Quality of Financial Reporting: measuring qualitative characteristics

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Abstract

We construct a compound measurement tool to comprehensively assess the quality of financial reporting in terms of the underlying fundamental qualitative characteristics (i.e. relevance and faithful representation) and the enhancing qualitative characteristics (i.e. understandability, comparability, verifiability and timeliness) as defined in 'An improved Conceptual Framework for Financial Reporting' of the FASB and the IASB (2008). The operationalization of these qualitative characteristics results in a 21-item index. Using 231 annual reports from companies listed at US, UK, and Dutch stock markets in 2005 and 2007, we test our compound measurement tool on internal validity, inter-rater reliability (Krippendorff's alpha) and internal consistency (Cronbach's alpha). Our findings suggest that the measurement tool used in this study is a valid and reliable approach to assess the quality of financial reports. The measurement tool contributes to improving the quality assessment of financial reporting information, fulfilling a request from both the FASB and the IASB (2008) to make the qualitative characteristics operationally measurable.

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1. Introduction

The primary objective of financial reporting is to provide high-quality financial reporting information concerning economic entities, primarily financial in nature, useful for economic decision making (FASB, 1999; IASB, 2008). Providing high quality financial reporting information is important because it will positively influence capital providers and other stakeholders in making investment, credit, and similar resource allocation decisions enhancing overall market efficiency (IASB, 2006; IASB, 2008).

Although both the FASB and IASB stress the importance of high-quality financial reports, one of the key problems found in prior literature is how to operationalize and measure this quality. Because of its context-specificity, an empirical assessment of financial reporting quality inevitably includes preferences among a myriad of constituents (Dechow and Dichev, 2002; Schipper and Vincent, 2003; Botosan, 2004; Daske and Gebhardt, 2006). Since different user groups will have dissimilar preferences, perceived quality will deviate among constituents. In addition, the users within a user group may also perceive the usefulness of similar information differently given its context. As a result of this context and user-specificity, measuring quality directly seems problematic (Botosan, 2004). Consequently, many researchers measure the quality of financial reporting indirectly by focusing on attributes that are believed to influence quality of financial reports, such as earnings management, financial restatements, and timeliness (e.g. Barth *et al.*, 2008; Schipper & Vincent, 2003; Cohen *et al.*, 2004).

Despite a considerable interest in the effectiveness of accounting standards on the quality of financial reporting, empirical literature emerged that offers contradictory findings about the questions to what extent accounting standards contribute to the decision usefulness of financial reporting information. Prior empirical studies investigating the influence US GAAP and IFRS have on the quality of financial reports show positive, insignificant and negative differential effects (Barth *et al.*, 2008; Van der Meulen *et al.*, 2007; Barth *et al.*, 2006; Bartov *et al.*, 2005; Psaros & Trotman, 2004; Amir *et al.*, 1993; Ashbaugh and Olsson, 2002). Barth et al. (2006), for instance, find that US firms reveal higher accounting quality than IAS firms, whereas Leuz (2003) demonstrates insignificant differences in bid-ask spread between IAS and US firms.

Psaros and Trotman (2004), however, show results in favor of more principles-based accounting standards.

One explanation for these inconsistent results is that the indirect measures used in the empirical analyses focus on specific attributes of financial reporting information that are expected to influence the quality of financial reporting, such as earnings management, financial restatements, and timeliness (e.g. Barth et al., 2008; Schipper & Vincent, 2003; Cohen et al., 2004; Nichols & Wahlen, 2004). However, none of these measurement methods enables a comprehensive assessment of financial reporting quality including all qualitative characteristics as defined in the Exposure Draft 'An improved Conceptual Framework for Financial Reporting' [ED] of the FASB and the IASB (IASB, 2008). Inter alia, earnings management detection tools highlight the importance of earnings quality rather than financial reporting quality as overarching objective (Krishnan & Parsons, 2008; Burgstahler et al., 2006; Healy & Wahlen, 1999). Earnings quality is defined as "the degree to which reported earnings capture economic reality, in order to appropriately assess a company's financial performance" (Krishnan & Parsons, 2008). However, financial reporting quality is a broader concept that not only refers to financial information, but also to disclosures, and other non-financial information useful for decision making included in the report. Therefore, in the ED both the FASB and the IASB (2008) explicitly express their desirability of constructing a comprehensive measurement tool to assess the quality of financial reporting considering all dimensions of decision usefulness. Hence, this measurement tool considers all the qualitative characteristics because these characteristics determine the decision usefulness of financial reporting information (IASB, 2008).

The primary aim of the present study is to contribute to improving measurement of financial reporting quality. For this reason we operationalize the financial reporting quality in terms of the fundamental characteristics (i.e. relevance and faithful representation) and the enhancing qualitative characteristics (i.e. understandability, comparability, verifiability and timeliness) as defined in the ED (IASB, 2008). A 21-item index constructed allows us to examine to what extent financial reports meet each of the qualitative characteristics separately and in combination. We use 231 annual reports from companies listed at US, UK, and Dutch stock markets in 2005 and 2007 to test the

internal validity, inter-rater and internal consistency reliability of this compound measurement tool. Our results show that the measurement tool assesses the quality of financial reporting in a valid and reliable way.

Our study contributes to the literature in several ways. First, we construct a comprehensive measurement tool to assess the quality of financial reporting, based on the qualitative characteristics, as requested for by the FASB and IASB in the 2008 ED. As a consequence, we update prior research on the assessment of qualitative characteristics, e.g. Jonas and Blanchet (2000). Moreover, with this measurement tool we overcome validity and reliability issues related to prior measurement methods such as earnings management detection tools and value relevance models.

The remainder of this paper is organized as follows. In section two we review the literature on financial reporting quality assessment tools. Thereafter, we develop our more comprehensive measurement tools. In section four we empirically test the validity and reliability of this measurement tool. Finally, we draw conclusions and discuss implications of our study.

2. Literature overview of measurement methods to assess the quality of financial reporting

In 2002, the IASB and the FASB showed their commitment towards developing a common set of high-quality accounting standards, which could be used worldwide. As a consequence of the joint project to converge the more principles-based IFRS and the more rules-based US GAAP, both boards agreed to develop new joint Conceptual Framework, which includes the objectives of financial reporting and the underlying qualitative characteristics on which accounting standards ought to be based. In May 2008, the FASB and the IASB therefore published an exposure draft of 'An improved Conceptual Framework for Financial Reporting' [ED] (IASB, 2008; FASB, 2008$_a$). This Conceptual Framework represents the foundations of the accounting standards. "The application of objectives and qualitative characteristics should lead to high-quality accounting standards, which in turn should lead to high-quality financial reporting information that is useful for decision making" (FASB, 1999; IASB, 2008). Furthermore, the conceptual framework ought to contribute to decision making of constituents, when

transactions or events occur for which no accounting standards are available (yet). According to the ED, providing decision-useful information is the primary objective of financial reporting. Decision-useful information is defined as "information about the reporting entity that is useful to present and potential equity investors, lenders and other creditors in making decisions in their capacity as capital providers" (IASB, 2008: 12). In line with the ED and recent literature, we define financial reporting quality in terms of decision usefulness (e.g. Beuselinck & Manigart, 2007; Jonas & Blanchet, 2000; McDaniel et al., 2002).

To assess the quality of financial reporting, various measurement methods have been used. Table 1 provides a non-exhaustive classification of types of methods most widely used in prior literature to assess financial reporting quality, i.e. accrual models, value relevance models, research focusing on specific elements in the annual report, and methods operationalizing the qualitative characteristics[1].

TABLE 1 ABOUT HERE

Accrual and value relevance model focus on earnings quality measurement. Accrual models are used to measure the extent of earnings management under current rules and legislation. These models assume that managers use discretionary accruals, i.e. accruals over which the manager can exert some control, to manage earnings (Healy & Wahlen, 1999; Dechow et al., 1995). Earnings management is assumed to negatively influence the quality of financial reporting by reducing its decision usefulness (e.g. Brown, 1999; Van Tendeloo & Vanstraelen, 2005). The main advantages of using discretionary accruals to measure earnings management is that it can be calculated based on the information in the annual report. In addition, when using regression models it is possible to examine the effect of company characteristics on the extent of earnings management (Healy & Wahlen 1999; Dechow et al. 1995). Moreover, this type of research is replicable. The main difficulty when using accrual models, however, is how to distinguish between discretionary and non-discretionary accruals (Healy & Wahlen, 1999). Furthermore, it is

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[1] Examples of measurement tools used in prior research which are outside the scope of this paper are Leuz (2003) who uses bid-ask spread and trading volume as proxies of information asymmetry to measure financial reporting quality, and Roychowdhury (2006), whos uses real activity manipulation to measure the extent of earnings management.

only an indirect proxy of earnings quality, excluding non-financial information. Therefore, conclusions concerning the quality of financial reporting information based on accrual models do not provide direct and comprehensive evidence concerning the quality of financial reporting information and its dimensions of decision usefulness (Healy & Wahlen, 1999).

Value relevance models measure the quality of financial reporting information by focusing on the associations between accounting figures and stock-market reactions (e.g. Barth *et al.*, 2001; Choi *et al.*, 1997; Nichols & Wahlen, 2004). The stock price is assumed to represent the market value of the firm, while accounting figures represent firm value based on accounting procedures. When both concepts are (strongly) correlated, i.e. changes in accounting information correspond to changes in market value of the firm, it is assumed that earnings information provides relevant and reliable information (Nichols & Wahlen, 2004). This method is also used to examine earnings persistence, predictive ability, and variability, as elements of earnings quality (Schipper & Vincent, 2003; Francis *et al.*, 2004). The focus of value relevance literature on relevance and faithful representation (reliability) is consistent with the ED, as these notions are defined as the fundamental qualitative characteristics. However, this literature does not distinguish between relevance and reliability, i.e. does not explicitly show whether or not tradeoffs have been made when constructing accounting figures. In addition, the stock market may not be completely efficient. As a consequence, stock prices may not represent the market value of the firm completely accurate (Nichols & Wahlen, 2004).

