial companies for the period between 2014 and 2018 and calculate a disclosure index. Our results show that firm-specific variables of size, ownership structure, and level of debt are related to disclosure quality of goodwill impairment testing and the magnitude of the goodwill reported is positively linked to disclosure quality. More important, our results indicate that auditor size improves the disclosure quality and boilerplate goodwill-related disclosures are prevalent among Turkish public companies.

**Keywords:** goodwill impairment; disclosure quality; auditor size; Turkey.

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## 1 Introduction

The integration of capital markets and the increasing demand of international investors, analysts, regulators, and other financial statement users for transparent and comparable financial statements revealed the need for a worldwide common reporting language, namely International Financial Reporting Standards (IFRS) in practice. IFRS require companies to follow a detailed framework for mandatory disclosures. Fulfilling the disclosure requirements of financial reporting standards in the manner prescribed by the standard setters is called ‘compliance’. Disclosures of financial statements have a vital role in financial reporting because only these disclosures can make financial statements understandable for the users and smooth the way of preparers to explain the application of the accounting policies for the users [Devalle et al., (2016), p.8]. In other words, disclosures of financial statements:

- 1 enhance the ability to predict
- 2 provide information to eliminate the incomparable reporting terms or create an alternative procedure
- 3 minimise ambiguity (Schipper, 2007).

Increase in disclosure level reduces information asymmetry and, in turn, it encourages investors to participate in the markets and to make better decisions with better forecasts (Lang and Lundholm, 2000; Hope, 2003; Hodgdon et al., 2008; Glaum et al., 2013a; Paugam and Ramond, 2015) and allocate resources throughout the capital market economy by decreasing the cost of equity (Mazzi et al., 2017).

Although the importance of disclosure quality is clear, some research have indicated that most firms fully comply with mandatory disclosure requirements very rarely (Tsalavoutas, 2011; Glaum et al., 2013b; Tsalavoutas et al., 2014). Glaum et al. (2013b, p.167) suggest three main reasons for failing to comply with the disclosures. First, managers unintentionally may ignore to apply some particular requirements of the accounting standards. Second, disclosure rules can be interpreted incorrectly due to the lack of understanding of the manager on accounting standards. Third, managers sometimes knowingly and willingly fail to apply disclosure rules during the financial reporting process.

Goodwill is one of the most controversial financial reporting issues. IFRS 3 defines goodwill as “an asset representing the future economic benefits arising from other assets acquired in a business combination that are not individually identified and separately recognized”. In 2004, IASB published ‘IFRS 3 Business Combinations’ (2004b) and revised ‘IAS 36 Impairment of Assets’ (2004a) standards, which made a significant change in the process of goodwill accounting. IFRS 3 eliminated the pooling-of-interests method and brought a new goodwill concept that is emerged from an acquisition such as intangible assets with infinite life, tested periodically for impairment at least annually instead of being subject to periodic amortisation (‘impairment-only approach’). The new ‘impairment-only approach’ has been criticised in some respects. First main criticism against the impairment test is that impairment approach causes ‘lumpy’ and volatile earnings, and it would be used for manipulation by the executives; therefore, it would get difficult to make accurate estimates on earnings [Glaum et al., (2013b), p.165; Lazar, 2019; Gros and Koch, 2019]. Second, the new accounting practice of goodwill includes “subjectivity and ambiguity for financial report preparers and auditors” [Wines et al., (2007), p.863]; therefore, not easily proven (Ramanna and Watts, 2012; Boennen and Glaum, 2014). Third, performing a detailed impairment test on each asset and the goodwill at the end of each reporting period is costly, time consuming, and complicated [KPMG, (2014), p.16; Boennen and Glaum, 2014]. Finally, different treatments in impairment approach might cause comparability problem among firms especially operated in industries with heterogeneous firms [Wines et al., (2007), p.870]. As a result, management of companies are usually reluctant to apply goodwill impairment test properly as well as disclose the related mandatory disclosure items (Boennen and Glaum, 2014). Therefore, the IASB tries to solve this issue by forcing companies to disclose required information that will help financial statement users in appreciating reliability of the measurements employed by management for being sure about the carrying values of goodwill [Glaum et al., (2013b), p.165]. Accordingly, a company that reports goodwill should carry out goodwill impairment test annually unless there is any other indicator for impairment; and should disclose the related requirements of IAS 36 paragraph 134 with the carrying amount of the goodwill at the beginning and end of the reporting period as required by IFRS 3 paragraph B67(d) in notes to its financial statements.

Goodwill arising from business combinations has important impact on the firm value and reporting of goodwill in the subsequent periods is substantially challenging for financial statement preparers and auditors (Mazzi et al., 2016). Therefore, the European Securities and Markets Authority (ESMA) has also regulated goodwill impairment as a special issue that should be considered since the financial crisis of 2008 (ESMA, 2011, 2013). Moreover, post-implementation review (PIR) reveals that the impairment test for goodwill has not been conducted efficiently on the contrary to the IASB’s expectations; consequently, IASB has decided to discuss the subsequent accounting for goodwill

(‘impairment-only approach versus amortisation’) (IASB, 2020). Therefore, investigating the disclosure quality of the goodwill impairment test is still a controversial and relevant research topic.

We aim to make three main contributions in this study. First, there is a lack of empirical evidence on goodwill-related disclosure quality of Turkish listed companies and related factors affecting the compliance level. Second, unlike the companies in developed countries, Turkish listed companies have peculiar characteristics. They have a high degree of ownership concentration and some studies indicated that the proportion of the largest shareholders of Turkish listed companies is higher than 53% (Akben-Selcuk, 2019; Ararat and Yurtoglu, 2020). High ownership concentration in listed companies gives rise to asymmetric information and weakens the investor’s protection (La Porta et al., 1998). Concentrated shareholder pressure may affect managers’ discretion on goodwill impairment tests (Majid, 2015). Therefore, it is worthwhile to investigate Turkish listed companies in terms of the role of compliance with disclosure requirements in reducing asymmetric information and the importance of goodwill reporting. The third contribution is related to the extent of the sample period. Although most goodwill-related studies use only one-year cross-sectional data, we use panel data analysis. Our dataset covers the 5-year period between 2014 and 2018 from 50 non-financial Turkish listed firms which report goodwill in their statement of financial position during the 5-year period. Year 2014 was chosen as the starting point of the research period because the ‘IFRS 13 Fair Value Accounting’ standard that caused a change in disclosure requirements for the goodwill impairment test became effective on or after 1 January 2013. Additionally, in the studied period, the Turkish economy witnessed serious fluctuations and recession, GDP growth eased, the currency depreciated, inflation and unemployment increased. Because external sources of information are considered as critical inputs for impairment tests, examining goodwill impairment disclosures in the mentioned period provides a good contribution to the literature by searching whether the goodwill impairment test is properly conducted in the period of economic fluctuations.

