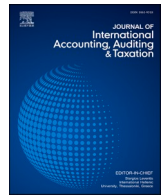


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## Do key audit matters matter? Correspondence between auditor and management disclosures and the role of audit committees

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### ABSTRACT

This study examines whether there is a correspondence between auditor disclosures of key audit matters (KAMs) and management disclosures of significant accounting policies and estimates, following the introduction of the International Standard on Auditing (ISA) 701. In addition, we investigate how audit committees moderate the relationship. We employ a sample of Swedish listed firms (2016–2018), using measures that capture the extent and quality of management disclosures and how they relate to auditor KAM disclosures, including the number of accounting items disclosed, total number of words, and number of unique KAM-related words (via a “bag-of-words” technique). We find a positive correspondence between auditor and management disclosures, and the correlation is greater in firms with an audit committee. Additional analyses provide evidence that management disclosure quality increases after the introduction of ISA 701, but the positive effect is mostly found in firms with a separate audit committee on the board. The results are robust to alternative measures for disclosures and using a matched sample design. Our findings suggest that policymakers should consider the interplay between audit standards and audit committees.

### 1. Introduction

We study the correspondence between management disclosures of significant accounting policies and estimates in accordance with International Accounting Standard (IAS) 1 with the key audit matter (KAM) disclosures mandated by the International Standard on Auditing (ISA) 701.<sup>1</sup> Auditors must consider “significant auditor judgments relating to areas in the financial statements that involved significant management judgment” (ISA 701, para. 9)—areas that contain risk-related information on significant accounting policies and estimates disclosed by managers under IAS 1 (para. 122 and 125).<sup>2</sup> Though such disclosures inform financial statement users about management judgments, they are subject to managerial discretion in identifying significant accounting items and sources of uncertainty regarding key estimates (Christensen et al., 2012; Hodgdon & Hughes, 2016). Users can better assess managers’ accounting choices if managers provide additional information on how

the choices are made. Managers disclose information depending on their incentives and the scrutiny level by which they make these choices. For instance, following changes in regulations to improve enforcement and firm governance, disclosures are documented to ensure more transparency (Hope, 2003; Cohen et al., 2007).

Enhanced auditor accountability, following ISA 701, increases the attention of auditors to management’s accounting choices (Gutierrez et al., 2018; Bédard et al., 2019; Reid et al., 2019; Gold et al., 2020). This increase affects how managers convey significant accounting policies and estimates. Increased auditor attention enhances managerial choice monitoring by auditors and investors (Gold et al., 2020), who can observe differences between auditor and management disclosures. Under the new standard, users become aware of previously undisclosed risks if auditors identify matters that management has not disclosed or considered. Increased monitoring induces managers to improve their disclosures out of concern for their standing in the job market

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<sup>1</sup> The requirements regarding auditor disclosures in ISA 701 aim to enhance transparency in audit reports. Previously, standardized audit reports simply provide “pass” or “fail” opinions but lack transparency on how auditors arrive at their opinions. With the introduction of ISA 701 in 2016, auditors of listed companies must disclose key audit matters (KAM) (International Auditing and Assurance Standards Board [IAASB], 2015a). These KAM disclosures signal a higher probability of material misstatements and management judgments in financial reports regarding significant accounting policies and estimates (Zeng et al., 2021).

<sup>2</sup> “Accounting policies” regard the measures used to prepare financial statements and the principles relevant to understanding the financial statements (IAS 1, Para 117), while “accounting estimates” require management’s most difficult, subjective, or complex judgments (IAS 1, Para. 127).

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(Hirshleifer & Teoh, 2003; Desai et al., 2006). Therefore, after the implementation of ISA 701 in 2016, the scrutiny of management disclosures of significant accounting policies and estimates by auditors and boards of directors should yield a positive correspondence between auditor and management disclosures.

Moreover, the correspondence between management and auditor disclosures differs depending on whether there is an audit committee on the company's board of directors. Auditors are required to communicate KAM disclosures to those in charge of governance, such as the board of directors or audit committee (IAASB, 2015b). The latter has a special responsibility to oversee financial reporting and audit procedures, including monitoring management choices of accounting policies and estimates. An independent audit committee is shown to positively affect financial reporting quality (Beasley, 1996; Klein, 2002; McDaniel et al., 2002; Abbott et al., 2004; Lee & Park, 2019). With respect to accounting policies and estimates, Fuller et al. (2021) report that a more effective audit committee enhances managers' disclosures of critical audit matters, but that the effect depends on how informative the audit report is on significant accounting estimates. Therefore, an audit committee can also reinforce any correspondence between auditor and management disclosures.

We examine the correspondence between management disclosures on significant accounting policies and estimates per IAS 1 and auditor KAM disclosures after the introduction of ISA 701 and investigate any moderating effect of the audit committee on the correspondence level. The study employs a sample of Swedish listed firms between 2016 and 2018.<sup>3</sup> Sweden is a suitable research setting because (i) it is an early adopter of ISA 701; (ii) it allows for comparing listed firms with and without audit committees<sup>4</sup>; (iii) more annual reports in English are available from Sweden than from most other European Union (EU) countries (Hosseiniakani, 2020); and (iv) external nomination committees nominate auditors in Sweden, which increases their independence from management and large owners (Nachemson-Ekwall & Mayer, 2018).<sup>5</sup>

We hand-collect data on auditor disclosures (ISA 701) and management disclosures (IAS 1) from annual reports (2016–2018). We focus on the (i) total number of accounting items disclosed by management regarding significant accounting policies and estimates and by auditors in the KAM disclosures, (ii) total number of words disclosed in the auditor and management disclosures, and (iii) number of unique words based on a self-generated wordlist that identifies frequent words that appear in KAM disclosures for a sample of European listed firms (KAM-related words). We find that management and auditor disclosures are correlated following the introduction of ISA 701, and this relationship is stronger for firms with an audit committee. Hence, auditor disclosures

and audit committees are complementary in enhancing management disclosures. Additionally, we apply pre- and post-analysis to compare the extent and the quality of management disclosures before and after the implementation of ISA 701 in firms with and without audit committees, and find that management disclosures are significantly higher in firms with an audit committee. In robustness tests, we use alternative measures of disclosures, including two measures of risk factors: (i) a measure of uncertainty tone, and (ii) a self-constructed wordlist based on frequent words in ISA 315 (Identifying and Assessing the Risks of Material Misstatement). The results are robust for all measures. Furthermore, we investigate the characteristics of audit committee members (independence and financial expertise) and find that members' financial expertise primarily drives how audit committees affect management disclosures. However, we find no significant differences in the effect of the audit committees' expertise on this correspondence. Further, we perform propensity score matching (PSM) and analyze the lead-lag effects to address endogeneity concerns (i.e., the selection bias and causality issue).