Accrual models and value relevance literature focus on information disclosed in financial statements to assess the financial reporting quality (e.g. Healy & Wahlen, 1999; Dechow *et al.*, 1995; Barth *et al.*, 2001; Choi *et al.*, 1997; Nichols & Wahlen, 2004; Leuz, 2003). However, a comprehensive measurement tool of financial reporting quality would at least include the complete annual report, including both financial and non-financial information. The third realm of research focuses on assessment tools that measure the quality of specific elements of the annual report in depth and includes both financial and non-financial information. It evaluates the influence of presenting specific information in the annual report on the decisions made by the users. For instance, Hirst et

al. (2004) put emphasis on the use of fair value accounting and financial reporting quality. Gearemynck and Willekens (2003) examine the relationship between the auditor's report and decision usefulness of financial reporting information. Beretta and Bozzolan (2004) focus on the quality of internal control and risk disclosure information, while Cohen et al. (2004) highlights the relationship between corporate governance mechanisms and financial reporting quality. However, research that focuses on a specific element in the annual report has a partial focus, and thus does not provide a comprehensive overview of total financial reporting quality.

Methods that operationalize the qualitative characteristics aim to assess the quality of different dimensions of information simultaneously to determine the decision usefulness of financial reporting information. Jonas & Blanchet (2000), Lee et al. (2002) and McDaniel et al. (2002) develop questions referring to the separate qualitative characteristics in order to assess information quality. Although their research indicates that qualitative characteristics can be made operational, their operationalizations are based on the current frameworks of the FASB (1980) and the IASB (1989) rather than on the new ED (2008). Therefore, some inconsistencies compared to the ED may exist. In addition, some of these operationalizations are not complete and focus solely on relevance and faithful representation (McDaniel *et al.*, 2002). Although understandability, comparability, and timeliness are perceived to be less important than relevance and faithful representation, for a comprehensive assessment it remains important to include them in the analysis. In addition, the complete annual report has to be taken into account since financial reporting refers to both financial and non-financial information.

In conclusion, accrual models and value relevance literature only focus on information disclosed in financial statements to assess the financial reporting quality (e.g. Healy & Wahlen, 1999; Dechow *et al.*, 1995; Barth *et al.*, 2001; Choi *et al.*, 1997; Nichols & Wahlen, 2004; Leuz, 2003). Research papers focusing on specific elements in the annual report include both financial and non-financial information, but are not able to assess financial reporting quality comprehensively (e.g. Hirst *et al.*, 2004; Gearemynck & Willekens, 2003; Beretta & Bozzolan, 2004; Cohen *et al.*, 2004). This study develops and tests a compound tool to comprehensively assess the quality of financial and non-

financial reporting information in the annual report considering all dimensions of decision usefulness as defined in the ED.

3. Measurement of the quality of financial reporting in terms of the qualitative characteristics

3.1 Operationalization of the qualitative characteristics

To construct a measurement tool, we use prior literature which defines financial reporting quality in terms of the fundamental and enhancing qualitative characteristics underlying decision usefulness as defined in the ED (IASB, 2008). The fundamental qualitative characteristics (i.e. relevance and faithful representation) are most important and determine the content of financial reporting information. The enhancing qualitative characteristics (i.e. understandability, comparability, verifiability and timeliness) can improve decision usefulness when the fundamental qualitative characteristics are established. However, they cannot determine financial reporting quality on their own (IASB, 2008).

Except for timeliness, each of the qualitative characteristics in the ED is measured using the multiple items that refer to the sub notions of the qualitative characteristics. To assure the internal validity of these items, the quality measures are based on prior empirical literature. We use a five point rating scales to assess the scores on the items. Appendix A provides an overview of the 21 measured items used to operationalize the fundamental and enhancing qualitative characteristic. This appendix also includes the measurement scales used to assess the value of the distinct items. Subsequently, we compute a standardized outcome for the qualitative characteristics relevance, faithful representation, understandability and comparability by adding the scores on the related items and dividing by the total number of items.

Relevance

Relevance is referred to as the capability "of making a difference in the decisions made by users in their capacity as capital providers" (IASB, 2008: 35). Drawing on prior literature, relevance is operationalized using four items referring to predictive and confirmatory value. As discussed earlier, researchers tend to focus on earnings quality instead of on financial reporting quality. This definition is limited in scope because it

9

neglects non-financial information and it excludes 'future' financial information already available to the users of the annual report, for example on future transactions (Jonas & Blanchet, 2000; Nichols & Wahlen, 2004). In order to improve the comprehensiveness of the quality assessing measurement tool, this study will consider a broader perspective on predictive value including both financial and non-financial information.

Many researchers have operationalized predictive value as the ability of past earnings to predict future earnings (e.g. Francis *et al.*, 2004; Lipe, 1990; Schipper & Vincent, 2003). Predictive value explicitly refers to information on the firm's ability to generate future cash flows: "information about an economic phenomenon has predictive value if it has value as an input to predictive processes used by capital providers to form their own expectations about the future" (IASB, 2008: 36). We consider predictive value as most important indicator of relevance in terms of decision usefulness and measure predictive value using three items. The first item measures the extent to which annual reports provide forward-looking statements. The forward-looking statement usually describes management's expectations for future years of the company. For capital providers and other users of the annual report this information is relevant since management has access to private information to produce a forecast that is not available to other stakeholders (Bartov & Mohanram, 2004) [R1].

The second item measures to what extent the annual reports discloses information in terms of business opportunities and risks. Jonas and Blanchet (2000) refer to the complementation of financial information by non-financial information, when referring to predictive value, and the knowledge that can be obtained of business opportunities and risks, since it provides insight into possible future scenarios for the company [R2].

The third item measures company's use of fair value. Prior literature usually refers to the use of fair value versus historical cost when discussing the predictive value of financial reporting information (e.g. Barth *et al.*, 2001; Hirst *et al.*, 2004; McDaniel *et al.* 2002; Schipper & Vincent, 2003; Schipper, 2003). It is often claimed that fair value accounting provides more relevant information than historical cost because it represents the current value of assets, instead of the purchase price (inter alia Maines & Wahlen, 2006; Schipper & Vincent, 2003). In addition, both the FASB and IASB are currently considering new standards to allow more fair value accounting to increase the relevance

of financial reporting information, since they consider fair value as one of most important methods to increase relevance (Barth *et al.*, 2001) [R3].[2]

In addition to predictive value, confirmatory value contributes to the relevance of financial reporting information. Information has confirmatory value "if it confirms or changes past (or present) expectations based on previous evaluations" (IASB, 2008: 36). Jonas and Blanchet (2000) argue that if the information in the annual report provides feedback to the users of the annual report about previous transactions or events, this will help them to confirm or change their expectations [R4]. Especially the financial statements and the 'Management, Discussion & Analysis' (MD&A) section of the annual report will be reviewed in order to gain insight into the confirmatory value of the information. These sections generally provide information with confirmatory value (Jonas & Blanchet, 2000).

Faithful representation

Faithful representation is the second fundamental qualitative characteristic as elaborated in the ED. To faithfully represent economic phenomena that information purports to represent, annual reports must be complete, neutral, and free from material error (IASB, 2008: 36). Economic phenomena represented in the annual report are "economic resources and obligations and the transactions and other events and circumstances that change them" (IASB, 2006: 48). Consistent with prior literature, faithful representation is measured using five items referring to neutrality, completeness, freedom from material error, and verifiability (Dechow et al., 1996; McMullen, 1996; Beasley, 1996; Rezaee, 2003; Cohen et al., 2004; Sloan, 2001; Jonas & Blanchet, 2000; Maines & Wahlen, 2006; Gaeremynck & Willekens, 2003; Kim et al., 2007; Willekens, 2008). [3]

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[2] Jonas and Blanchet (2000: 360) include one additional item referring to relevance and predictive value: "When identifying unusual or nonrecurring items for disclosure, are both gains and losses given equal importance?" This question is not included in the measurement tool since the second item referring to the relationship between financial and non-financial information already incorporates disclosures of unusual or nonrecurring items. Additionally, whether they are given equal importance is in our opinion more closely related to neutrality, a sub notion of faithful representation, than to predictive value.

[3] Note that the ED distinguishes verifiability as a separate enhancing qualitative characteristic. "Verifiability is a quality of information that helps assure users that information faithfully represents

Botosan (2004) argues that it is difficult to measure faithful representation directly by only assessing the annual report, since information about the actual economic phenomenon is necessary to assure faithful representation. According to Maines and Wahlen (2006), however, estimates and assumptions that closely correspond to the underlying economic constructs the standards pursue can enhance faithful representation. Therefore, we focus on items in the annual report that increase the probability of faithfully represented information. These items do not always directly refer to the US GAAP or IFRS, yet they provide an indirect proxy of faithful representation of financial reporting information prepared in accordance with certain accounting standards.

The first proxy refers to the issue 'free from bias'. An annual report can never be completely free from bias, since economic phenomena presented in annual reports are frequently measured under conditions of uncertainty. Many estimates and assumptions are included in the annual report. Although complete lack of bias cannot be achieved, a certain level of accuracy is necessary for financial reporting information to be decision useful (IASB, 2008). Therefore, it is important to examine the argumentation provided for the different estimates and assumptions made in the annual report (Jonas & Blanchet, 2000). If valid arguments are provided for the assumptions and estimates made, they are likely to represent the economic phenomena without bias [F1].