The level of compliance to IFRS 3 paragraph B67(d) and IAS 36 paragraph 134 is measured by using a checklist that includes the requirements in these standards. Reporting goodwill is relatively complex, and impairment testing requires making strong managerial assumptions. Disclosure quality of goodwill impairment test is of particular interest for financial statement users because of its complexity and assumption-based nature. Thus, we focus on goodwill-related disclosure quality rather than overall compliance level of IFRS reporting. In this study, we aim to answer two research questions:

- 1 To which extent have companies complied with the disclosure requirements of goodwill impairment test?
- 2 Which firm-specific factors affect the level of compliance to goodwill impairment test disclosure requirements (disclosure quality)?

This paper is structured as follows: The literature review and our hypotheses are presented in Section 2. Section 3 provides our research methodology and dataset. Section 4 reveals our findings and discusses their implications. The final section concludes our study.

## 2 Literature review and hypothesis development

Goodwill has generally high economic value in companies growing with merger and acquisition transactions. As it is explained by the IASB's discussion paper, according to the JP Morgan Global M&A report, business mergers continue to have an important place in the global economy, with over than \$4 trillion deal value announced in 2019. At the same time, according to data from Capital IQ in February 2020, for all listed companies worldwide the goodwill amount was reported as \$8 trillion that constitute approximately 18% of their total equity and 3% of their total assets [IASB, (2020), p.5]. Due to the economic value of goodwill in balance sheets, current reporting principles of goodwill at its initial recognition and its measurement in the subsequent periods have been discussed in the recent literature. Some criticisms have been raised particularly after the enforcement of the impairment only approach. Being open for management discretion and including subjective estimates and assumptions makes the goodwill impairment test more complex and subjective, as well as limiting its effectiveness. As a result, to increase transparency and objectivity for impairment testing, IASB has introduced mandatory disclosure requirements.

Since the main aim of the disclosure requirements is to make accounting numbers more reliable, the importance of compliance with disclosure requirements has been increasing in financial reporting practice. Higher-quality accounting standards contribute to higher-quality financial reporting and transparency, therefore compliance with IFRS makes firms' informative environment better for all stakeholders (Bova and Pereira, 2012). For the sake of uniqueness, the current study is focusing on goodwill reporting and goodwill impairment in compliance with the 'IFRS 3 Business Combinations' and 'IAS 36 Impairment of Assets' standards. Arising from IFRS 3, the abolishment of the amortisation method for goodwill and other intangibles is one of the great developments in financial reporting. As a result of that development, goodwill is subject to impairment test; thus, carrying amount of goodwill should be decreased if the impairment test indicates carrying amount of goodwill exceeds the recoverable amount of goodwill which is higher of fair value less costs of disposal (FVLCD) and value in use (VIU). IAS 36 briefly indicates that goodwill impairment loss can be recognised if the recoverable amount of a cash-generating unit (CGU) is less than the carrying amount of the CGU. While calculating the recoverable amount of goodwill or other intangibles, underlying assumptions that are employed by management together with some supplementary information, should be disclosed in the notes to financial statements according to IAS 36 paragraph 134 and IFRS 3 paragraph B67(d). In the aspect of the capital market, compliance to IAS 36 paragraph 134 is significant because the disclosed information helps users to evaluate whether management's subjective estimates of the recoverable amount are rational or not (Hartwig, 2015). Nevertheless, even though disclosures required in IFRS 3 paragraph B67(d) and IAS 36 paragraph 134 are mandatory, managements sometimes may show resistance to disclose private, or managerial information to the public.

In theory, many reasons have been asserted for explaining the extent to which companies comply with accounting standards. Literature puts forward that some factors have an influence on the financial disclosure quality. According to the existing literature firm size, profitability, leverage, type of auditor and industry are the most frequently used independent variables to explain the compliance level.

Company size is a widely used determinant in several types of research to explain the compliance with financial reporting standards. According to the agency theory, big firms offer more comprehensive information than smaller firms in order to decrease the information asymmetry between insiders (management) and outsiders (investors) (Jensen and Meckling, 1976). Previous studies have revealed a positive relationship between firm size and the disclosure level (Santos et al., 2013; Cascino and Gassen, 2015; Hartwig, 2015; Arimany et al., 2018). Thus, we propose the following hypothesis:

H1 There is a positive relationship between the level of compliance and firm size.

Profitability has a big impact on the level of disclosure [Raffournier, (1995), p.263]. Managers may aim to make the companies more profitable in order to increase the value of the shares and the trust of the investors in management, thus enhance their wages, benefits, and reputation [Raffournier, 1995; Verrecchia, 2001; Dye, 2001; Santos et al., (2013), p.8]. Regarding the goodwill impairment test, since any impairment loss is directly recognised in income statement and decreases the net income, the goodwill impairment is an important factor in determining the profitability of the company. As profitability is a significant determinant of the current and future cash flows of the companies and these cash flows are key factors for the goodwill impairment testing, firms with higher profits may tend to comply with disclosure requirements of goodwill impairment testing than their less profitable peers [Bepari and Mollik, (2015), p.211]. Therefore, some auditors assert that 'impairment-only approach' makes earnings management possible (Pajunen and Saastamoinen, 2013). Previous studies indicate that firms with higher profitability disclose more information (Ali et al., 2004; Santos et al., 2013; Bepari et al., 2014; Bepari and Mollik, 2015; Abdullah et al., 2015; Arimany et al., 2018; Lazar and Velte, 2018). Based on the theoretical discussion above, we formulate the following hypothesis:

H2 There is a positive relationship between the level of compliance and profitability.