This study makes several contributions to the literature. First, it builds on recent studies that investigate the consequences of ISA 701 (Gutiérrez et al., 2018; Li et al., 2018; Bédard et al., 2019; Reid et al., 2019; Zeng et al., 2021; Seebeck & Kaya, 2023). While such studies examine audit standards' consequences for audit quality and earnings management, our study establishes a relationship between auditor and management disclosures. Our findings suggest a spillover effect of ISA 701 on management disclosures of significant accounting policies and estimates. Second, this archival study is the first to investigate how KAM disclosures affect management disclosures. Thus, it complements and corroborates earlier experimental studies (Cade & Hodge, 2014; Gold et al., 2020; Fuller et al., 2021) by providing a large sample analysis, and applying textual analysis—using a domain-specific wordlist—on auditor and management disclosures (cf., Henry & Leone, 2016; Bassyouny et al., 2022). Third, we contribute to studies on the moderating role of audit committees (Carcello & Neal, 2003; Fuller et al., 2021) by demonstrating that audit committees reinforce the effect of auditor disclosures on managerial disclosures. Finally, we add to the literature on risk disclosures (Miihkinen, 2012; Elshandidy et al., 2018) by providing evidence on textual risk disclosures in management disclosures of accounting policies and estimates and in KAM disclosures. Existing studies on risk disclosures mainly focus on business, market, regulatory, and damage risks, whereas this study investigates the disclosures regarding the risks of material misstatements.

The remainder of this paper is structured as follows: Section 2 describes the institutional setting and disclosure requirements based on IAS 1 and ISA 701. Section 3 reviews the prior literature and presents our hypotheses. Section 4 provides the research design and presents the data and construction of disclosure variables. Section 5 details the main results and the results of additional analysis. Finally, Section 6 presents the conclusion and suggestions for further research.

## 2. Institutional setting

### 2.1. Management disclosures based on IAS 1

IAS 1 details the requirements for the presentation of financial statements by listed companies, and paragraphs 122 and 125 present the requirements for management disclosures of significant accounting policies and estimates. Significant accounting estimates affect expectations about a firm's future cash flows, which are key when assessing prospective firm performance (Gutiérrez et al., 2018). Thus, those IAS 1 paragraphs mandate managers to disclose significant accounting policies and estimates to make account adjustments within the next financial year (International Accounting Standards Board [IASB], 2011). Accounting estimates associated with a higher degree of uncertainty, such as the estimation of rates or measures for asset and liability valuation, affect the net income in the current period, which affects user

<sup>3</sup> Sweden's professional audit association (*Föreningen Auktoriserade Revisorer—FAR*) mandated their members to apply either the IAASB's audit report to the fiscal year ending December 15, 2016 or the EU's audit reform for the fiscal year beginning after June 2016 (FAR, 2016). Thus, KAM disclosures for all Swedish listed companies must be included in audit reports as of fiscal year 2016, making Sweden among the first EU countries to require KAM disclosures. Hosseiniakani (2020) documents that Sweden and the United Kingdom (UK) were at the top of the EU regarding the number of companies with auditors adopting ISA 701 in 2016. Sweden has an advantage over the UK as a research setting because KAM disclosures are implemented in the UK in parallel with a requirement for audit committees to disclose significant accounting estimates. This concurrent event hinders an evaluation of KAM disclosures' isolated effects on management disclosures in the UK.

<sup>4</sup> Audit committees are not mandatory in Sweden. The Swedish Companies Act (2006:551), Chapter 8, Section 49a, stipulates that the entire board may perform the audit committee's tasks.

<sup>5</sup> The external nomination of auditors reduces the scope for managers or directors to influence the appointment of auditors. Thus, Sweden can serve as a critical case, so, if there is no effect on management disclosures from ISA 701 in Sweden, then such an effect is less likely to manifest in other countries.

decisions (Christensen et al., 2012). While IAS 1 explicitly requires disclosures of key sources of estimation uncertainty, it is unclear how such disclosures should be revealed. Thus, managers can either present a separate disclosure of their judgments and estimates or provide the information on the account in a note (Hodgdon & Hughes, 2016). Most Swedish listed firms disclose significant accounting policies and estimates in a separate paragraph in the notes of the financial statements in their annual reports.<sup>6</sup> Similar to firms in other EU countries, the content of the significant accounting estimates paragraph follows the requirements of IAS 1. It discloses the accounts associated with high estimation uncertainty and explains the degree to which they may be adjusted in the next fiscal year. This paragraph references related notes in which the financial statement user can find analytical and numerical information regarding the estimations.

## 2.2. KAM disclosures (ISA 701)

Even before the implementation of ISA 701, ISA 540 already requires auditors to investigate the procedures of managers for accounting estimates and review their calculation of complex accounting estimates, targeting those with high risk and uncertainty (IAASB, 2015a). ISA 540 requires auditors to assess the risks of material misstatements associated with accounting estimates and policies, respond to such assessed risks, and practice high professional skepticism. Accordingly, auditors should ensure that accounting estimates and policies are applied per financial reporting frameworks. Moreover, they should review the methods and data used in management estimations and management disclosures of significant accounting estimates and policies. Under high uncertainty, auditors may recalculate management's estimations and propose their own. If their point estimates significantly differ from those of management, they should ask for adjustments in the latter. Thus, reviewing accounting estimates based on ISA 540 is integral to the audit process as it assures management's accounting estimates and policy choices.