In addition, valid and well-grounded arguments provided for the accounting principles used increase the likelihood that preparers fully understand the measurement method. This will reduce the possibility of unintentional material errors in their financial report (Jonas & Blanchet, 2000; Maines & Wahlen; 2006). Moreover, when the selected accounting principles are clearly described and well-founded, it increases the probability to reach consensus and to detect misstatements for the user of the financial report as well as for the auditor [F2].

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economic phenomena that it purports to represent. Verifiability implies that different knowledgeable users of financial reporting information reach general consensus, although not necessarily complete agreement" (IASB, 2008; 39). Since the aim of the measurement tool is to assess each of the qualitative characteristics and verifiability directly refers to the assessment of faithful representation, verifiability is included in the measurement tool as a sub notion of this fundamental qualitative characteristic This view is supported by the preliminary views on an improved conceptual framework for financial reporting (IASB, 2006) and the concept statements of the FASB (1980), which both include verifiability as a sub notion of faithful representation.

The third sub notion of faithful representation, neutrality, is defined as "the absence of bias intended to attain a predetermined result or to induce a particular behaviour. Neutral information does not colour the image it communicates to influence behaviour in a particular direction" (IASB, 2008: 37). As Jonas and Blanchet (2000: 362) state: "neutrality is about objectivity and balance". Neutrality refers to the intent of the preparer; the preparer should strive for an objective presentation of events rather than focusing solely on the positive events that occur without mentioning negative events [F3].

The fourth construct to measure faithful representation refers to the unqualified auditor's report. Various researchers examined the impact of an audit and the auditors' report on the economic value of the firm (e.g. Gaeremynck & Willekens, 2003; Kim *et al.*, 2007; Willekens, 2008). These researchers concluded that the auditors' report adds value to financial reporting information by providing reasonable assurance about the degree to which the annual report represents economic phenomena faithfully. Maines and Wahlen (2006) even argue that an unqualified audit report is a necessary condition to perceive the financial reporting information as reliable or faithfully represented [F4].

Finally, an increasingly important consideration in the annual report related to faithful representation is the corporate governance statement. [4] Corporate governance can be defined as the mechanisms by which a business enterprise, organised in a limited liability corporate form, is directed and controlled. Several researchers examine the association between financial reporting quality and corporate governance, internal control, earnings manipulations and fraud, and find that poor governance and internal controls reduce the quality of financial reporting (e.g. Dechow *et al.*, 1996; McMullen, 1996; Beasley, 1996; Rezaee, 2003). Apparently, corporate governance information adds value to capital providers. More specifically, corporate governance information increases the probability of faithfully represented information (Sloan, 2001; Holland, 1999) [F5]. [5]

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[4] Items not directly referring to US GAAP or IFRS are F4 and F5. F4 refers to auditing standards, whereas F5 refers to national corporate governance codes. However, a close link exists between auditing standards, national corporate governance codes and information prepared in accordance with US GAAP and IFRS.

[5] Jonas and Blanchet (2000) include an additional question referring to faithful representation which is not included in our measurement tool. This question refers to the intentions of management: "To what extent does the company enter into (or modify) transactions in order to achieve a specific accounting result?"

Understandability

The first enhancing qualitative characteristic, understandability, will increase when information is classified, characterized, and presented clearly and concisely. Understandability is referred to, when the quality of information enables users to comprehend their meaning (IASB, 2008). Understandability is measured using five items that emphasize the transparency and clearness of the information presented in annual reports (Jonas & Blanchet, 2000; Iu & Clowes, 2004; Courtis, 2005; IASB, 2006).

First, classified and characterized information refers to how well-organized the information in the annual report is presented. If the annual report is well-organized it is easier to understand where to search for specific information (Jonas & Blanchet, 2000) [U1]. Furthermore, disclosure information, and in particular the notes to the balance sheet and income statement, may be valuable in terms of explaining and providing more insight into earnings figures (Beretta & Bozzolan, 2004). Especially narrative explanations help to increase the understandability of information (IASB, 2006; Iu & Clowes, 2004) [U2].

Additionally, the presence of tabular or graphic formats may improve understandability by clarifying relationships and ensuring conciseness (IASB, 2006; Jonas & Blanchet, 2000) [U3]. Moreover, if the preparer of the annual report combines words and sentences that are easy to understand, the reader will be more likely to understand the content as well (Courtis, 2005). If technical jargon is unavoidable, for instance industry related jargon, an explanation in a glossary may increase the understandability of the information [U4, U5].

Comparability

A second enhancing qualitative characteristic is comparability, which "is the quality of information that enables users to identify similarities in and differences between two sets of economic phenomena" (IASB, 2008: 39). In other words, similar situations should be

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(Jonas & Blanchet, 2000: 362). As Botosan (2004) states, it is difficult to ensure faithful representation since insider information is lacking. For this reason we are not able to answer this question and the question is not included in the measurement tool. However, the item referring to corporate governance provides some insight in the efforts of management to ensure honest accounting procedures and results.

presented the same, while different situations should be presented differently[6]. Comparability is measured using six items that focus on consistency. Four items refer to the consistency in use of the same accounting policies and procedures from period to period within a company (Jonas & Blanchet, 2000; Vincent & Schipper, 2003; Beuselinck & Manigart, 2007; Cole et al., 2007). Two items are used to measure the comparability in a single period across companies (Cleary, 1999; Jonas & Blanchet, 2000; Cole et al., 2007; Beuselick & Manigart, 2007; IASB, 2008).

Comparability includes consistency. "Consistency refers to the use of the same accounting policies and procedures, either from period to period within an entity or in a single period across entities" (IASB, 2008: 39). According to the ED, companies should strive for comparability by means of consistency. Jonas and Blanchet (2000) operationalize consistency by referring to coping with change and uncertainty. New information, rules or regulation generally cause companies to change their estimates, judgements, and accounting policies. For instance, if new information is available which encourages a revision of the expected lifetime of a certain asset, this may result in a change of estimate. In addition, many EU-listed companies changed from local GAAP to IFRS in 2005, as a result of new rules and legislation. In terms of consistency it is important that these companies explain how these changes affect previous results [C1, C2]. The comparability of earnings figures is important in the evaluation of the firm's performance over time (IASB, 2006; Cole *et al.*, 2007). If a company changes its estimates, judgements, or accounting policies it may adjust previous years' earnings figures in order to visualize the impact of the change on previous results [C3].

Additionally, since consistency refers to using the same accounting procedures every year, this year's figures should be comparable to previous years' figures (IASB, 2008). When a company provides an overview in which they compare the results of different years, even when no changes in estimates, judgements, or accounting policies occurred, this will improve the comparability of financial reporting information [C4].

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[6] A difference exists between comparability and uniformity. Some authors argue that uniformity is an indicator of comparability (e.g. Cole *et al.*, 2007). However, the ED explicitly states that comparability is not similar to uniformity. If companies pursuit uniformity, not only similar things look alike but also different things look alike. This is not the purpose of the IASB and FASB, since uniformity could lead to surface comparability (Schipper, 2003).

Comparability not only refers to the consistency of the use of accounting procedures by a single company, it also refers to comparability between different companies (IASB, 2008). When assessing the comparability of annual reports of different companies, the accounting policies used, the structure of the annual report, and the explanation of transactions and other events are of special importance (Jonas & Blanchet, 2000) [C5]. In addition, ratios and index numbers can be useful when comparing companies' performance [C6].

Timeliness

The final enhancing qualitative characteristic defined in the ED is timeliness. "Timeliness means having information available to decision makers before it loses its capacity to influence decisions" (IASB, 2008: 40). Timeliness refers to the time it takes to reveal the information and is related to decision usefulness in general (IASB, 2008). When examining the quality of information in annual reports, timeliness is measured using the natural logarithm of amount of days between year end and the signature on the auditors' report after year end is calculated. Based on the natural logarithm of this amount of days, each company received a score between 1 and 5.

3.2 Assessment of financial reporting quality

To assess the quality of financial reporting we first computed standardized scores on the fundamental and enhancing qualitative characteristics. The standardized score of the fundamental qualitative characteristics relevance and faithful representation is calculated by adding the standardized scores of relevance and faithful representation, divided by 2. Hence, both fundamental qualitative characteristics are weighted equally. The same procedure is performed for the enhancing qualitative characteristics. This process results in a score between 1 and 5 for all qualitative characteristics: 1 indicating a poor score, while an outcome of 5 implies excellence.

The quality of financial reporting is measured by including both the scores on the fundamental and enhancing qualitative characteristics. Since the ED considers the fundamental qualitative characteristics most important in relation to financial reporting quality, we have weighted the scores on the fundamental qualitative characteristics higher

16

than the scores on the enhancing qualitative characteristics. For robustness purposes, we examined the impact of the relative weights on the regression results (see Table 6, panel C). In addition, the quality of financial reporting is also measured using only the scores on the fundamental qualitative characteristics.

Table 2 provides an overview of the scores on each of the 21 operational items.

TABLE 2 ABOUT HERE

4. Validity and reliability checks

4.1 Sample and statistical analysis

To test the 21-item index quality assessment tool on internal validity and inter-rater and internal consistency reliability we use a sample of 231 annual reports from companies that were quoted on US, UK, and Dutch stock exchanges in 2005 and 2007. The first set of observations includes annual reports of the year 2005, because companies within the European Union were first mandatory to comply with IFRS in 2005. For 2005, 120 observations were made; i.e. we randomly selected 40 US, 40 UK and 40 Dutch listed companies. For 2007, 111 observations were made. No data was available for 9 of the 120 companies selected in 2005, because these companies were delisted from the stock exchange prior to 2008 or did not publish their annual report of 2007 prior to our data collection.