Companies should disclose sufficient information about their financial position and their operations to minimise information asymmetry between management and fund providers. In emerging countries like Turkey, companies are in need of external funds quite a lot and banks are the most dominant fund providers. Sengupta (1998) states that complying with the accounting standards and disclosing information timely and in detail reduces fund providers' perception of default risk for the disclosing firm thus decreases its cost of debt. Furthermore, firms with high debt levels, preparing to issue debt instruments or seeking debt, especially in international markets, are expected to disclose more information [Raffournier, 1995; Palmer, 2008; Miihkinen, 2008; Santos et al., (2013), p.164; Devalle et al., 2016]. In previous research, financial leverage is used to explain the level of compliance. Most studies reveal a positive relationship between financial leverage and level of compliance (Al-Shammari et al., 2008; Bova and Pereira, 2012; Devalle et al., 2016; Arimany et al., 2018). Following the above arguments, third hypothesis of this research is developed as follows:

H3 There is a positive relationship between the level of compliance and leverage.

Auditors provide an assurance that financial statements of firms have reliable information (Healy and Palepu, 2001). Previous studies indicate that the size of the auditor significantly influences the compliance level with the financial reporting standards.

Because of reputation concern, big audit firms (big 4) strive to make financial statements properly reflect all financial events as much as possible via following the financial reporting standards (Chalmers and Godfrey, 2004) and encourage firms to disclose more information (Firth, 1979). Also, the need for transparency and high-quality financial reports is fulfilled through auditing by a big audit firm, thereby decreasing agency costs and increasing the level of compliance with established criteria (Tsalavoutas, 2011). In the literature, some studies indicate that corporations audited by big audit firms have superior compliance level with the IFRS requirements than companies audited by other firms (Street and Gray, 2002; Glaum and Street, 2003; Tsalavoutas, 2011; Santos et al., 2013; Cascino and Gassen, 2015; Glaum et al., 2013b; Bepari et al., 2014; Bepari and Mollik, 2015; Devalle et al., 2016). Following the discussions, we propose the following hypothesis:

H4 There is a positive relationship between the level of compliance and auditor size.

Goodwill impairment testing is complicated and requires professionals having specific knowledge of valuation techniques. To conduct goodwill impairment testing, companies and their consultant firms are required to have the capability to apply valuation models required in IAS 36 and proficiency to prepare reasonable budget assumptions [Petersen and Plenborg, (2010), p.420]. However, such specialised employees in financial reporting departments are not available in many companies and hiring may be too costly. Especially for small companies, it becomes more difficult to fully comply with the disclosure requirements. Some studies showed that higher goodwill intensity in total assets pushes companies to disclose more information on (about) both goodwill and goodwill impairment test. A material goodwill attracts the attention of financial information users and increases the need for better disclosure. Glaum et al. (2013b), Bepari et al. (2014) and Bepari and Mollik (2015) employed a ratio of goodwill over total assets, and found that this ratio significantly influences the level of compliance. Thus, we propose the hypothesis below:

H5 There is a positive relationship between the level of compliance and materiality of goodwill.

In several studies, the age of the company is used to explain the compliance level. Firm age is an indicator of company's experience in complying with the requirements of the financial reporting standards. In contrast to the young companies that are inexperienced and focusing on product and market development rather than improving the accounting information system [Glaum and Street, (2003), p.73], old companies are expected to comply with financial reporting requirements to a greater extent. Accordingly, positive relationship between the firms' age and the level of compliance is expected. Several researchers preferred the age factor to explain the level of compliance (Glaum and Street, 2003; Al-Shammari et al., 2008; Verriest et al., 2013). Therefore, we construct our next hypothesis as stated below:

H6 There is a positive relationship between the level of compliance and firm age.

There is an information asymmetry problem between investors and the companies and lack of information discourages investors, thereby; capital cannot be allocated efficiently in the markets [Healy and Palepu, (2001), p.407]. Disclosures have a critical role in capital markets that increasing disclosure level reduces information asymmetry and, in turn, it encourages investors to participate in the markets and to make better decisions



with better forecasts (Lang and Lundholm, 2000; Hope, 2003; Hodgdon et al., 2008). Increasing participation also results in higher liquidity, hence it decreases volatility and cost of capital (Diamond and Verrecchia, 1991; Sengupta, 1998; Botosan, 1997; Leuz and Verrecchia, 2000; Botosan and Plumlee, 2002; Francis et al., 2005; Lambert et al., 2007; Cheynel, 2013; Bova and Pereira, 2012; Paugam and Ramond, 2015). Cost of capital is a key matter for companies that finance their profitable investment projects with external sources because of limited internal financial resources; therefore, disclosure plays a critical role to minimise asymmetric information in capital markets thus reducing the cost of capital. Consequently, companies that meet their capital needs through issuing new equities or selling existing equities or issuing bonds at minimum cost, are expected to increase the quality of their financial reports and, hence, their compliance with IFRS-disclosure requirements [Glaum et al., (2013b), p.172]. In this context, Lang and Lundholm (1993) and Glaum et al. (2013b) indicate that companies issuing stocks or bonds in current or following reporting period comply with the disclosure requirements at higher extent. Therefore, we hypothesise that:

H7 There is a positive relationship between the level of compliance and issuance of shares or bonds in the current or following reporting period.

Agency relations are important in the disclosure policy. Separation of ownership and control generates agency costs, causing an information asymmetry problem (Jensen and Meckling, 1976). If the ownership structure of the companies is composed of small shareholders having insufficient control power and incentive to monitor the company activities, agency problems become prominent. In such a case, companies with dispersed shareholder structure are expected to disclose greater information to overcome these problems [Glaum et al., (2013b), p.172]. Furthermore, because disclosing extensive information contributes to the restriction of wealth transfer by making them more transparent, it can be accepted as a bonding activity [Raffournier, (1995), p.264]. If the company is dominated by single shareholders, these large shareholders may try to exploit minority investors, particularly in environments in which minority investors are not properly protected by regulations (Shleifer and Vishny, 1997). Consequently, dominant shareholders may be reluctant to provide disclosures that restrict themselves to extract private benefits from firms [Leuz and Wysocki, (2008), p.19]. As a result, consistent with the aforementioned arguments, Glaum et al. (2013b) found that companies owned by strategic investors (families, foundations, institutional investors) are unwilling to conform to the IFRS-required disclosures. Cascino and Gassen (2015), however, found that the existence of institutional investors in the companies increases the level of compliance. Furthermore, the companies that are expected to be controlled by foreign investors should be transparent and disclose extensive information. In this context, Ali et al. (2004), Bova and Pereira (2012) and Misirlioglu et al. (2013) supported the above-mentioned claim by determining that foreign ownership makes companies eager to fulfil the disclosure requirements. Motivated by the above literature, we proposed that:

H8 There is a relationship between the level of compliance and ownership structure.