However, accounting estimates and policy choices are subjective and can induce user concerns about auditors and their assurances (Christensen et al., 2012; Smith-Lacroix et al., 2012). Thus, including information in the audit report on uncertainty and risk in the accounting estimates and in the description of how auditors responded to the risk of material misstatements enhances the trustworthiness and transparency of audit outcomes. Given the lack of transparency in audit reports, one possible remedy surfaced following the 2007–2008 financial crisis (Church et al., 2008; Mock et al., 2013). The IAASB introduced ISA 701, which came into effect on December 15, 2016 (IAASB, 2015b), to meet user demands. ISA 701 required auditors of listed companies to disclose KAMs in their audit reports.

The KAMs paragraph provides information on the assessed risk of material misstatements or significant risks, significant auditing judgments of complex accounting estimates, and consequences of significant events or transactions. The EU placed special attention on ISA 701, as its 2014 regulatory framework (Regulation 537/2014 and Directive 2014/56/EU) has established similar requirements. Specifically, Article 10-2c is similar to ISA 701 in terms of its focus on disclosures. Article 10-2c states that auditors should at least (i) describe the most significant assessed risks of material misstatement, including those that occur because of fraud; (ii) summarize the auditor's response to those risks; and (iii) clearly reference relevant disclosures in the financial statements concerning each assessed risk of material misstatement (European Parliament and Council of the EU, 2014b). This new EU audit legislation was first applied to auditors of listed companies on June 17, 2016.

<sup>6</sup> In Appendix C, we provide examples of how firms disclose significant accounting policies and estimates and reveal the information these firms provide. The first three examples include firms with the highest disclosure scores (defined in section 4.2), while the next three examples include companies with the lowest disclosure scores.

Sweden first adopted ISA 701 in 2016 when its professional audit association, *Föreningen Auktoriserade Revisorer* (FAR), mandated members to either apply the IAASB's audit report to the fiscal year ending on or after December 15, 2016 or employ the EU's audit reform procedures for the fiscal year beginning after June 2016 (FAR, 2016). As KAM disclosures for all Swedish listed companies must be included in audit reports as of the fiscal year 2016, Sweden was one of the first EU countries to require KAM disclosures.<sup>7</sup>

As of 2016, the KAM disclosure requirements exceeded what auditors previously practiced in the audit process based on ISA 540. ISA 701 holds auditors more accountable to users by requiring auditors to describe (i) which accounting estimates and policies are considered key matters and (ii) the process applied to audit the accounting items.

## 2.3. Audit committees and auditors in Sweden

Audit committees are integral to the audit process, including the creation of management's accounting estimates and corresponding disclosures. According to ISA 540, "the auditors shall obtain written representations from management and, where appropriate, those charged with governance whether they believe significant assumptions used in making accounting estimates are reasonable" (IAASB, 2009, para. 22). Audit committees can be critical when managers and auditors discuss assumptions and point estimates. ISA 701 mandates auditors to communicate with audit committees about potential audit matters regarding accounting estimates and select KAMs to include in the audit report based on their professional judgment. As audit committees receive information about auditors' matters during the process, they can use this information to clarify choices of accounting policies and estimates and management disclosures in the annual report, thereby reducing the uncertainty of disclosures. Simultaneously, audit committees can use identified audit matters to enhance their monitoring of management, given specific auditor concerns, and signal a high quality of governance.

Audit committees are optional in the Swedish corporate governance system. In companies without audit committees, the entire board is responsible for carrying out the tasks of audit committees (European Parliament and Council of the EU, 2014a). Therefore, the Swedish setting facilitates an analysis of the role of audit committees in disclosing and auditing accounting estimates, as firms with an audit committee can be compared to those without them. In addition, Swedish audit committees do not directly appoint auditors, as stipulated by the Swedish Company Act. Instead, audit committees only recommend auditors to nomination committees. The auditors are then elected at the firms' annual general meeting (AGM).

## 3. Literature and hypotheses development

In this section, we reflect on the correspondence between KAM and management disclosures and also examine the role of audit committees. Investor demand for risk-related information ought to incentivize auditors to provide KAM disclosures for the risks they identify, and managers then should align their disclosures with KAM disclosures. Furthermore, audit committees act as knowledgeable and dedicated intermediaries between auditors and managers; thus, further increasing the correspondence between auditor and management disclosures of significant accounting policies and estimates.

<sup>7</sup> The UK and Ireland implemented ISA 701 in 2013 (Gutierrez et al., 2018). Additionally, some auditors in the Netherlands have voluntarily followed the IAASB's proposals—including ISA 701—since the financial year ending in December 2013. The Netherlands' *Koninklijke Nederlandse Beroepsorganisatie van Accountants*, the Royal Dutch Professional Organization of Accountants, also adopted the IAASB's new audit requirements for listed companies from the financial year ending on or after December 2014.

Significant accounting policies and estimates materially impact accounts (e.g., SEC, 2002, 2003; IASB, 2011). Thus, financial statement users need information on the key assumptions underlying complex accounting judgments and estimates (Dennis et al., 2018). However, these disclosures are subject to managerial discretion and may be strategically provided. For example, Levine and Smith (2011) argue that although accounts receivable comprises a considerable portion of the balance sheet in many firms, most managers consider this item insignificant. Managers have conflicting incentives for providing such information, as the benefits of disclosing information to investors weigh against the costs of disclosing it to competitors (Levine & Smith, 2011) and the reduced opportunities for managers to extract private rent (Dutta & Fan, 2014). Therefore, managers may disclose significant accounting policies and estimates only when that contributes to higher valuations (Levine & Smith, 2011). However, when facing legal or reputational concerns for non-disclosure, managers may also disclose unfavorable information (Skinner, 1994).

The introduction of ISA 701 brings additional information value to investors because auditors' KAM disclosures assure and clarify management's significant accounting estimates and corresponding disclosures, especially if the KAMs section includes incremental information that is specific and of high quality (Zeng et al., 2021; Seebeck & Kaya, 2023). With the increased investor attention to audit matters following the introduction of ISA 701, auditors are incentivized to disclose actual risks. Chen et al. (2019) find that expanding audit quality-related disclosures (including KAM disclosures) in audit reports increases auditors' incentives, especially if managers provide low-quality financial reports.<sup>8</sup> Therefore, the introduction of ISA 701 influences auditors to increase pressure on management to recognize important audit matters. Managers should be aware of investors' attention to KAM disclosures and that discrepancies between auditor and management disclosures can convey a negative signal to investors. Hence, managers would likely align significant accounting policy and estimate disclosures with similar sections provided by auditors, given reputational concerns (c.f., Hirshleifer & Teoh, 2003; Desai et al., 2006).