We selected companies listed in the US, the UK and the Netherlands because all three countries selected have a strong legal system and enforcement environment (e.g. La Porta at al., 1998; La Porta et al., 2000; Ball et al. 2000, Leuz et al., 2003; Nobes & Parker, 2006). The selected US-listed companies comply with US GAAP, while the annual reports of companies selected from the UK and the Netherlands have to comply with IFRS. We selected companies from two 'IFRS countries' with fairly similar institutional systems to control for cross-country differences in financial reporting quality, which are likely to remain after IFRS adoption as a result of differences in institutional settings (Soderstrom & Sun, 2007; Nobes & Parker, 2006; Burgstahler et al., 2006; Leuz et al., 2003; Camfferman & Cooke, 2002; LaPorta et al., 1998).

Companies complying with IFRS publish a commercial annual report. US GAAP annual reports are published in two forms: Form 10-K for domestic-listed companies and

Form 20-F for foreign private issuers, or cross-listed companies (SEC, 2008). This research takes all three forms of the annual report into account. If in the annual report references are made to other documents, like the corporate governance report, these documents are also considered in order to determine financial reporting quality. Non-financial information that is not included in the annual report or not specifically referred to is beyond the scope of this research. Table 3 provides an overview of the annual reports included in the sample.

TABLE 3 ABOUT HERE

4.2 Empirical checks on quality assessment validity and reliability

4.2.1 Validity checks

To assure the construct validity of the quality measures, the measures are based on prior literature. To test the measurement tool's internal validity we compared our results with prior empirical results; we examine whether the influence of several factors on the financial reporting quality is consistent with empirical findings in prior research. For our study in particular, we assessed the influence of the accounting standards used, a country's legal and institutional environment, industry effects, company size and leverage and year on the quality of the selected companies' annual reports.

Table 4 presents the descriptive statistics for quality of financial reports related to accounting standards and country. These results suggest that US GAAP provide higher financial reporting quality than IFRS for both quality measures. In addition, the results show an increase in total financial reporting quality between 2005 and 2007 for both US GAAP and IFRS annual reports. To test whether these quality differences are significant, we conducted OLS regressions. Before explaining the results of the OLS regression analysis, the model was tested on linearity, homoscedasticity, multicollinearity and normally distributed data. The scatter plots of the residuals show a random array of dots, indicating linearity and homoscedasticity. Table 5 shows that the variance inflation factor (VIF) was smaller than 2 for each of the variables in each of the regression models, which indicates the absence of multicollinearity. Finally, all variables were normally distributed.

18

Table 6, panel A and B present the regression results to test whether the influence of several factors described on the on financial reporting quality is consistent with empirical findings in prior research. Consistent with results in prior literature (Bartov et al., 2005; Leuz, 2003; Leuz et al., 2003; Amir et al., 1993; Ashbaugh & Olsson, 2002), the results in both panels show no significant differential influence of the accounting standards on accounting quality. In addition, the results in panels A and B reveal a significant influence of the variables company size, country, industry and year on the quality of financial reporting (Burgstahler et al., 2006; Tarca, 2004; Leuz et al., 2003). Consistent with prior empirical findings, these findings demonstrate a positive influence of company size on the quality of financial reporting. Furthermore, the results show an association between country, type of industry and financial reporting quality (Burgstahler at al., 2006; Leuz et al., 2003; Soderstrom & Sun, 2007; LaPorta et al., 1998). Finally, our results reveal that the quality of financial reporting is increasing over time. In addition, we performed a robustness analysis to examine the influence of the proportion of the fundamental to the enhancing qualitative characteristics. Table 6 panel C shows that the results are robust for different weightings of both fundamental and enhancing qualitative characteristics (Bennett et al., 2006).

TABLE 6 ABOUT HERE

When measuring financial reporting quality exclusively in terms of the fundamental qualitative characteristics relevance and faithful representation, the findings in Table 4 suggest that US GAAP annual reports provide information that more faithfully represents economic phenomena than IFRS annual reports. On the other hand, IFRS annual reports provide more relevant information than US GAAP annual reports. To test whether these quality differences are significant, Table 7 shows that the influence of US GAAP and IFRS on the underlying qualitative characteristics differs significantly. Inter alia, Panel A of Table 7 shows that the quality scores on relevance are higher in the IFRS annual reports than in the US GAAP annual reports, whereas panel B shows that the quality scores on faithful representation are higher in the US GAAP annual reports than in the IFRS annual reports. Consistent with prior literature, these results suggest that annual

reports prepared in accordance with IFRS offer more relevant information (Maines & Wahlen, 2006; Bennett *et al.*, 2006; Benston *et al.*, 2006; Psaros & Trotman, 2004; Schipper & Vincent, 2003), whereas US GAAP annual reports provide information that more faithfully represents economic phenomena (Alexander & Jermakowicz, 2006; Nelson, 2003). Consistent with prior findings, and in combination with the results in Table 6 these findings suggest that the differential effects of IFRS and US GAAP on the relevance of annual reports are neutralized by the opposite differential effects of these accounting standards on the faithful representation of annual reports.

<center>TABLE 7 ABOUT HERE</center>

4.2.2 Reliability checks

All qualitative characteristics were measured by two independent raters. This was necessary, because raters need judgement when assessing financial reporting quality based on the qualitative characteristics and a lack of inside information may cause problems when interpreting and quantifying the qualitative characteristics (Botosan, 2004). To test the inter-rater reliability, the inter-rater reliability coefficient Krippendorff's alpha was calculated. This reliability statistic is rooted in content analysis and is applicable to various circumstances, including the use of ordinal data and small sample sizes (Krippendorff, 1980). The value for the Krippendorff's alpha was 0.79 which is above the required 0.70. This suggests that the quality scores are reliable, i.e. agreement between the coders about their quality estimations made. To test the internal reliability of the measurement scales we used Cronbach's alpha. Based on the adjustments suggested by Bernardi (1994), Table 8 panels A and B show that the Cronbach's alpha is sufficiently high to ensure reliable results.

5. Conclusion and discussion

The aim of our study was to develop and test a compound measurement tool to comprehensively assess the quality of financial reports. Therefore we constructed a 21-item index in order to comprehensively measure the quality of financial reporting in terms of the underlying fundamental and enhancing qualitative characteristics as defined in the ED (IASB, 2008). Comprehensive assessment of the quality of financial reports is important as it may improve users' quality of economic decision making and enhance

overall market efficiency (IASB, 2006; IASB, 2008), thereby reducing the cost of capital for companies.

To assure the construct validity of the measurement tool developed, the quality measures were strongly based on prior empirical literature. In addition, the empirical results show that that the influence of several variables such as accounting standards, legal system and enforcement environment, firm size and industry on the financial reporting quality is consistent with empirical findings in prior research using other quality assessment tools. Our empirical findings support the idea that the compound measurement tool used in this study is a valid approach to assess the quality of financial reports. Additional analysis demonstrates that the quality assessment is robust for the influence of different weightings of both fundamental and enhancing qualitative characteristics. To assess the reliability of the 21-item index, we test our results for both inter-rater reliability (using Krippendorff's alpha) and internal consistency reliability (using Cronbach's alpha). Both results are sufficiently high to ensure reliable results.

The comprehensive measurement tool constructed, however, has several limitations relating to validity and reliability. Consistent with the definition of quality of financial reporting, i.e. decision usefulness (IASB, 2008), its validity should be established by comparing our measured results to the decision usefulness of financial reporting as perceived by stakeholders such as equity providers or lenders. In addition, comparing the results of our comprehensive measurement tool with the results of other quality assessment tools using the same sample may increase insight into the validity and reliability of financial reporting quality assessment tools. Finally, the reader should bear in mind that the study is based on a relatively small sample. Future research, using larger samples, may provide additional insights into the external validity of our results. Such insights may also help to create deeper understanding concerning the assessment of the quality of financial reporting.

References

-Alexander, D. & Jermakowicz, E. (2006). True and Fair View of the Principles/Rules Debate. *Abacus*, 42(2), 132-164.

- Amir, E., Harris, T. & Venuti, E.K. (1993). A Comparison of the Value-Relevance of U.S. Versus Non-U.S. GAAP Accounting Measures Using Form 20-F Reconciliations. *Journal of Accounting Research*, 31, 230-264 (Supplement).

- Ashbaugh, H. & Olsson, P. (2002). An Exploratory Study of the Valuation Properties of Cross-Listed Firms' IAS and U.S. GAAP Earnings and Book Values. *The Accounting Review* 77(1), 107–27.

- Ball, R., Kothari, S. & Robin, A. (2000). The effect of international institutional factors on properties of accounting earnings. *Journal of Accounting and Economics*, 29, 1-51.

- Barth, M., Beaver, W. & Landsman, W. (2001). The relevance of the value relevance literature for financial accounting standard setting: another view. *Journal of Accounting and Economics*, 31, 77-104.

- Barth, M., Landsman, W., Lang, M. & Williams, C. (2006). *Accounting Quality: International Accounting Standards and US GAAP*. Working paper series.

- Barth, M., Landsman, W. & Lang, M. (2008). International Accounting Standards and Accounting Quality. *Journal of Accounting Research*, 46(3), 467-498.

- Bartov, E., Goldberg, S. & Kim, M. (2005). Comparative value relevance among German, U.S., and international accounting standards: A German stock market perspective. *Journal of Accounting, Auditing and Finance*, 20(2), 95-119.

- Bartov, E. & Mohanram, P. (2004). Private information, earnings manipulations, and executive stock-option exercises. *The Accounting Review*, 79(4), 889-1010.

- Beasley, M. (1996). An empirical analysis of the relation between board of director compensation and financial statement fraud. *The Accounting Review*, 71(4), 443-466.