Due to a process of isomorphism, companies in the same industry could tend to perform in a similar way, since “they face the same set of environmental conditions” [DiMaggio and Powell, (1983), p.149]. These environmental conditions could be caused either by competitive pressures or government organisations or both of them [Devalle et al.,

(2016), p.15]. Moreover, new and demanding applications, such as IFRS requirements, can lead companies to build-up common industry practices to legitimise their attitudes. As a result, the level of compliance is predicted to be affected by industry [Hartwig, (2015), p.86]. In some industries, identifying and valuing acquired companies, as well as conducting goodwill impairment tests, might be even more complicated and costly [Glaum et al., (2013b), p.173]. Street and Gray (2002), Abd-Elsalam and Weetman (2003), Curuk (2009), Glaum et al. (2013b), Bepari et al. (2014), Hartwig (2015), Devalle et al. (2016) and Arimany et al. (2018) have identified that level of compliance is significantly affected by industry. Based on the discussions above, we formulate the hypothesis that:

H9 There is a relationship between the level of compliance and industry.

### **3 Data and research methodology**

Our dataset involves financial statement data for Turkish listed companies between 2014 and 2018 obtained from Borsa Istanbul, public disclosure platform and Datastream. The initial dataset was 422 companies. In accordance with the previous studies, 71 financial companies were removed from the initial dataset due to the different reporting regulations and applications. Then, we determined that 78 companies have reported goodwill on their annual financial reports; however, 28 of them were excluded from the analysis since these firms abandoned to use acquisition method and accept the pooling of interest method by the permission of Capital Market Board in Turkey. Consequently, our sample covers 250 firm-year observations from 50 non-financial Turkish firms for the period 2014 to 2018. We examine annual reports of these firms and their compliance with the disclosure requirements for goodwill and goodwill impairment test.

The dependent variable in our empirical model is the level of compliance with IFRS 3 paragraph B67(d) and IAS 36 paragraph 134. To measure the level of compliance, following Glaum et al. (2013b), we prepare an unweighted 30-item checklist that assess the compliance to disclosure requirements related to carrying amount of goodwill at the beginning and end of the reporting period [IFRS 3 paragraph B67(d)], basis for estimating to determine recoverable amounts of CGUs for which containing goodwill such as key assumptions for estimating VIU or FVLCD (IAS 36 paragraph 134). We collect dependent variable data for our study by reading goodwill footnotes presented in the consolidated financial statements of our sample companies. Checklist item is coded as '1', if a required item in the standard is fulfilled by an entity. Checklist item is coded as '0', if a required item in the standard is not fulfilled by an entity, and if a required item in the standard is not relevant for an entity, then the item is coded as 'not applicable'. For example, as it is mentioned above that goodwill is impaired when carrying amount exceeds the recoverable amount which is higher of FVLCD and VIU. While determining the recoverable amount if FVLCD is found higher than the carrying amount, the company is not required to disclose the items based on VIU. So, these items are not relevant for the company and coded as 'not applicable'. Each annual report is reviewed carefully to minimise the risk that entities were penalised for non-applicable items. Finally, we obtain a disclosure index for compliance (DINDEX) which is estimated by dividing the total number of disclosed items by the number of relevant items for each entity. The DINDEX is calculated as follows:

$$DINDEX = \frac{\sum_{i=1}^n d_{it}}{\sum_i^n a_{it}}$$

where

*DINDEX* disclosure index

$d_{it}$  1 is the checklist item  $i$  is disclosed; 0 if the item  $i$  is not disclosed at year  $t$

$a_{it}$  1 if the checklist item  $i$  is relevant for the company; 0 if the item  $i$  is not relevant.

One of our main research questions is to explain the determinants of the level of compliance of Turkish companies with disclosure requirements of goodwill impairment test. These factors, namely firm characteristics, are employed as independent variables in current research. The independent variables of our study and source of the data are defined in Table 1.

**Table 1** Independent variables: description and type of variable

<i>Variable</i>	<i>Definition</i>	<i>Type of variable</i>	<i>Expected sign</i>	<i>Data source</i>
SIZE ( <i>LNMCAP</i> )	Natural logarithm of market capitalisation of sample companies.	Numerical	+	Datastream
PROFITABILITY ( <i>ROA</i> )	Return on Assets (ROA) of sample companies.	Numerical	+	Datastream
GOODWILL ( <i>GOODWILL</i> )	The ratio of goodwill to total assets.	Numerical	+	Datastream
AUDITOR ( <i>AUDIT</i> )	Coded as 1 if the company is audited by Big-4, otherwise 0.	Dummy	+	Public disclosure platform
GEARING ( <i>GEARING</i> )	Total debt-to total capital.	Numerical	+	Datastream
AGE ( <i>AGE</i> )	The measure of how long a company operates since it was initiated.	Numerical	+	Public disclosure platform
CAPITAL ( <i>CAPITAL</i> )	Coded as 1 for companies with secondary equity offerings (SEOs) or bond issues during the reporting period or a year after, 0 for others.	Dummy	+	Borsa Istanbul
INDUSTRY ( <i>INDUSTRY</i> )	Coded as 1 if the company is manufacturing firm or 0 for others.	Dummy	+/-	Datastream
OWNERSHIP STRUCTURE ( <i>FAMILY, TOP3, FOREIGN</i> )	Percentage of equity shares controlled by strategic investors (families (FAMILY), foreign (FOREIGN), and TOP 3 shareholders (TOP3)).	Numerical	+	Public disclosure platform

The relationship between the level of compliance and firm characteristics have been examined by various studies in the literature. Most of those studies have preferred to use multivariate regression analysis, independent sample t-test and paired sample t-test by collecting only one-year data. Our study combines both time series and cross-sectional observations. In the literature few studies conduct panel data methods to investigate the level of compliance to disclosure requirements. Hodgdon et al. (2008), Paugam and Ramond (2015), Arimany et al. (2018) and Lazar and Velte (2018) employed panel data pooled ordinary least squares model and panel data random and fixed effects model to examine the effect of firm characteristics on level of compliance. Our basic panel data model is as follows:

$$\begin{aligned} DINDEX_{it} = & \alpha_i + \beta_{1,it} \times LNMCA P_{it} + \beta_{2,it} \times ROA_{it} + \beta_{3,it} \times GEARING_{it} \\ & + \beta_{4,it} \times AUDIT_{it} + \beta_{5,it} \times GOODWILL_{i,t} + \beta_{6,it} \times AGE_{it} \\ & + \beta_{7,it} \times CAPITAL_{it} + \beta_{8,it} \times FAMILY_{it} + \beta_{9,it} \times FOREIGN_{it} \\ & + \beta_{10,it} \times TOP3_{it} + \beta_{11} \times INDUSTRY_{it} + u_{it} \end{aligned}$$

where

$\alpha_i$  intercept or constant that represents the unobserved individual effect

$\beta_{(n,it)}$  beta coefficient for independent variable n of firm  $i$  at year  $t$

$u_{it}$  idiosyncratic error term for firm  $i$  at year  $t$ .