Recent studies indicate that investors value KAM disclosures<sup>9</sup> (Gutierrez et al., 2018; Sirois et al., 2018; Lennox et al., 2022; Seebeck & Kaya, 2023). Sirois et al. (2018) find that investors take note of the information included in the KAMs paragraph; although, the degree of attention differs depending on the number and format of the KAMs. Seebeck and Kaya (2023) report that KAM disclosures with greater specificity and readability are associated with positive market reactions. Similarly, Zeng et al. (2021) hold that the number of KAMs and other disclosure characteristics, including specificity, similarity, readability, and length, signal auditors' concerns about the financial reporting quality of clients that can be observed by investors.

A related strand of research indicates that the introduction of ISA 701 impacts corporate financial reporting quality. For instance, the adoption of ISA 701 significantly reduces abnormal accruals and the propensity to just meet and beat earnings forecasts (Li et al., 2018; Reid et al., 2019).

<sup>8</sup> The insurance hypotheses posit that auditor reports bring insurance value to investors. Thus, auditors are likely to disseminate a high-quality audit report because investors expect damage compensation if auditors fail to report properly (litigation risk). Hence, investors are especially attentive to auditor reports (disclosures) if corporate financial reporting quality is weak or if there is a high probability of auditor vulnerability (Chen et al., 2019).

<sup>9</sup> Studies on the market reaction to the introduction of a new auditing standard, in contrast to those that investigate KAM disclosures directly, show mixed results. Gutierrez et al. (2018) find no market reactions to the introduction of a new auditing standard for additional disclosures on risk of material misstatements (UK, ISA 700) and conclude that the auditor's report lacks incremental information. Lennox et al. (2022) document that the weak market reaction is not because of irrelevancy of auditor disclosures, but rather that investors are already aware before the audit report is released of the information related to risks of material misstatements in the KAM Paragraphs.

Further, Gold et al. (2020) report that including firm-specific information in KAM disclosures mitigates earnings management.<sup>10</sup>

The documented effects of KAM disclosures on financial reporting implies that KAMs can have a spillover effect on management disclosures of accounting policies and estimates. There are two ways to explain the potential correspondence between KAM and management disclosures. First, when auditor and management incentives align, the introduction of KAM disclosures improves management disclosures if auditors identify new information due to newly added tasks in accordance with ISA 701. Managers receive the new information and convey these matters when disclosing per IAS 1. Second, when auditor and management incentives diverge, the introduction of KAM disclosures influences management disclosures if auditors identify audit matters already known to managers but which they prefer not to disclose. In this case, auditor disclosures should encourage managers to align their disclosures with the KAM disclosures.

In summary, we expect that the introduction of ISA 701 impacts how managers disclose significant accounting policies and estimates. ISA 701 directs auditor attention to significant accounting policies and estimates that influence management disclosures. Thus, we expect to find that management disclosures correspond with auditor disclosures after implementing ISA 701. Accordingly, the first hypothesis is as follows.

**H1.** There is a correspondence between management disclosures and KAM disclosures after implementation of ISA 701.

We also consider the role of board audit committees. Audit committees intermediates and facilitates communication between auditors and management (Cohen et al., 2007; Fuller et al., 2021). Therefore, audit committees should enhance the effect of ISA 701 on management disclosures. Studies show that corporate governance is related to the quality of companies' financial reporting (Forker, 1992; Abbott et al., 2004; Griffith et al., 2015; Fuller et al., 2021). In particular, the board of directors is responsible for monitoring the financial reporting process, and reporting quality is associated with the board's characteristics (Xie et al., 2003; Abbott et al., 2004; Patelli & Prencipe, 2007; Lee & Park, 2019; Overland & Samani, 2022).

Differing opinions between auditors and managers should less likely occur if the board of directors side with management. Therefore, any spillover from KAM disclosures to management disclosures may be weaker if the board is aligned with management. An audit committee comprising independent directors with stronger accounting competence and who oversees the financial reporting process may decrease the probability that the board sides with management. Audit committees, thereby, offer a complementary monitoring mechanism that can improve management disclosures of significant accounting policies and estimates. For instance, EU regulation No. 537/2014, effective since 2016, requires independent audit committees to further engage in appointing and monitoring auditors (European Parliament and Council of the EU, 2014b). This increased monitoring by the audit committee strengthens the auditor's review of corporate financial reporting, including management disclosures (Abbott et al., 2004; Fuller et al., 2021). Further, ISA 701 explicitly requires auditors to communicate KAMs in audit reports with those involved in governance (IAASB, 2015b). The increased communication between auditors and audit committees also increase the latter's attention to management

<sup>10</sup> Notably, an increased monitoring of significant estimates may also convince managers to be less forthcoming in sharing information with auditors. For instance, Cade and Hodge (2014) examine whether the new requirements for additional information on accounting estimates in the audit report affects managers' willingness to share information with the auditors. These authors conclude that the new requirements for more detailed audit procedures decrease managers' openness and transparency, as they also consider the costs of revealing this information.



disclosures of significant accounting estimates.

Several studies corroborate the effects of audit committees' competence on management disclosures of significant accounting estimates. [Glendening et al. \(2019\)](#) report that the occurrence of quantitative accounting estimates co-varies with the level of accounting expertise in the audit committee. [Lee and Park \(2019\)](#) examine the qualitative features of disclosures, such as the tone of the text, in management's discussion and analysis of annual reports and observe that a higher level of financial expertise in the audit committee limits the use of an opportunistically upward tone. Further, [Fuller et al. \(2021\)](#) show that in firms with more informative audit reports and more effective audit committees, management disclosures increased following auditors' detailed discussions of significant audit matters.

We examine the joint impact of auditor disclosures and audit committees, and predict that a separate audit committee on the board improves the relative quality of management's disclosures of significant accounting policies and estimates following this regulatory change. Thus, the second hypothesis is as follows.

**H2.** The correspondence between management and KAM disclosures after implementation of ISA 701 is stronger in firms with an audit committee.