- Bennett, B., Bradbury, M. & Prangnell, H. (2006). Rules, Principles and Judgments in Accounting Standards. *Abacus*, 42(2), 189-204.

- Benston, G., Bromwich, M. & Wagenhofer, A. (2006). Principles- Versus Rules-Based Accounting Standards: The FASB's Standard Setting Strategy. *Abacus*, 42(2), 165-188.

- Beretta, S. & Bozzolan, S. (2004). A framework for the analysis of firm risk communication. *The International Journal of Accounting*, 39, 265-288.

- Bernandi, R. (1994). Validating research results when Cronbach's alpha is below .70: A methodological procedure. *Educational and Psychological Measurement*, 54(3), 766-775.

- Beuselinck, C. & Manigart, S. (2007). Financial Reporting Quality in Private Equity Backed Companies: The Impact of Ownership Concentration. *Small Business Economics*, 29, 261-274.

- Botosan, C. (2004). Discussion of a framework for the analysis of risk communication. *The International Journal of Accounting*, 39, 289-295.

- Burgstahler, D., Hail, L. & Leuz, C. (2006). The Importance of Reporting Incentives: Earnings Management in European Private and Public Firms. *The Accounting Review*, 81(5), 983-1016.

- Camfferman, K. & Cooke, T.E. (2002). An analysis of disclosure in the annual reports of U.K. and Dutch companies. *Journal of International Accounting Research*, 1, 3-30.

- Choi, B., D.W. Collins & W.B. Johnson (1997), Valuation Implications of Reliability Differences: The Case of Nonpension Postretirement Obligations, *The Accounting Review* 72(3): 351-383.

- Cleary, S. (1999). The Relationship between Firm Investment and Financial Status. *Journal of Finance*, 54(2), pp. 673-692.

- Cohen, J., Krishnamorthy, G. & Wright, A. (2004). The corporate governance mosaic and financial reporting quality. *Journal of Accounting Literature*, 23, 87-152.

- Cole, V., Branson, J. & Breesch, D. (2007). *A review of the different methods developed to measure the comparability of financial statements*, Working paper series.

- Courtis, J. (1995). Readability of annual reports: Western versus Asian evidence. *Accounting, Auditing and Accountability Journal*, 8(2), 4-17.

- Daske, H. & Gebhardt, G. (2006). Internation Financial Reporting Standards and Experts' Perceptions of Disclosure Quality. *Abacus*, 42(3-4), 461-498.

- Dechow, P.M., Sloan, R.G. & Sweeney, A.P. (1996). Causes and consequences of earnings manipulation: An analysis of firms subject to enforcement actions by the SEC. *Contemporary Accounting Research*, 13(1), 1-36.

- Dechow, P.M., Sloan, R.G. and Sweeny, A.P. (1995), Detecting earnings management, The Accounting review, 70(2): 193-225.

- Dechow, P. & Dichev, I. (2002). The Quality of Accruals and Earnings: The Role of Accrual Estimation Errors. *The Accounting Review*, 77, 35-59 (Supplement).

- Eisinga, R., Scheepers, P. & Van Snippenburg, L. (1991). The standardized effect of a compound of dummy variables or polynomial terms. *Quality and Quantity*, 25(4), 103-114.

- FASB (1980). *Statement of Financial Accounting Concepts No. 2., Qualitative Characteristics of Accounting Information.* Norwalk.

- FASB (1999). *International standard setting: a vision for the future.* Norwalk.

- FASB (2008). *Financial Accounting Series, Statement of Financial Accounting Standards No. 1570-100: Exposure Draft on an Improved Conceptual Framework for Financial Reporting.* Norwalk.

- FASB. *Convergence with the IASB.* Available at: http://www.fasb.org/intl/convergence_iasb.shtml (accessed July 12 2008).

- FASB. *Completed/Past Agenda Projects.* Available at: http://www.fasb.org/project/completed_past_projects.shtml (accessed July 13 2008).

- FASB. *Principles-Based Approach to Standard Setting.* Available at: http://72.3.243.42/project/principles-based_approach.shtml (accessed February 12 2008).

- FASB. *Completing the February 2006 Memorandum of Understanding: A progress report and timetable for completion September 2008.* Available at: http://72.3.243.42/intl/MOU_09-11-08.pdf (accessed February 17 2008).

- Francis, J., LaFond, R., Olsson, P. & Schipper, K. (2004). Cost of Equity and Earnings Attributes. *The Accounting Review*, 79(4), 967-1010.

- Gaeremynck, A. & Willekens, M. (2003). The Endogenous Relationship between Audit-Report Type and Business Termination: Evidence on Private Firms in a Non-Litigious Environment. *Accounting and Business Research*, 33(1), 65-79.

- Healy, P. & Wahlen, J. (1999). A review of the earnings managment literature and its implications for standard settings. *Accounting Horizons*, 13(4), 365-383.

- Hirst, D., Hopkins, P. & Wahlen, J. (2004). Fair Values, Income Measurement, and Bank Analysts' Risk and Valuation Judgments. *The Accounting Review*, 79(2), 453-472.

- Holland, J. (1999). Financial Reporting, Private Disclosure and the Corporate Governance Role of Financial Institutions. *Journal of Management and Governance*, 3(2), 161-187.

- Holthausen, R.W. & Watts, R.L. (2001). The relevance of value-relevance literature for financial accounting standard setting. *Journal of Accounting and Economics*, 31, 3-75.

- IASB (1989). *Framework for the Preparation and Presentation of Financial Statements.* London.

- IASB (2008). *Exposure Draft on an improved Conceptual Framework for Financial Reporting: The Objective of Financial Reporting and Qualitative Characteristics of Decision-useful Financial Reporting Information.* London.

24

- Iu, J. & Clowes, C. (2004). *Evaluating a measure of content quality for accounting narratives (with an empirical application to narratives from Australia, Hong Kong, and the United States).* Working paper series.

- Jonas, G. & Blanchet, J. (2000). Assessing Quality of Financial Reporting. *Accounting Horizons,* 14(3), 353-363.

- Kim, J., Simunic, D., Stein, M. & Yi, C.H. (2007). *Voluntary Audits and the Cost of Debt Capital for Privately Held Firms: Korean Evidence.* Working paper series.

- Krippendorff, K. (1980) *Content Analysis: An Introduction to its Methodology.* (Beverly Hills CA: Sage).

- Krishnan, G. & Parsons, L. (2008). Getting to the Bottom Line: An Exploration of Gender and Earnings Quality. *Journal of Business Ethics,* 78(1), 65-76.

- La Porta, R., Lopez-de-Silanes, F., Shleifer, A. & Vishny, R. (1998). Law and Finance. *Journal of Political Economy,* 106(6), 1113-1155.

- La Porta, R., Lopez-de-Silanes, F., Shleifer, A. & Vishny, R. (2000). Investor protection and corporate governance. *Journal of Finance and Economics,* 58, 3-27.

- Lee, Y.W., Strong, D.M., Kahn, B.K. & Wang, R.Y. (2002). AIMQ: a methodology for information quality assessment. *Information and Management,* 40, 133-146

- Leuz, C. (2003). IAS Versus U.S. GAAP: Information Asymmetry-Based on Evidence from Germany's New Market. *Journal of Accounting Research,* 41(9), 445-472.

- Leuz, C. (2003). IAS Versus U.S. GAAP: Information Asymmetry-Based on Evidence from Germany's New Market. *Journal of Accounting Research,* 41(9), 445-472

- Leuz, C., Nanda, D. & Wysocki, P.D. (2003). Earnings management and investor protection: An international comparison. *Journal of Financial Economics,* 69, pp. 505-527.

- Lipe, R. (1990). The relation between stock returns and accounting earnings given alternative information. *The Accounting Review,* 65, 49-71.

- Maines, L. & Wahlen, J. (2006). The Nature of Accounting Information Reliability: Inferences from Archival and Experimental Research. *Accounting Horizons,* 20(4), 399-425.

- McDaniel, L., Martin, R. & Maines, L. (2002). Evaluating Financial Reporting Quality: the Effects of Financial Expertise vs. Financial Literacy. *The Accounting Review,* 77, 139-167 (Supplement).

- McMullen, D. (1996). Audit committee performance: An investigation of the consequences associated with audit committees. *Auditing,* 15(1), 87-103.

- Nelson, M. (2003). Behavioral Evidence on the Effects of Principles- and Rules-Based Standards. *Accounting Horizons*, 17(1), 91-104.

- Nichols, D. & Wahlen, J. (2004). How Do Earnings Numbers Relate to Stock Returns? A Review of Classic Accounting Research with Updated Evidence. *Accounting Horizons*, 18(4), 263-286.

- Nobes, C. & Parker, R. (2006). *Comparative International Accounting*. Harlow: Prentice Hall/Financial Times.

- Psaros, J. & Trotman, K. (2004). The Impact of the Type of Accounting Standards on Preparers' Judgments. *Abacus*, 40(1), 76-93.

- Remus, W. (1986). Graduate students as surrogates for managers in experiments on business decision making. *Journal of Business Research*, 14, 19-25.

- Rezaee, Z. (2003). High-quality financial reporting: The six-legged stool. *Strategic Finance*, 84(8), 26-30.

- Schipper, K. (2003). Commentary: Principles-Based Accounting Standards. *Accounting Horizons*, 17(1), 61-72.

- Schipper, K. & Vincent, L. (2003). Earnings Quality, *Accounting Horizons*, 17, 97-110 (Supplement).

- SEC, *Acceptance from Foreign Private Issuers of Financial Statements Prepared in Accordance with International Financial Reporting Standards Without Reconciliation to U.S. GAAP*. Available at: http://www.sec.gov/rules/final/2007/33-8879.pdf24-05-2008 (accessed 24 May 2008).