#### 4 Empirical results

Our dataset consists of 12 different variables. DINDEX which represents the level of compliance is the dependent variable in our model. Remaining 11 variables are independent variables of our model. We have not used any control variables. We have nine continuous and three dummy variables (AUDIT, CAPITAL, INDUSTRY). We have goodwill reporting data with 250 year-firm observations through 5-year period of between 2014 and 2018. The main reason for preferring such sample period is to maximise number of observations for continuous goodwill reporting, that allow us to obtain a strongly balanced panel dataset. Table 2 reveals descriptive statistics of all our variables. Panel A shows the descriptive statistics on continuous variables and panel B exhibits descriptive statistics on our dummy variables.

We have found that DINDEX ranges from 0% to 100% with a mean value of 0.4971, median value of 0.6667, and standard deviation of 0.3572. DINDEX is distributed approximately symmetric. Turkish firms' level of compliance is quite lower than findings of Bepari et al. (2014), Glaum et al. (2013b), Tsalavoutas et al. (2014), Hartwig (2015) and Mazzi et al. (2017) which are 61.5%, 72.8%, 83%, 55.8%, and 82.3% respectively. As it is seen that overall mean value of DINDEX is very low which means that Turkish companies in our sample are reluctant to fulfil the disclosure requirements such that they fulfil only half of the disclosure requirements for impairment testing.

**Table 2** Descriptive statistics of the variables for the period 2014–2018

<i>Panel A: Descriptive statistics on continuous dependent and independent variables</i>									
<i>2014-2018</i>	<i>Mean</i>	<i>Median</i>	<i>Std. dev.</i>	<i>Sample var.</i>	<i>Skew.</i>	<i>Kurt.</i>	<i>Min.</i>	<i>Max.</i>	<i>N</i>
<i>DINDEX</i>	0.4971	0.6667	0.3572	0.1276	-0.1740	-1.7529	0.0000	1.0000	250
<i>LNMCAP</i>	14.0693	14.2078	1.8373	3.3758	-0.3020	-0.2873	9.1240	17.6627	250
<i>ROA</i>	0.0518	0.0451	0.0813	0.0066	1.3192	6.1893	-0.1472	0.5480	250
<i>GEARING</i>	0.3937	0.4006	0.2540	0.0650	0.2420	-0.4830	0.0000	1.1350	250
<i>GOODWILL</i>	0.0377	0.0083	0.0649	0.0042	3.0231	10.5680	0.0000	0.4025	250
<i>AGE</i>	40.6468	40.6589	17.1023	292.4896	0.3598	-0.1343	4.2329	85.6740	250
<i>FAMILY</i>	0.2474	0.0000	0.3092	0.0956	0.7453	-1.0172	0.0000	0.9324	250
<i>FOREIGN</i>	0.1307	0.0000	0.2425	0.0588	2.0414	3.5666	0.0000	0.9780	250
<i>TOP3</i>	0.6251	0.6714	0.2280	0.0520	-0.8702	0.1860	0.0070	0.9786	250

  

<i>Panel B: Descriptive statistics on dummy variables</i>						
	<i>Code</i>	<i>Number of firms</i>				
		<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>
<i>AUDIT</i>	1	37	37	36	36	35
	0	13	13	14	14	15
<i>CAPITAL</i>	1	10	10	7	13	18
	0	40	40	43	37	32
<i>INDUSTRY</i>	1	27	27	27	27	27
	0	23	23	23	23	23

Five-year average of profitability is 5.18%. Leverage ratio is around 40%, so we can say that firms are not much risky; however, it should not be overlooked that the ratio has increased from 33% in 2014 to 44% by the end of 2018. More than 70% of the companies are audited by big 4 auditors. Ernst and Young (EY) appears the most frequently hired audit firm which has audited approximately 37% of our sample companies. EY is followed by PricewaterhouseCoopers (PwC) whose share is approximately 29%. Only one fifth of companies have issued shares or bonds in the current or subsequent period (CAPITAL) on average over the five-year period. Twenty-seven of total sample companies (54%) have been operated in manufacturing industry, others are non-manufacturing firms. Furthermore, the percentage of goodwill in total assets ranges from 0 to 40% with mean of 4%, median of 0.8%, and standard deviation of 6.5% which is quite lower than findings of Glaum et al. (2013b). The number of firms in our sample, which has been recognised goodwill impairment loss, are very limited that are 3, 1, 5, 7, and 5 in 2014, 2015, 2016, 2017 and 2018 respectively.

The number of companies recognising goodwill impairment losses has increased since 2016, and this is because of the devastating economic consequences of the military coup attempt in July 2016. Beside these factors there was a substantial change in auditor reporting standards in which 'ISA 701 Communicating the Key Audit Matters in the Independent Auditor's Report' has become effective since December 15, 2016. As a result of this regulation, goodwill impairment test which is applied by companies has become a key matter for auditors thus auditors have mentioned goodwill impairment test

in their reports. Consequently, companies are required to apply goodwill impairment test properly.

The age of the companies ranges from 4.23 to 85.67 years, with a mean of 40.65 years. The proportion of family shares ranges from 0 to 93.24%, with a mean of 24.74%. The proportion of foreign shareholders ranges from 0 to 97.80%, with a mean of 13.07%. The proportion of TOP3 shareholders is at least 0.7% and at most 97.86%, with a mean of 62.51%.