## 4. Research design

### 4.1. Data

We collect data on Swedish listed firms where auditors are mandated to disclose KAMs as of the fiscal year ending on or after December 15, 2016. The initial data set comprising all firms listed on the Nasdaq Stockholm exchange from 2016 to 2018 consisted of 966 firm-year observations. However, the final sample is reduced to 551 firm-year observations given missing data. We hand-collect data for the main variables from the English versions of the sample companies' annual reports.<sup>11</sup> Regarding the disclosure variables, we collect management disclosures of significant accounting policies and estimates and auditor KAM disclosures. While the latter is easily and directly obtainable from the audit report's KAM section, the former requires a manual search.<sup>12</sup> We review these disclosures to obtain the number of disclosed accounting items and extract the text to be used for analysis. Furthermore, we hand-collect data on the characteristics of auditors and boards of directors. We collect data on firm characteristics from Standard & Poor's Capital IQ database. [Table 1](#) presents the sample composition and distribution of observations by year. Appendix A presents the definitions and sources of all variables.

<sup>11</sup> During data collection, for 308 firm-year observations, annual reports are either unavailable or only available in Swedish language. These firms are omitted from the sample, as the main disclosure variables reflect the tone of the text and are based on word lists in English. These firms are mostly smaller than the firms included in the sample. For 2018, the median value of the omitted firms' total assets is 312 million SEK, while the median value of that for sample firms is 5,571 million SEK. We acknowledge that excluding these firms could raise questions, but we do not believe that excluding them alters our findings. In the untabulated results, we only keep smaller firms in our sample, which are more representative of the excluded firms, and find consistent results with respect to the correspondence between auditor and management disclosures.

<sup>12</sup> Most companies disclose significant accounting policies in a separate and specific note, whereas some disclose them within the financial notes of specific accounting items associated with high estimation uncertainty. We use different search terms such as "Important estimates and assessment," "significant accounting estimates and judgment," "critical estimates and judgement," "significant estimates and assessment," "critical assessment," "key accounting estimates and judgements," "key sources of uncertainty in material estimates, assumptions, and assessments," or "key judgement and estimates" to find the paragraph on significant accounting policies and estimates.

**Table 1**

Sample composition.

| Panel A: Sample selection from 2013 to 2018   |      | Firm-year Observations |      |       |
|---|------|------------------------|------|-------|
| Swedish companies listed on the Stockholm Stock Exchange (2016–2018)                                    |      | 966                    |      |       |
| (-) Excluded observations due to missing annual reports or lack of an English version of annual reports |      | (308)                  |      |       |
| (-) Excluded observations due to lack of board structure information in annual reports                  |      | (12)                   |      |       |
| (-) Excluded observations due to lack of auditors' characteristics information in annual reports        |      | (62)                   |      |       |
| (-) Missing observations from S&P Capital IQ  |      | (33)                   |      |       |
| Total firm-year observations  |      | 551                    |      |       |
| Panel B: Sample breakdown by year   |      |                        |      |       |
| Year  | 2016 | 2017                   | 2018 | Total |
| Observations  | 186  | 193                    | 172  | 551   |
| Number of unique firms  | 367  |                        |      |       |

### 4.2. Disclosure variables

We use several proxies of auditor and management disclosures to capture the extent and quality of information. We define two variables that capture the extent of information. First, per prior studies ([Gutierrez et al., 2018](#); [Reid et al., 2019](#); [Zeng et al., 2021](#)), we accumulate the number of accounting items disclosed in management disclosures (*TotalItems<sub>m</sub>*) based on IAS 1, including revenue recognition, goodwill impairment, and tax, and KAM disclosures (*TotalItems<sub>k</sub>*) based on ISA 701.<sup>13</sup> Second, following prior disclosure studies ([Gutierrez et al., 2018](#); [Seebeck & Kaya, 2023](#)), we employ the total number of words in disclosures for management (*TotalWords<sub>m</sub>*) and KAM (*TotalWords<sub>k</sub>*). Although the total number of items and words can proxy for the overall quality of these disclosures, they can also indicate boilerplate information (i.e., generic and standardized information, such as extremely common phrases). To overcome this issue, we generate a wordlist to quantify words that are more specific and relevant to investors in evaluating disclosures of significant accounting estimates and judgment. To generate the wordlist, we provide disclosure inputs that are independent of the disclosures in the sample firms but are "domain-specific" and relevant in our context to be used in the "bag-of-words" (cf. [Henry & Leone, 2016](#); [Loughran & McDonald, 2016](#); [Bassyouny et al., 2022](#)).

This wordlist is generated through several steps. First, we download all European listed firms' KAM disclosures (4,768 unique firms from 2016 to 2021, excluding Sweden) from the Audit Analytics database. Second, we import the text to the textual analysis software DICTION 7.1 and obtain a list of 664 unique "insistence words" that appeared at least 100 times.<sup>14</sup> Third, two authors review the words to assess and select the most relevant words representing risk, uncertainty, and significant judgment,<sup>15</sup> and then a third author selects the distinct cases between the reviewers to introduce the final words. Appendix C details how the wordlist is constructed and Appendix B presents all 447 words. Finally, following prior research ([Henry & Leone, 2016](#); [Paananen et al., 2021](#); [Samani et al., 2023](#)), we apply an equal weighting on words and tabulate

<sup>13</sup> The *\_m* or *\_k* for disclosure variables refer to management and KAM disclosure proxies, respectively.

<sup>14</sup> Insistence words in DICTION refers to high-frequency words that occur at least three times in a standard passage of 500 words in all these documents. Given that the input texts are large and include about 470,000 words, insistence words in DICTION yield 5,745 unique words. However, we use a cut-off point at words appearing 100 times, as all words below this cut-off are irrelevant.