- Sloan, R. (2001). Financial accounting and corporate governance: a discussion. *Journal of Accounting and Economics*, 32, 335-347.

- Soderstrom, N. & Sun, K. (2007). IFRS Adoption and Accounting Quality: A Review. *European Accounting Review*, 16(4), 675-702.

- Tarca, A. (2004). International Convergence of Accounting Practices: Choosing between IAS and US GAAP. *Journal of International Financial Management and Accounting*, 15(1), 60-91.

- Van der Meulen, S., Gaeremynck, A. & Willekens, M. (2007). Attribute differences between U.S. GAAP and IFRS earnings: An exploratory study. *The international Journal of Accounting*, 42, 123-142.

- Willekens, M. (2008). Effects of external auditing in privately held companies: Empirical evidence from Belgium. Working paper series.

Tables

Table 1 · Overview of measurement tool to assess the quality of financial reporting used in prior research

	Accrual models	**Value relevance literature**	**Specific elements in annual report**	**Qualitative characteristics**
Method	Examines the level of earnings management as a proxy for earnings quality	Examines the relationship between stock returns and earnings figures in order to measure the relevance and reliability of financial reporting information	Examines specific elements in the annual report in depth, f.i. by conducting an experiment	Examines the level of decision usefulness of financial reporting information by operationalizing the qualitative characteristics
Advantages	Relatively easy to collect data in order to measure earnings management	Relatively easy to measure	Focus on financial reporting quality	Focus on financial reporting quality
		Provides insight into the economic value of earnings figures	Direct measure of financial reporting quality	Direct measure of financial reporting quality
Disadvantages	Focus on earnings quality	Focus on earnings quality	Focus only on selected elements	In general, difficult to operationalize causing measurement difficulties
	Indirect measure of financial reporting quality	Indirect measure of financial reporting quality	Difficult to measure	
	Difficult to estimate discretionary accruals	No insight is provided in the tradeoffs between relevance and reliability		
Authors	e.g. Jones, 1999; Healy & Wahlen, 1999; Dechow *et al.*, 1995	e.g. Barth *et al.*, 2001; *Choi et al.*, 1997; Nichols & Wahlen, 2004; Nelson, 1996	e.g. Hirst *et al.*, 2004;; Beretta & Bozzolan, 2004; Cohen *et al.*, 2004	e.g. Schipper & Vincent, 2003; Van der Meulen, *et al.*, 2007; Barth *et al.*, 2006

Table 2 · Operational measures utilized for the qualitative characteristics

Qualitative characteristics	Items	Mean	Std. Dev.	Mini-mum	Median	Maxi-mum
Relevance						
R1	The annual reports discloses forward-looking information	2.97	0.84	1	3	5
R2	The annual reports discloses information in terms of business opportunities and risks	3.68	0.54	1	4	5
R3	The company uses fair value as measurement basis	2.17	0.38	1	2	3
R4	The annual report provides feedback information on how various market events and significant transactions affected the company?	3.69	0.64	2	4	5
	Relevance total score	3.13	0. 39	2.25	3.25	4.25
Faithful representation						
F1	The annual report explains the assumptions and estimates made clearly	3.87	0.39	2	4	5
F2	The annual report explains the choice of accounting principles clearly	3.94	0.41	2	4	5
F3	The annual report highlights the positive and negative events in a balanced way when discussing the annual results	3.04	0.75	1	3	5
F4	The annual report includes an unqualified auditor's report	4.26	0.49	2	4	5
F5	The annual report extensively discloses information on corporate governance issues	4.12	0.78	2	4	5
	Faithful representation total score	3.84	0.32	3.0	3.8	4.4
Understandability						
U1	The annual report is a well organized	3.90	0.59	2	4	5
U2	The notes to the balance sheet and the income statement are clear	3.71	0.54	2	4	5
U3	Graphs and tables clarify the information presented	3.86	1.20	2	4	5
U4	The use of language and technical jargon is easy to follow in the annual report	3.88	0.56	2	4	5
U5	The annual report included a comprehensive glossary	2.08	1.46	1	2	5
	Understandability total score	3.48	0.47	2.4	3.4	4.6
Comparability						
C1	The notes to changes in accounting policies explain the implications of the change	3.70	0.64	2	4	5
C2	The notes to revisions in accounting estimates and judgments explain the implications of the revision	3.46	0.67	2	3	5
C3	The company's previous accounting period's figures are adjusted for the effect of the implementation of a change in accounting policy or revisions in accounting estimates	3.69	0.56	2	4	5
C4	The results of current accounting period are compared with results in previous accounting periods	3.23	0.79	2	3	5
C5	Information in the annual report is comparable to information provided by other organizations	3.93	0.74	2	4	5
C6	The annual report presents financial index numbers and ratios	3.07	1.06	1	3	5
	Comparability total score	3.51	0.42	2	3.5	4.5

28

Timeliness T1	Natural logarithm of amount of days it took for the auditor signed the auditors' report after book-year end	3.72	0.47	3.18	4.11	5

Table 3 · Sample description

Panel A: Number of observations by accounting standard and country

Sample		2005	2007
Accounting standards	US GAAP	39	31
	IFRS	81	80
Total		120	111
Non-cross-listed companies	United States	29	25
	United Kingdom	35	33
	The Netherlands	29	28
Cross-listed companies		27	25
Total		120	111

Panel B: Number of observations by industry and year

US SIC codes	2005	2007
10-17 Mining and Construction	10	9
20-39 Manufacturing	39	37
40-49 Transportation, Communications, Electric, Gas, and Sanitary Services	15	14
50-59 Wholesale/ Retail Trade	16	15
60-67 Finance, Insurance, and Real Estate	16	15
70-89 Services	24	21
Total	120	111

Table 4 · Financial reporting quality scores classified by accounting standards and year

Quality measure	Accounting standard	Year	n	Mean	Std. dev.	10th Pctl	Median	90th Pctl
Total quality FECQ	US GAAP	2005	39	3.47	0.21	3.13	3.51	3.68
		2007	31	3.58	0.21	3.35	3.56	3.83
	IFRS	2005	81	3.46	0.19	3.21	3.47	3.68
		2007	80	3.57	0.23	3.25	3.55	3.84
Total quality FCQ	US GAAP	2005	39	3.47	0.21	3.18	3.50	3.73
		2007	31	3.59	0.26	3.24	3.60	3.94
	IFRS	2005	81	3.44	0.21	3.16	3.42	3.70
		2007	80	3.50	0.26	3.18	3.50	3.85
Relevance	US GAAP	2005	39	2.87	0.35	2.50	2.75	3.25
		2007	31	3.09	0.44	2.50	3.00	3.75
	IFRS	2005	81	3.18	0.36	2.75	3.25	3.50
		2007	80	3.21	0.36	2.75	3.25	3.50
Faithful representation	US GAAP	2005	39	4.07	0.03	3.80	4.00	4.40
		2007	31	4.09	0.21	3.80	4.20	4.40
	IFRS	2005	81	3.69	0.29	3.24	3.80	4.00
		2007	80	3.80	0.29	3.40	3.80	4.20

Total quality $FEQC_t$ represents the total quality score of financial reporting based on both the scores on the fundamental and enhancing qualitative characteristics in year t. Total quality FQC_t is the total quality score of financial reporting based on the scores on the fundamental qualitative characteristics relevance and faithful representation in year t. Relevance$_t$ is the scores on the fundamental qualitative characteristics relevance in year t. Faithful representation$_t$ is the scores on the fundamental qualitative characteristics faithful representation in year t.

Table 5 · Pearson correlation matrix and variation inflation factors

Variable	Total quality FEQC	Acc. standards	Country	Size	Industry	Leverage	Year	VIFs
Total quality FEQC	1							
Acc. standards	0.017	1						1.247
Country[a]	0.094	0.780***	1					1.174
Size	0.199 ***	0.127 **	0.056	1				1.386
Industry[a]	0.255 ***	-0.039	-0.054	-0.033	1			1.020
Leverage	0.244 ***	-0.117 *	-0.103	0.221 ***	0.170**	1		1.353
Year	0.251 ***	-0.050	-0.018	0.030	0.003	0.002	1	1.012

*, **, *** Denotes significance at the 10%, 5% and 1% levels, respectively (two-tailed).

Total quality FEQC represents the total quality score of financial reporting based on both the scores on the fundamental and enhancing qualitative characteristics. Acc. Standards represents a dummy variable (0 if companies prepare their annual report in accordance with IFRS, and 1 if companies prepare their annual report in accordance with US GAAP). Country is a compound dummy variable (US is the reference country). Size is the natural logarithm of total assets. Industry is compound variable of industry dummies (SIC 10-17: Mining Construction is the industry of reference). Leverage is the ratio of long-term debt over common equity. Year is a dummy variable (2005 = 0; 2007 = 1). VIF is the variance inflation factor. For each of the variables in each of the regression models the VIF was smaller than 2 for, which indicates the absence of multicollinearity.

[a] For both the country and industry dummies a compound dummy variable is constructed to estimate their combined effects on financial reporting quality. Because the compound variables substitute each of the dummy variables including their powers and their estimated coefficient exactly (Eisinga et al., 1991), both unstandardized coefficients equal 1. As a consequence, the table shows the standardized coefficients for both the country and industry variable.