**Table 3** Analysis of variables by year

<i>Panel A: Mean values of the variables by year</i>						
<i>YEAR</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>	<i>TOTAL</i>
<i>VARIABLE</i>	<i>Mean</i>	<i>Mean</i>	<i>Mean</i>	<i>Mean</i>	<i>Mean</i>	<i>Mean</i>
DINDEX	0.5065	0.504	0.4865	0.4869	0.5015	0.4971
ROA	0.0715	0.0487	0.0344	0.0461	0.0587	0.0519
GEARING	0.3336	0.3633	0.4054	0.4234	0.4427	0.3937
GOODWILL	0.0378	0.0378	0.0408	0.0341	0.038	0.0377
AGE	38.65	39.65	40.65	41.65	42.65	40.65
FAMILY	0.2762	0.2426	0.2494	0.2433	0.2254	0.2474
FOREIGN	0.1491	0.1421	0.1248	0.1179	0.1198	0.1307
TOP3	0.6399	0.6388	0.6167	0.6244	0.6058	0.6251
<i>Panel B: Changes in the variables by year</i>						
<i>YEAR</i>	<i>2014-2015</i>	<i>2015-2016</i>	<i>2016-2017</i>	<i>2017-2018</i>	<i>2014-2018</i>	
<i>VARIABLE</i>	$\Delta\%$	$\Delta\%$	$\Delta\%$	$\Delta\%$	$\Delta\%$	
DINDEX	-0.49%	-3.47%	0.08%	3.00%	-0.99%	
ROA	-31.89%	-29.36%	34.01%	27.33%	-17.90%	
GEARING	8.90%	11.59%	4.44%	4.56%	32.70%	
GOODWILL	0.00%	7.94%	-16.42%	11.44%	0.53%	
AGE	2.59%	2.52%	2.46%	2.40%	10.35%	
FAMILY	-12.17%	2.80%	-2.45%	-7.36%	-18.39%	
FOREIGN	-4.69%	-12.17%	-5.53%	1.61%	-19.65%	
TOP3	-0.17%	-3.46%	1.25%	-2.98%	-5.33%	

Mean values of selected independent variables, level of compliance to goodwill impairment test disclosure requirements and the changes in the foregoing variables are presented year-by-year during the 5-year period in Table III. Table III shows that the overall level of compliance has changed slightly through the relevant research period; thus, we conclude that managers prefer to compliance with goodwill impairment test disclosure requirements by disclosing boilerplate information. In this regard, we can assert that managers do not fulfil requirements strictly but rather superficially by using boilerplate reporting format and carry a questionable goodwill amount on their balance sheet without disclosing the goodwill impairment test requirements properly. Boilerplate disclosures in financial reporting is a common practice and auditors generally use previous years' disclosures as a base. Boilerplate disclosures are widely criticised

(ESMA, 2011, 2013, 2014; KPMG, 2014; Paugam and Ramond, 2015; Mazzi et al., 2017; IASB, 2020) and accepted as the main obstacle to high quality reporting.

**Table 4** Numbers of firms according to level of compliance to goodwill impairment testing disclosure requirements

<i>Year</i>	<i>2014</i>	<i>2015</i>	<i>2016</i>	<i>2017</i>	<i>2018</i>
<i>Level of compliance</i>	<i>#Firms</i>	<i>#Firms</i>	<i>#Firms</i>	<i>#Firms</i>	<i>#Firms</i>
Equal to 100%	2	2	2	1	2
Higher than 90%	3	3	3	3	3
Higher than 70%	24	24	23	25	25
Higher than 50%	28	28	26	26	27
Lower than 50%	22	22	24	24	23

Table 4 reports the numbers of firms allocated in accordance with the compliance level to goodwill impairment testing disclosure requirements for the period 2014–2018. Considering that only two companies have fully complied with the disclosure requirements, we can infer that managers are reluctant to disclose goodwill impairment test requirements in our sample. Furthermore, approximately half of our sample have less than 50% level of compliance.

We calculate Pearson correlation coefficients as shown in Table V to recognise the factors that explain the level of compliance to goodwill impairment testing disclosure requirements. In accordance with our hypothesis, our independent variables are correlated with the level of compliance. DINDEX and LNMCAPI are moderately correlated in positive manner which can be interpreted that increase in market capitalisation leads to increase in level of compliance. In addition, DINDEX and AUDIT (being audited by big-4) are moderately correlated in positive manner implying that there is a positive relationship between level of compliance and being audit by big-4 audit firms. DINDEX and GOODWILL are lowly-moderately correlated, thus level of compliance to goodwill impairment testing disclosure requirements will be significantly influenced by percentage of goodwill in total assets. Also, DINDEX and CAPITAL (issuing shares or bonds in the current and following period) are moderately lowly correlated, thus issuing shares or bonds in the current and following periods will be a positively significant impact on thus level of compliance. Regarding the variables that measure the ownership structure FOREIGN (percentage of foreign shareholders in equity) and TOP3 (percentage of top three shareholders) are lowly moderately correlated with DINDEX. Hence, the results indicate a significant relationship between level of compliance and ownership structure. On the other hand, correlation coefficients of other variables (AGE, FAMILY, INDUSTRY) are found weakly correlated with DINDEX, therefore we do not expect any significant relationship between level of compliance and these independent variables.

We also use Pearson's correlation coefficients to check possible existence of multicollinearity among independent variables. Because correlation coefficients are small enough in the current model, there is no multicollinearity among our independent variables.

**Table 5** Pearson correlation coefficients

VARIABLES	DINDEX	LNMCAP	ROA	GEARING	AUDIT	GOODWILL	AGE	CAPITAL	FAMILY	FOREIGN	TOP3	INDUSTRY
DINDEX	1.00											
LNMCAP	0.46	1.00										
ROA	0.10	0.21	1.00									
GEARING	0.03	0.13	-0.48	1.00								
AUDIT	0.40	0.60	0.12	0.15	1.00							
GOODWILL	0.32	0.07	-0.17	0.20	0.17	1.00						
AGE	0.16	0.46	0.04	0.05	0.44	0.11	1.00					
CAPITAL	0.25	0.28	-0.05	0.27	0.23	0.01	0.13	1.00				
FAMILY	0.03	-0.01	-0.14	0.15	-0.06	-0.01	-0.06	0.05	1.00			
FOREIGN	0.28	0.06	-0.10	0.13	0.29	0.29	0.09	0.04	-0.25	1.00		
TOP3	0.24	0.20	0.04	0.20	0.49	0.24	0.24	0.05	0.19	0.45	1.00	
INDUSTRY	-0.06	0.04	0.16	-0.11	0.17	-0.11	0.25	0.01	-0.15	-0.08	0.13	1.00



Firstly, in order to decide whether to use the fixed effect or random effect panel data model, we run the Hausman specification test for model. Here, if the null hypothesis (H0) that asserts the differences of coefficients are not systematic is rejected, the fixed effect model is preferred over to the random effect model. As a result of the Hausman test, the null hypothesis is not rejected for our model, thus random effect model is preferred over fixed effect model. We run the Breusch-Pagan Lagrange multiplier (LM) test to determine whether random effect or the pooled OLS estimators is better for the model. Here, if the null hypothesis that asserts individual-specific or time-specific error variance components are zero is rejected, the random effect model is preferred for estimation. As a result of the Breusch-Pagan Lagrange multiplier (LM) test, the null hypothesis is rejected ( $p = 0.000 < 0.05$ ), so the random effect model is preferred over pooled OLS for our model. Table 6 exhibits the multivariate analysis of disclosure compliance with both random effect model and Pooled OLS model estimations for our model.