<sup>15</sup> The basis for the assessment is the words that imply the risk of material misstatements, specifically "inherent risk factors" (subjectivity, uncertainty, and complexity), as defined in ISA 315. We also consider the words related to the KAM topics.

word counts to constitute a disclosure variable for management and KAM disclosures (*KAMWords\_m* and *KAMWords\_k*).<sup>16</sup> Appendix C presents six examples of firm disclosures collected for significant accounting policies and estimates. The first three examples include firm-year observations with the highest *KAMWords\_m* scores, while the next three examples include those with the lowest *KAMWords\_m* scores.<sup>17</sup>

### 4.3. Models

We estimate the following regression model to test H1:

$$MngDisc_{it} = \alpha_0 + \alpha_1 AuditDisc_{it} + \gamma Controls_{it} + \varepsilon \quad (1)$$

where *MngDisc* refers to three alternate proxies used for capturing the extent and quality of management disclosures: the number of accounting items disclosed in KAM (*TotalItems\_m*), total number of words in KAM disclosures (*TotalWords\_m*), and number of KAM-related words (*KAMWords\_m*).

For auditor disclosures (*AuditDisc*), we consider the three equivalent features of disclosure quality, namely *TotalItems\_k*, *TotalWords\_k*, and *KAMWords\_k*. The coefficient of *AuditDisc* ( $\alpha_1$ ) captures the correspondence level between auditor and management disclosures. We expect a significant positive association where a larger coefficient indicates a higher correspondence between auditor and management disclosures.

*Controls* represent a group of control variables related to firm, governance, and auditor characteristics. Following prior research (e.g., Gutierrez et al., 2018; Lee & Park, 2019; Seebeck & Kaya, 2023), we control for firm size, measured by the natural logarithm of total assets (*Size*), and growth opportunities, measured by the market-to-book ratio (*MB*). Larger firms with more growth opportunities have a more complex business model; thus, they have longer and more complex annual reports. We control for firm performance, measured by the return on assets (*ROA*); leverage, measured by the debt-to-equity ratio (*Leverage*); and the standard deviation of cash flow from operations over the past five preceding years (*CFO\_sd*), as firm business performance and risk can also influence disclosures of significant accounting estimates and judgment. We also control for firms' ownership structure by including the percentage of shares available to ordinary investors (*Freefloat*). Except for *Size*, which uses a logarithmic value, we winsorize all firm-specific variables at the one percentile due to the presence of extreme outliers.

Additionally, we control for commonly studied board characteristics, including the size of the board (*Board size*), the percentage of outside directors on the board (*OutsideDr*),<sup>18</sup> and *FinancialExpert*, a dummy variable coded 1 if at least one member of the board is an accounting expert, and 0 otherwise). We also control for the presence of an audit committee with a dummy variable (*AuditCom*) coded 1 if companies have a separate audit committee on the board, and 0 otherwise.

Finally, we use four variables to control for audit firm and partner characteristics, as the variable of interest is related to auditor disclosures. *AuditSize* is measured as the number of listed companies audited

<sup>16</sup> We name the variable *KAMWords*, as the whole process of identifying relevant words is based on independent KAM disclosures from a European sample. We consider KAM disclosure as the basis for identifying unique words because auditors describe risk of material misstatements in KAM disclosures.

<sup>17</sup> For example, Company 1 is the observation with the highest disclosure score: *Volvo AB (publ), annual report 2016, TotalItems\_m = 8, TotalWords = 2418, KAMWords\_m = 649*; and Company 10 is the observation with the lowest disclosure score: *Dedicare AB, annual report 2018, TotalItems\_m = 1, TotalWords = 106, KAMWords\_m = 15*.

<sup>18</sup> With respect to board independence, Swedish boards' compositions differ from those in other countries, such as the US. The Swedish Corporate Governance Code allows no more than one executive (CEO) on the board of directors. Therefore, the percentage of independent directors in our regressions mostly refers to independence "with respect to the largest shareholders." Further, the CEO can be an ordinary member of the board but cannot chair it.

by the audit firm<sup>19</sup> (Francis & Yu, 2009). *Expertise* is a dummy variable coded 1 if the audit partner's market share surpasses 15 %, and 0 otherwise (Krishnan, 2003; Knechel et al., 2007; Bozzolan & Miihkinen, 2021). *JointPartner* is a dummy variable coded 1 if the audit process is conducted by two partners, and 0 otherwise (Zerni et al., 2012). *PartnerAudit* is measured as the total number of audit reports signed by the audit partner (Knechel et al., 2007; Bozzolan & Miihkinen, 2021). We estimate the following regression model to test H2:

$$MngDisc_{it} = \alpha_0 + \alpha_1 AuditDisc_{it} + \alpha_2 AuditCom_{it} + \alpha_3 AuditDisc * AuditCom_{it} + \gamma Controls_{it} + \varepsilon \quad (2)$$

In Model 2 we incorporate an interaction term *AuditDisc\*AuditCom* and anticipate a positive and significant coefficient for the interaction, suggesting that the correspondence between auditor and management disclosures is higher in firms with a separate audit committee on the board. The controls are the same variables as in Model 1. All regressions include industry (two-digit Standard Industrial Classification [SIC] codes) and year dummy controls (see Appendix A for a detailed description of all variables).

## 5. Results

### 5.1. Descriptive statistics

Panel A, Table 2 presents the descriptive statistics for all variables. On average, managers disclose four accounting items, with a range of to 11 items (*TotalItems\_m*), and auditors disclose two KAM items, with a range of zero to seven items (*TotalItems\_k*). On average, management disclosures have 485 words (*TotalWords\_m*) and disclose 120 KAM-related words (*KAMWords\_m*). Auditors' KAM disclosures include an average of 650 total words (*TotalWords\_k*) and 141 KAM-related words (*KAMWords\_k*). Regarding board characteristics, 81 % of the boards have a separate audit committee, and 55 % have at least one financial expert on the board. Approximately 69 % of board members are outside directors. Regarding auditor characteristics, approximately 37 % of the audits are conducted by partners who are experts in a specific industry (*Expertise*), and partners, on average, have two clients (*PartnerAudit*). Panel B, Table 2 displays the *t*-tests for the mean differences in disclosure variables for auditor and management disclosures. Managers disclose significantly more accounting items than auditors (*TotalItems\_m/k*: mean\_diff. = 1.49). However, auditor disclosures are lengthier (*TotalWords\_m/k*: mean\_diff. = -165.22) and have more words on the risk of material misstatements (*KAMWords\_m/k*: mean\_diff. = -20.483).