Table 6 · Quality of Financial reporting: IFRS versus US GAAP

Panel A: Quality of financial reporting based on the fundamental and enhancing qualitative characteristics

Total quality $FEQC_t = \beta_0 + \beta_1$ Acc. Standards$_t + \beta_2$ Country $+ \beta_3$ Industry $+ \beta_4$ Size$_t + \beta_5$ Leverage$_t$ ($+ \beta_6$ Year) $+ \varepsilon_t$

Variables	Model 1 · 2005 [a]			Model 2 · 2007 [a]			Model 3 · Total sample [a]		
Constant	3.526	(0.094)	***	3.291	(0.114)	***	3.410	(0.083)	***
Acc. Standards	-0.128	(0.049)		0.130	(0.560)		-0.066	(0.045)	
Country	0.480	(0.247)	***	0.309	(0.358)	***	0.230	(0.413)	**
Industry	0.282	(0.300)	***	0.258	(0.300)	***	0.238	(0.254)	***
Size	0.020	(0.009)	**	0.015	(0.012)	*	0.020	(0.007)	***
Leverage	0.004	(0.002)		0.009	(0.003)	***	0.006	(0.002)	**
Year							0.104	(0.025)	***
F-statistic		6.176	***		7.716	***		10.262	***
Adj. R^2		21,3%			26.9%			21.6%	

Panel B: Quality of financial reporting based on the fundamental qualitative characteristics

Total quality $FQC_t = \beta_0 + \beta_1$ Acc. Standards$_t + \beta_2$ Country $+ \beta_3$ Industry $+ \beta_4$ Size$_t + \beta_5$ Leverage$_t$ ($+ \beta_6$ Year) $+ \varepsilon_t$

Variables	Model 1 · 2005			Model 2 · 2007			Model 3 · Total sample		
Constant	3.556	(0.111)	***	3.137	(0.1311)	***	3.385	(0.099)	***
Acc. Standards	-0.108	(0.060)		0.238	(0.066)	*	-0.024	(0.053)	
Country	0.434	(0.304)	***	0.369	(0.307)	***	0.209	(0.476)	**
Industry	0.273	(.0321)	***	0.294	(0.291)	***	0.240	(0.263)	***
Size	0.015	(0.010)	*	0.018	(0.014)	*	0.020	(0.009)	**
Leverage	0.003	(0.003)		0.007	(0.003)	*	0.004	(0.002)	
Year							0.080	(0.029)	***
F-statistic		4.377	***		8.321	***		7.436	***
Adj. R^2		19.1%			28.4%			20.0%	

Table 6 · Continued

Panel C: Robustness check for the quality of financial reporting based on the fundamental and enhancing qualitative characteristics 2005 and 2007

Total Quality FEQC = β_0 + β_1 Acc.standards + β_2 Country + β_3 Industry + β_4 Size + β_5 Leverage + + β_6 Year + ε_1

Variables FQC,EQC	Model 1 · 0.50:0.50 [a]			Model 2 · 0.67:0.33 [a]			Model 3 · 0.75:0.25 [a]			Model 4 · 0.80:0.20 [a]		
Constant	3.248	(0.096)	***	3.410	(0.083)	***	3.404	(0.086)	***	3.400	(0.088)	***
Acc. standards	-0.087	(0.042)	*	-0.066	(0.045)		-0.056	(0.047)		-0.049	(0.048)	
Country	0.239	(0.368)	***	0.230	(0.413)	***	0.225	(0.435)	**	0.222	(0.448)	**
Industry	0.230	(0.258)	***	0.238	(0.254)	***	0.240	(0.254)	***	0.241	(0.255)	***
Size	0.020	(0.007)	***	0.020	(0.007)	***	0.020	(0.008)	***	0.020	(0.008)	**
Leverage	0.006	(0.002)	***	0.006	(0.002)	***	0.005	(0.002)	**	0.005	(0.002)	**
Year	0.116	(0.025)	***	0.104	(0.025)	***	0.098	(0.026)	***	0.094	(0.027)	***
F-statistic		11.457	***		10.262	***		9.528	***		9.078	***
Adj. R²		23.5%			21.6%			20.3%			19.6%	

*, **, *** Denotes significance at the 10%, 5% and 1% levels, respectively (two-tailed).

The table displays estimated coefficients and t-values from an OLS model of financial reporting quality. Total quality FEQC$_t$ represents the total quality score of financial reporting based on both the scores on the fundamental and enhancing qualitative characteristics in year t. Total quality FQC$_t$ is the total quality score of financial reporting based on the scores on the fundamental qualitative characteristics relevance and faithful representation in year t. FQC and EOC represent respectively the scores on the fundamental and enhancing qualitative characteristics. Acc. Standards represents a dummy variable (0 if companies prepare their annual report in accordance with IFRS, and 1 if companies prepare their annual report in accordance with US GAAP). Country is a compound dummy variable (US is the reference country). Industry is compound variable of industry dummies (SIC 10-17: Mining Construction is the industry of reference). Size$_t$ is the natural logarithm of total assets in year t. Leverage$_t$ is the ratio of long-term debt over common equity in year t. Year is a dummy variable (2005 = 0; 2007 = 1).

[a] In panel A the proportion of scores on the fundamental qualitative characteristics to the enhancing qualitative characteristics is 2:1 (0,67:0,33). In panel C the ratios representing the proportion of the fundamental versus enhancing qualitative characteristics in the measure for total quality FEQC range between 1:1 (0,50:0,50) and 4:1 (0,80:0,20).

Table 7 · Quality of the fundamental qualitative characteristics relevance and faithful representation: IFRS versus US GAAP

Panel A: Relevance: IFRS versus US GAAP

Relevance$_t$ = β_0 + β_1 Acc. Standards$_t$ + β_2 Country + β_3 Industry + β_4 Size$_t$ + β_5 Leverage$_t$ (+ β_6 Year) + ε_t

Variables	Model 1 · 2005[a]			Model 2 · 2007[a]			Model 3 · Total sample[a]		
Constant	3.309	(0.177)	***	2.541	(0.215)	***	3.009	(0.141)	***
Acc. Standards	-0.275	(0.069)	***	-0.194	(0.125)	**	-0.145	(0.062)	**
Country	0.157	(0.549	*	0.443	(0.325)	***	0.131	(0.562)	*
Industry	0.170	(0.520)	*	0.258	(0.345)	***	0.153	(0.404)	**
Size	-0.007	(0.018)		0.028	(0.021)		0.012	(0.014)	
Leverage	0.013	(0.005)	**	0.009	(0.005)		0.010	(0.004)	**
Year							0.087	(0.047)	*
F-statistic		6.108	***		5.769	***		6.609	***
Adj. R^2		21.1%			21.6%			18.5%	

Panel B: Faithful representation: IFRS versus US GAAP

Faithful representation$_t$ = β_0 + β_1 Acc. Standards$_t$ + β_2 Country + β_3 Industry + β_4 Size$_t$ + β_5 Leverage$_t$ (+ β_6 Year) + ε_t

Variables	Model 1 · 2005			Model 2 · 2007			Model 3 · Total sample		
Constant	3.802	(0.144)	***	3.732	(0.149)	***	3.761	(0.119)	***
Acc. Standards	0.060	(0.081)	**	0.282	(0.055)	**	0.097	(0.066)	**
Country	0.536	(0.213)	***	0.218	(0.391)	***	0.406	(0.233)	***
Industry	0.323	(0.222)	***	0.221	(0.376)	**	0.225	(0.257)	***
Size	0.037	(0.013)	**	0.008	(0.015)		0.027	(0.010)	**
Leverage	-0.008	(0.004)	**	0.004	(0.004)		-0.003	(0.003)	
Year							0.074	(0.034)	**
F-statistic		21.534	***		11.083	***		21.817	***
Adj. R^2		46.3%			34.5%			36.9%	

*, **, *** Denotes significance at the 10%, 5% and 1% levels, respectively (two-tailed).
Relevance and faithful representation represent the quality score on the fundamental qualitative characteristics relevance and faithful representation. Acc. Standards represents a dummy variable (0 if companies prepare their annual report in accordance with IFRS, and 1 if companies prepare their annual report in accordance with US GAAP). Country is a compound dummy variable (US is the reference country). Industry is compound variable of industry dummies (SIC 10-17: Mining Construction is the industry of reference). Size is the natural logarithm of total assets. Leverage is the ratio of long-term debt over common equity. Year is a dummy variable (2005 = 0; 2007 = 1). Year is a dummy variable (2005 = 0; 2007 = 1).

Table 8 · Quality of the fundamental qualitative characteristics relevance and faithful: Internal consistency

Panel A: Relevance: Internal consistency

Relevance = $\beta_0 + \beta_1$ Acc. Standards + β_2 Country + β_3 Industry + β_4 Size + β_5 Leverage + β_6 Year + ε_1

Variables[a]	Model 1			Model 2			Model 3			Model 4		
Cronbach's alpha	0.74			0.64			0.48			0.46		
Sum N	65			102			224			231		
Constant	3.309	(0.197)	***	2.805	(0.177)	***	2.811	(0.106)	***	3.009	(0.141)	***
Acc. Standards	-0.362	(0.107)	***	-0.323	(0.094)	***	-0.188	(0.057)	***	-0.145	(0.062)	**
Country	0.110	(0.541)		-0.044	(0.091)		0.084	(0.055)		0.131	(0.562)	*
Industry	0.074	(0.572)	*	0.078	(0.092)		0.132	(0.062)	**	0.153	(0.404)	**
Size	0.004	(0.018)		0.045	(0.020)	**	0.043	(0.013)	***	0.012	(0.014)	
Leverage	0.009	(0.005)	*	0.003	(0.007)		0.004	(0.004)		0.010	(0.004)	**
Year	0.179	(1.979)	*	0.110	(0.080)		0.071	(0.048)		0.087	(0.047)	*
F-statistic		4.883	***		4.763	***		5.790	***		6.609	***
Adj. R^2		27.1%			23.1%			19.4%			18.5%	

Panel B: Faithful representation: Internal consistency

Faithful representation = $\beta_0 + \beta_1$ Acc. Standards + β_2 Country + β_3 Industry + β_4 Size + β_5 Leverage + β_6 Year + ε_1