**Table 6** Estimation results of models: determinants of level of compliance to goodwill impairment testing

	<i>DEPENDENT VARIABLE (DINDEX)</i>	<i>Pred. Sign</i>	<i>Random Effects</i>	<i>Pooled OLS</i>
<i>INDEPENDENT VARIABLES</i>	<i>LNMCAP</i>	+	0.0485*** (4.12)	0.0712*** (5.34)
	<i>ROA</i>	+	-0.2340 (-1.48)	0.085 (0.30)
	<i>GEARING</i>	+	-0.1928 (-1.08)	-0.261*** (-3.35)
	<i>AUDITOR</i>	+	0.0673 (1.87)	0.1338* (2.09)
	<i>GOODWILL</i>	+	0.4758** (2.79)	1.4787*** (7.50)
	<i>AGE</i>	+	-0.0004 (-0.15)	-0.0025* (-2.04)
	<i>CAPITAL</i>	+	0.0569 (1.94)	0.1403*** (3.24)
	<i>FAMILY</i>	+	-0.0559 (-0.78)	0.1376* (2.07)
	<i>FOREIGN</i>	+	0.0770 (0.82)	0.2991*** (3.40)
	<i>TOP3</i>	+	0.1226 (1.06)	-0.0541 (-0.44)
	<i>INDUSTRY</i>	+/-	-0.0617 (-0.71)	-0.0192 (-0.52)
		<i>INTERCEPT</i>		-0.1993 (-1.08)
	<i>R<sup>2</sup></i>		0.33	0.40
	<i>N</i>		250	250

Notes: \*\*\*, \*\*, and \* indicate statistically significant levels of 0.1%, 1%, and 5%.

We use clustered robust standard errors for heteroskedasticity and autocorrelation.

Table 6 indicates that LNMCAP and GOODWILL are two statistically significant variables in random effects model and LNMCAP, GEARING, GOODWILL, CAPITAL, FOREIGN are statistically significant determinants of level of compliance to goodwill impairment in Turkey. We will discuss our results for each variable in the following section.

As we hypothesised before, we have found a statistically significant relationship between LNMCAP and DINDEX in a positive manner at 0.1% level in our model. As it is presented in Table 6, the coefficient of LNMCAP is around '0.05' and '0.07' in the random effect model and pooled OLS model which means that a 1% increase in market capitalisation may lead 0.05 or 0.07 increase in the level of compliance. Our findings agree with the findings of prior studies, especially the studies that have used the market capitalisation as a measure for firm size (Tsalavoutas et al., 2014; Devalle et al., 2016). Since large companies, such as listed companies, attract public interest greatly, have more stakeholders, these firms are required to provide significant information to sustain their position in the market. In addition, being a public company requires to present detailed information on the financial and economic situation of themselves on time to decrease the probable pressures from various authorities. Moreover, big companies have also sufficient budget to employ skilful professionals to run the goodwill impairment test and reports required disclosures in their financial reports. Our findings are also in accordance with the other studies conducted in Turkey (Curuk, 2009; Misirlioglu et al., 2013).

Findings of the current research do not support that firm's profitability and level of compliance are positively related. However, our findings confirm the evidence provided in some prior research of Tsalavoutas et al. (2014) and Devalle et al. (2016).

In line with the evidence provided in prior literature (Hartwig, 2015), our findings provide us a significant relationship between DINDEX and GEARING in a negative manner. However, in contrast to our expectation, beta coefficient of GEARING is around '-0.26' which means that 1% increase in the debt-to-total capital ratio will result in 0.26 decrease in the level of compliance. As aforementioned, while companies seek external funds, they should disclose sufficient information about their financial position to reduce the cost of capital by minimising information asymmetry between management and funds providers. Logically it is expected that highly leveraged firms have a higher level of compliance; however, we have found completely opposite results regarding with above argument. At first, findings may seem abnormal, but it makes sense when the topic is goodwill and its impairment. As it is well known that highly leveraged companies should improve or sustain their capital structure at a certain level to fulfil the debt covenants for protecting themselves from any loan recalling. Consequently, they can intentionally prefer to give insufficient information about goodwill impairment testing to conceal any impairment loss for the sake of the above purposes.

Auditors are one of the most important assurances for the proper execution of financial reporting standards and our findings provide support for the previous literature (Misirlioglu et al., 2013, Glaum et al., 2013b). We have found a positive relationship between DINDEX and AUDITOR at a 5% level of significance so we can say that auditing by big audit firms increases the level of compliance to goodwill impairment testing disclosure requirements. As we mentioned before, reputation concern pushes big audit firms (big-4) to make an extra effort while auditing firms' financial statements whether they have complied with the financial reporting standards, thus the effort encourages firms to disclose sufficient information. Therefore, being audited by big audit

firms increases the quality of financial statements and this decreases agency costs and results in higher levels of compliance.

As we expected in our hypothesis, we have found positive relationship between DINDEX and GOODWILL. Goodwill impairment testing under IFRS is very complicated and laborious, therefore, it requires talented professionals who have capability to apply valuation models required in IAS 36 and proficiency to prepare reasonable budget assumptions in accounting and financial reporting departments. However, it is not available in many companies, thus it becomes more difficult to fully comply with the disclosure requirements especially for small sized companies. Thus, companies which have relatively lower percentage of goodwill amount may ignore to apply goodwill impairment test properly. Furthermore, as we mentioned before issuance of standard 'ISA 701 Communicating the Key Audit Matters in the Independent Auditor's Report' has become effective since 15 December 2016. As a result of this regulation goodwill impairment test which is applied by companies has become a key matter for auditors thus auditors have mentioned goodwill impairment test in their reports. Consequently, companies are required to apply goodwill impairment test properly. Therefore, higher goodwill intensity in total assets pushes companies to disclose sufficient information for goodwill impairment test. Our findings are in agreement with the findings of Glaum et al. (2013b), Bepari et al. (2014) and Bepari and Mollik (2015) who employed the ratio of goodwill over total assets in their research.