Table 3 presents the mean and frequency for each significant accounting item disclosed by managers and auditors in the sample. Management frequently discloses 710 items as valuation of assets<sup>20</sup> and 317 items as tax, while auditors commonly disclose 538 items as valuation of assets and 219 items as revenue recognition. The table also reports the mean differences between auditor and management disclosures for each item. Except for revenue recognition with a mean difference of -0.167, the mean values of management disclosures are larger than those of auditors for most accounting items, including Tax (mean diff. = 0.410), valuation of assets (mean diff. = 0.312), and Pension (mean diff. = 0.292).

<sup>19</sup> The Swedish firm data reveals that more than 90% of the firms are audited by Big N audit firms. So, using a Big N dummy variable make the Swedish audit market appear to be monopolized if we measure audit firms' sizes by the "Big N" or "non-Big N". Instead, we control for audit firm size by calculating each Big (non-Big) N audit firm's number of clients.

<sup>20</sup> Under each accounting item, more than one topic could be disclosed. For example, *ValAsset* refers to topics related to the valuation of tangible and intangible assets. These topics range between zero to four, which yields mean values greater than 1.

**Table 2**  
Descriptive statistics.

| Panel A: Summary statistics for all variables |     |         |         |        |        |        |        |        |
|---|-----|---------|---------|--------|--------|--------|--------|--------|
| Variables                                     | N   | Mean    | SD      | Q1     | Median | Q3     | Min    | Max    |
| <i>TotalItems_m</i>                           | 551 | 3.860   | 2.210   | 2      | 4      | 5      | 0      | 11     |
| <i>TotalWords_m</i>                           | 551 | 484.847 | 395.825 | 207    | 373    | 659    | 0      | 2418   |
| <i>KAMWords_m</i>                             | 551 | 120.470 | 97.405  | 52     | 94     | 163    | 0      | 649    |
| <i>AuditCom</i>                               | 551 | 0.813   | 0.390   | 1      | 1      | 1      | 0      | 1      |
| <i>OutsideDr</i>                              | 551 | 0.694   | 0.184   | 0.555  | 0.714  | 0.833  | 0.2    | 1      |
| <i>FinancialExpert</i>                        | 551 | 0.553   | 0.497   | 0      | 1      | 1      | 0      | 1      |
| <i>Boardsize</i>                              | 551 | 6.940   | 1.540   | 6      | 7      | 8      | 4      | 13     |
| <i>Freefloat</i>                              | 551 | 68.632  | 19.832  | 54.452 | 71.022 | 83.377 | 17.881 | 99.723 |
| <i>Size</i>                                   | 551 | 8.560   | 1.860   | 7.161  | 8.483  | 9.935  | 3.879  | 13.070 |
| <i>Leverage</i>                               | 551 | 0.223   | 0.178   | 0.087  | 0.212  | 0.319  | 0.000  | 0.970  |
| <i>MB</i>                                     | 551 | 3.751   | 3.928   | 1.402  | 2.368  | 4.412  | 0.313  | 24.259 |
| <i>ROA</i>                                    | 551 | 0.058   | 0.135   | 0.037  | 0.068  | 0.110  | -0.527 | 0.326  |
| <i>CFO_sd</i>                                 | 551 | 0.125   | 0.685   | 0.015  | 0.030  | 0.064  | 0.001  | 11.112 |
| <i>JointPartner</i>                           | 551 | 0.214   | 0.411   | 0      | 0      | 0      | 0      | 1      |
| <i>Expertise</i>                              | 551 | 0.367   | 0.482   | 0      | 0      | 1      | 0      | 1      |
| <i>AuditSize</i>                              | 551 | 67.642  | 27.082  | 40     | 77     | 101    | 10     | 101    |
| <i>PartnerAudit</i>                           | 551 | 2.142   | 1.393   | 1      | 2      | 3      | 1      | 7      |
| <i>TotalItems_k</i>                           | 551 | 2.372   | 1.109   | 2      | 2      | 3      | 0      | 7      |
| <i>TotalWords_k</i>                           | 551 | 650.067 | 335.089 | 418    | 613    | 802    | 0      | 2236   |
| <i>KAMWords_k</i>                             | 551 | 140.953 | 72.059  | 88     | 130    | 177    | 0      | 496    |

| Panel B: Mean comparison (t-test) of auditor (KAM) and management disclosures (MAN) |                       |         |                |         |            |
|---|-----------------------|---------|----------------|---------|------------|
|   | Management Disclosure |         | KAM Disclosure |         | Mean_diff. |
|   | N                     | Mean    | N              | Mean    |            |
| <i>TotalItems_m/k</i>   | 551                   | 3.860   | 551            | 2.372   | 1.49***    |
| <i>TotalWords_m/k</i>   | 551                   | 484.848 | 551            | 650.067 | -165.22*** |
| <i>KAMWords_m/k</i>   | 551                   | 120.470 | 551            | 140.953 | -20.483*** |

Notes: Panel B compares KAM and management disclosures for all three disclosure variables and includes a mean comparison test. Appendix A describes all variables. *\_m* and *\_k* represent the variables related to management and KAM disclosures, respectively. \*\*\* indicates statistical significance at the 1% level.

**Table 3**  
Descriptive statistics for significant accounting items.

| Items                | Management Disclosure Frequency (1) | Auditor KAM Disclosure Frequency (2) | Management Disclosure Mean (3) | Auditor KAM Disclosure Mean (4) | Mean_diff (t-stat) (5) |
|----------------------|-------------------------------------|--------------------------------------|--------------------------------|---------------------------------|------------------------|
| Valuation of Assets  | 710                                 | 538                                  | 1.288                          | 0.976                           | 0.312***               |
| Tax                  | 317                                 | 91                                   | 0.573                          | 0.165                           | 0.410***               |
| Pension              | 183                                 | 22                                   | 0.332                          | 0.039                           | 0.292***               |
| Revenue recognition  | 127                                 | 219                                  | 0.230                          | 0.397                           | -0.167***              |
| Inventory            | 106                                 | 91                                   | 0.192                          | 0.165                           | 0.027                  |
| Receivables          | 96                                  | 38                                   | 0.174                          | 0.068                           | 0.105***               |
| Business combination | 88                                  | 85                                   | 0.159                          | 0.154                           | 0.005                  |
| Liability            | 67                                  | 25                                   | 0.121                          | 0.045                           | 0.064***               |
| Sales                | 19                                  | 4                                    | 0.034                          | 0.007                           | 0.027***               |
| Expenses             | 9                                   | 6                                    | 0.016                          | 0.010                           | 0.005                  |
| Others               | 410                                 | 190                                  | 0.744                          | 0.345                           | 0.399***               |
| Total items          | 2127                                | 1307                                 | 3.860                          | 2.372                           | 1.49***                |

Notes: Column 5 shows the mean differences between each accounting item in management and auditor disclosures (*Mean\_diff*). \*\*\* indicates statistical significance at the 1% level.