Variables[a]	Model 1			Model 2			Model 3			Model 4		
Cronbach's alpha	0.75			0.52			0.44			0.40		
Sum N	46			107			158			231		
Constant	3.803	(0.141)	***	3.299	(0.121)	***	3.283	(0.103)	***	3.761	(0.119)	***
Acc. Standards	0.146	(0.076)	*	0.314	(0.066)	***	0.274	(0.051)	***	0.097	(0.066)	***
Country	0.431	(0.378)	***	-0.037	(0.060)		-0.072	(0.052)		0.406	(0.233)	**
Industry	0.266	(0.409)	***	0.209	(0.081)	**	0.214	(0.066)	***	0.225	(0.257)	***
Size	0.034	(0.013)	***	0.045	(0.015)	***	0.046	(0.012)	***	0.027	(0.010)	***
Leverage	-0.003	(0.004)		-0.006	(0.004)		-0.003	(0.003)		-0.003	(0.003)	
Year	0.047	(0.493)		0.114	(0.055)	**	0.106	(0.044)	**	0.074	(0.034)	*
F-statistic		17.862	***		11.281	***		16.846	***		21.817	***
Adj. R^2		43.9%			37.7%			37.2%			36.9%	

*, **, *** Denotes significance at the 10%, 5% and 1% levels, respectively (two-tailed).
The table displays estimated coefficients and t-values from an OLS model of financial reporting quality.
Relevance and faithful representation represent the quality score on the fundamental qualitative characteristics relevance and faithful representation. Acc. Standards represents a dummy variable (0 if companies prepare their annual report in accordance with IFRS, and 1 if companies prepare their annual report in accordance with US GAAP). Country is a compound dummy variable (US is the reference country). Industry is compound variable of industry dummies (SIC 10-17: Mining Construction is the industry of reference). Size is the natural logarithm of total assets. Leverage is the ratio of long-term debt over common equity. Year is a dummy variable (2005 = 0; 2007 = 1).
[a] The sample was divided in 4 groups based on the absolute differences on the 'relevance scale'. The first group includes all companies which had the highest scores on each of the variables referring to relevance etc., while Model 4 represents the whole sample.

Appendix A Overview of the measures used to operationalize the fundamental and enhancing qualitative characteristic (including the measurement scales)

Relevance				
Question no.	**Question**	**Operationalization**	**Concept**	**Literature**
R1	To what extent does the presence of the forward-looking statement help forming expectations and predictions concerning the future of the company?	1 = No forward-looking information 2 = Forward-looking information not an apart subsection 3 = Apart subsection 4 = Extensive predictions 5 = Extensive predictions useful for making expectation	Predictive value	e.g. McDaniel *et al.*, 2002; Jonas and Blanchet, 2000; Bartov and Mohanram, 2004
R2	To what extent does the presence of non-financial information in terms of business opportunities and risks complement the financial information?	1 = No non-financial information 2 = Little non-financial information, no useful for forming expectations 3 = Useful non-financial information 4 = Useful non-financial information, helpful for developing expectations 5 = Non-financial information presents additional information which helps developing expectations	Predictive value	e.g. Jonas and Blanchet, 2000; Nichols and Wahlen, 2004
R3	To what extent does the company use fair value instead of historical cost	1 = Only HC 2 = Most HC 3 = Balance FV/HC 4 = Most FV 5 = Only FV	Predictive value	e.g. Schipper and Vincent, 2003; McDaniel *et al.*, 2002; Barth *et al.*, 2001; Schipper, 2003
R4	To what extent do the reported results provide feedback to users of the annual report as to how various market events and significant transactions affected the company?	1 = No feedback 2 = Little feedback on the past 3 = Feedback is present 4 = Feedback helps understanding how events and transactions influenced the company 5 = Comprehensive feedback	Confirmatory value	e.g. Jonas and Blanchet, 2000

Faithful representation

Question no.	Question	Operationalization	Concept	Literature
F1	To what extent are valid arguments provided to support the decision for certain assumptions and estimates in the annual report?	1 = Only described estimations 2 = General explanation 3 = Specific explanation of estimations 4 = Specific explanation, formulas explained etc. 5 = Comprehensive argumentation	Verifiability	e.g. Jonas and Blanchet, 2000; Maines and Wahlen, 2004
F2	To what extent does the company base its choice for certain accounting principles on valid arguments?	1 = Changes not explained 2 = Minimum explanation 3 = Explained why 4 = Explained why + consequences 5 = No changes or comprehensive explanation	Verification	e.g. Jonas and Blanchet, 2000; Maines and Wahlen, 2004
F3	To what extent does the company, in the discussion of the annual results, highlight the positive events as well as the negative events?	1 = Negative events only mentioned in footnotes 2 = Emphasize on positive events 3 = Emphasize on positive events, but negative events are mentioned; no negative events occurred 4 = Balance pos/neg events 5 = Impact of pos/neg events is also explained	Neutrality	e.g. Dechow *et al.*, 1996; McMullen, 1996; Beasley, 1996; Razaee, 2003; Cohen *et al.*, 2004; Sloan, 2001
F4	Which type of auditors' report is included in the annual report?	1 = Adverse opinion 2 = Disclaimer of opinion 3 = Qualified opinion 4 = Unqualified opinion: Financial figures 5 = Unqualified opinion: Financial figures + internal control	Free from material error, verification, neutrality, and completeness	e.g. Maines and Wahlen, 2006; Gaeremynck and Willekens, 2003; Kim *et al.*, 2007; Willekens, 2008
F5	To what extent does the company provide information on corporate governance?	1 = No description CG 2 = Information on CG limited, not in apart subsection 3 = Apart subsection 4 = Extra attention paid to information concerning CG 5 = Comprehensive description of CG	Completeness, verifiability, and free from material error	e.g. Jonas and Blanchet, 2000

Understandability

Question no.	Question	Operationalization	Concept	Literature
U1	To what extent is the annual report presented in a well organized manner?	Judgment based on: - complete table of contents - headings - order of components - summary/ conclusion at the end of each subsection	Understandability	e.g. Jonas and Blanchet, 2000
U2	To what extent are the notes to the balance sheet and the income statement sufficiently clear?	1 = No explanation 2 = Very short description, difficult to understand 3 = Explanation that describes what happens 4 = Terms are explained (which assumptions etc.) 5 = Everything that might be difficult to understand is explained	Understandability	e.g. Jonas and Blanchet, 2000; Courtis, 2005
U3	To what extent does the presence of graphs and tables clarifies the presented information?	1 = no graphs 2 = 1-2 graphs 3 = 3-5 graphs 4 = 6-10 graphs 5 = > 10 graphs	Understandability	e.g. Jonas and Blanchet, 2000; IASB, 2006
U4	To what extent is the use of language and technical jargon in the annual report easy to follow?	1 = Much jargon (industry), not explained 2 = Much jargon, minimal explanation 3 = Jargon is explained in text/ glossary 4 = Not much jargon, or well explained 5 = No jargon, or extraordinary explanation	Understandability	e.g. IASB, 2006; Jonas and Blanchet, 2000; Iu and Clowes, 2004
U5	What is the size of the glossary?	1 = No glossary 2 = Less than 1 page 3 = Approximately one page 4 = 1-2 pages 5 = > 2 pages	Understandability	e.g. Jonas and Blanchet, 2000

Comparability

Question no.	Question	Operationalization	Concept	Literature
C1	To what extent do the notes to changes in accounting policies explain the implications of the change?	1 = Changes not explained 2 = Minimum explanation 3 = Explained why 4 = Explained why + consequences 5 = No changes or comprehensive explanation	Consistency	e.g. Jonas and Blanchet, 2000
C2	To what extent do the notes to revisions in accounting estimates and judgements explain the implications of the revision?	1 = Revision without notes 2 = Revision with few notes 3 = No revision/ clear notes 4 = Clear notes + implications (past) 5 = Comprehensive notes	Consistency	e.g. Schipper and Vincent, 2003; Jonas and Blanchet, 2000
C3	To what extent did the company adjust previous accounting period's figures, for the effect of the implementation of a change in accounting policy or revisions in accounting estimates?	1 = No adjustments 2 = Described adjustments 3 = Actual adjustments (one year) 4 = 2 years 5 = > 2 years + notes	Consistency	e.g. Cole *et al.*, 2007 Jonas and Blanchet, 2000
C4	To what extent does the company provide a comparison of the results of current accounting period with previous accounting periods?	1 = No comparison 2 = Only with previous year 3 = With 5 years 4 = 5 years + description of implications 5 = 10 years + description of implications	Consistency	e.g. Jonas and Blanchet, 2000; Beuselinck and Manigart, 2007; Cole *et al.*, 2007

C5	To what extent is the information in the annual report comparable to information provided by other organizations?	Judgment based on: - accounting policies - structure - explanation of events In other words: an overall conclusion of comparability compared to annual reports of other organizations	Comparability	e.g. IASB, 2008; Jonas and Blanchet, 2000; Cole *et al.*, 2007; Beuselick and Manigart, 2007
C6	To what extent does the company presents financial index numbers and ratios in the annual report?	1 = No ratios 2 = 1-2 ratios 3 = 3-5 ratios 4 = 6-10 ratios 5 = > 10 ratios	Comparability	e.g. Cleary, 1999

Timeliness

Question no.	Question	Operationalization	Concept	Literature
T1	How many days did it take for the auditor to sign the auditors' report after book-year end?	Natural logarithm of amount of days 1 = 1-1.99 2 = 2-2.99 3 = 3-3.99 4 = 4-4.99 5 = 5-5.99	Timeliness	e.g IASB, 2008