We have not found any statistically significant result between AGE and DINDEX under random effects model similar to Glaum and Street (2003) and Verriest et al. (2013). However, in contrast to our hypothesis, under the pooled OLS method, we have found a negative relationship between DINDEX and AGE at a 5% level of significance. As a result of this finding, against to our expectations inspired from related literature it can be concluded old companies show resistance to adopt new reporting regulations or practices than young newly established companies which are eager to enhance their products and market share.

As we hypothesised, the relationship between CAPITAL and DINDEX under pooled OLS method has been found positive at a 0.1% and 1% level of significance; however, we have not found any significant results under the random effect model. As it is well known that companies desire to fulfil financing needs with as minimum cost of capital as possible. In addition, various research indicated that the level of disclosure or compliance and cost of capital are highly related. In this regard, the findings observed in our study confirm those of Lang and Lundholm (1993) and Mazzi et al. (2017) that companies have increased the level of compliance meet their financing needs with minimum cost of capital.

The random effect model does not yield any significant relationship between our ownership structure variables and the level of compliance to goodwill impairment testing disclosure requirements. However, under pooled OLS method we have found that both FAMILY and FOREIGN variables are statistically related to the DINDEX at 5% and 0.1% level of significance in a positive manner. Beta coefficient of FAMILY is around '0.14' under pooled OLS model which means a 1% increase in proportion of family shares in firm's capital increases the level of compliance at 0.14. In addition, beta coefficients of FOREIGN is around '0.30' which means that a 1% increase in proportion of family shares or in proportion of foreign shareholders in a firm's capital structure increases the level of compliance at 0.30. Our findings show that, contrary to the

common opinion, an increase in family shares increases the disclosure and reporting quality. Since the companies which are known as family companies but have also adopted corporate governance principles have been included in our sample may have been effective on this outcome. Besides, the results of the current study corroborate the previous findings in the literature (Bova and Pereira, 2012; Misirlioglu et al., 2013), that the relationship between FOREIGN and DINDEX is positively significant at 0.1% level. Thus, we can conclude that firms that have foreign investors or controlled by foreign shareholders are more transparent and disclose extensive information than others to prevent the probable 'cut and run' threat for the company. On the other hand, we find that percentage of top 3 shareholders (TOP3) in the firm's capital does not have any impact on the level of compliance.

Consistent with prior studies (Street and Bryant, 2000; Glaum and Street, 2003; Tsalavoutas, 2011), we haven't found any significant relationship between industry and level of compliance to goodwill impairment testing disclosure requirements either in random effect or pooled OLS method.

## 5 Conclusions

Companies are required to disclose information that is listed in IFRS 3 paragraph B67(d) and IAS 36 paragraph 134 for the goodwill impairment test. To measure disclosure quality of goodwill impairment we establish a disclosure index with these items. Thus, the dependent variable in our empirical model equals the level of compliance with IFRS 3 paragraph B67(d) and IAS 36 paragraph 134.

To examine the determinants of goodwill-related disclosure quality in Turkey we employ panel data analysis. We use unique hand-collected panel dataset of 50 listed Turkish non-financial companies for the period between 2014 and 2018.

First, we have found that level of compliance at 49.71% level on average which means that the companies in our sample can only fulfil one of two mandatory disclosure requirements in IFRS 3 paragraph B67(d) and IAS 36 paragraph 134. Our findings also figure out that the level of compliance to goodwill impairment has not significantly improved. The main reason behind this result is using 'boilerplates' in financial reporting. That is preferred by companies to mitigate complicated, laborious, and costly structures of applying goodwill impairment test at first, then this led companies to cut corners; thus, it results in non-compliance when a special situation arises.

Second, we identify that firm size, debt-to-total capital, being audited by big-4, goodwill intensity, age, issuance of equity or debt securities and having family and foreign shareholders are significantly effective on the level of compliance to disclosures requirements for goodwill impairment test in our empirical model. In other words, companies with large market capitalisation, lower debt in their capital structure, high goodwill in their assets, younger, audited by big-4 firms, issued equity or debt securities in the current or following reporting period, and having family and foreign shareholders have complied with the IFRS-required disclosures for goodwill impairment test more than others. Consequently, our findings support the evidence in the previous literature.

As a result of our study, we have some suggestions for capital market stakeholders. Lack of compliance with IFRS-required disclosures can disrupt the interpretation and comparability of the financial statements; therefore, it may lead the financial statement users to make the wrong decision. This will both reduce the market value of the company

and cause an adverse selection for investors. Moreover, increased information asymmetries due to incomplete and potentially biased financial reporting will cause uncertainty; thus, increasing the cost of capital for companies. Finally, the big-4 audit firms apply the audit procedures meticulously and consider their reputations in this regard. Therefore, other audit firms should be more careful in reviewing the financial statements and meet the assurance needs of financial statement users. Unlike big-4 audit firms with their own global IFRS disclosure checklists, most of local audit companies do not have their own disclosure checklists in Turkey. Therefore, Public Oversight Accounting and Auditing Standards Authority in Turkey should publish checklists for local firms to increase the level of compliance with disclosure requirements of goodwill impairment test which requires asset valuation inputs such as cash flow projections, growth rate, discount rate etc. Related to boilerplate disclosure problem in Turkey, stronger oversight and greater demand for detailed information from investors can reduce the level of boilerplate disclosure as suggested by Lang and Stice-Lawrence (2015).

Due to the regulations in capital markets, the supervision is further developing. Further studies may investigate the enhancement in compliance to IFRS-required disclosures and efficiency of regulations. In addition, we have conducted our analysis using only the sample of non-financial companies; analysis using the sample of financial companies may yield different results. Moreover, our study covers only goodwill-related mandatory disclosures required by IFRS. Further studies may be conducted by considering other IFRS-required disclosures. Finally, our study focused on which company specific factors are related with level of compliance to mandatory disclosure requirements. Forthcoming studies could be conducted to investigate how companies' level of compliance with IFRS-required disclosures impact companies' cost of capital.

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