Table 4 presents the Pearson correlation coefficients for all model variables. Disclosure variables in the auditor and management disclosures are positively and significantly correlated. In addition, *Size*, *Freefloat*, and *Leverage* positively and significantly correlate with the disclosure variables. However, the *MB* and *CFO\_sd* are negatively and significantly associated with disclosure variables. Regarding board characteristics, *AuditCom*, *Boardsize*, and *FinancialExpert* positively and significantly correlate with the disclosure variables. For auditor characteristics, *Expertise*, *AuditSize*, and *PartnerAudit* positively and significantly correlate with *TotalWords\_k* and *KAMWords\_k*. Finally, the correlation coefficients among the independent variables do not indicate any significant multicollinearity concerns.

5.2. Regression results

Table 5 presents the H1 testing results. The dependent variables capture *TotalItems\_m*, *TotalWords\_m*, and *KAMWords\_m* in management disclosures. The results indicate a positive and significant relationship between auditor and management disclosures for all three proxies (*TotalItems\_k*: coeff. = 0.329, at  $p < 1\%$ ; *TotalWords\_k*: coeff. = 0.229, at  $p < 5\%$ ; *KAMWords\_k*: coeff. = 0.310, at  $p < 1\%$ ). Our results are also economically significant. For example, the coefficient of *KAMWords\_k* suggests that 10 additional KAM-related words in auditor disclosures correspond to three additional KAM-related words in management

**Table 4**  
Pearson correlations.

| Variables                 | 1             | 2             | 3             | 4             | 5             | 6             | 7             | 8             | 9             | 10            |
|---------------------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------|
| 1 <i>TotalItems_m</i>     | 1             |               |               |               |               |               |               |               |               |               |
| 2 <i>TotalWords_m</i>     | <b>0.728</b>  | 1             |               |               |               |               |               |               |               |               |
| 3 <i>KAMWords_m</i>       | <b>0.759</b>  | <b>0.979</b>  | 1             |               |               |               |               |               |               |               |
| 4 <i>TotalItems_k</i>     | <b>0.348</b>  | <b>0.306</b>  | <b>0.318</b>  | 1             |               |               |               |               |               |               |
| 5 <i>TotalWords_k</i>     | <b>0.322</b>  | <b>0.318</b>  | <b>0.325</b>  | <b>0.722</b>  | 1             |               |               |               |               |               |
| 6 <i>KAMWords_k</i>       | <b>0.352</b>  | <b>0.338</b>  | <b>0.357</b>  | <b>0.758</b>  | <b>0.962</b>  | 1             |               |               |               |               |
| 7 <i>AuditCom</i>         | <b>0.131</b>  | <b>0.150</b>  | <b>0.149</b>  | <b>0.087</b>  | <b>0.072</b>  | <b>0.106</b>  | 1             |               |               |               |
| 8 <i>Boardsize</i>        | <b>0.270</b>  | <b>0.207</b>  | <b>0.231</b>  | <b>0.108</b>  | <b>0.130</b>  | <b>0.157</b>  | <b>0.336</b>  | 1             |               |               |
| 9 <i>OutsideDr</i>        | 0.007         | 0.023         | 0.022         | 0.032         | 0.030         | 0.020         | <b>0.103</b>  | <b>-0.059</b> | 1             |               |
| 10 <i>FinancialExpert</i> | <b>0.265</b>  | <b>0.212</b>  | <b>0.214</b>  | <b>0.097</b>  | <b>0.106</b>  | <b>0.114</b>  | <b>0.169</b>  | <b>0.215</b>  | <b>0.071</b>  | 1             |
| 11 <i>Size</i>            | <b>0.347</b>  | <b>0.299</b>  | <b>0.328</b>  | <b>0.235</b>  | <b>0.255</b>  | <b>0.297</b>  | <b>0.230</b>  | <b>0.576</b>  | <b>-0.121</b> | <b>0.216</b>  |
| 12 <i>Leverage</i>        | <b>0.121</b>  | <b>0.145</b>  | <b>0.138</b>  | <b>0.136</b>  | <b>0.203</b>  | <b>0.195</b>  | 0.018         | <b>0.051</b>  | <b>-0.064</b> | -0.012        |
| 13 <i>MB</i>              | <b>-0.168</b> | <b>-0.160</b> | <b>-0.163</b> | <b>-0.138</b> | <b>-0.210</b> | <b>-0.207</b> | -0.007        | <b>-0.068</b> | 0.021         | -0.015        |
| 14 <i>ROA</i>             | 0.042         | -0.014        | -0.004        | 0.008         | 0.002         | 0.031         | 0.025         | <b>0.097</b>  | -0.023        | 0.036         |
| 15 <i>CFO_sd</i>          | <b>-0.098</b> | <b>-0.075</b> | <b>-0.081</b> | <b>-0.106</b> | <b>-0.082</b> | <b>-0.079</b> | <b>-0.111</b> | <b>-0.023</b> | <b>-0.064</b> | <b>-0.050</b> |
| 16 <i>Freefloat</i>       | <b>0.146</b>  | <b>0.137</b>  | <b>0.144</b>  | <b>0.108</b>  | <b>0.106</b>  | <b>0.121</b>  | <b>0.241</b>  | <b>0.166</b>  | <b>0.350</b>  | <b>0.112</b>  |
| 17 <i>JointPartner</i>    | <b>0.075</b>  | <b>0.096</b>  | <b>0.107</b>  | 0.017         | <b>0.167</b>  | <b>0.124</b>  | -0.003        | <b>0.118</b>  | <b>-0.093</b> | <b>0.103</b>  |
| 18 <i>PartnerAudit</i>    | <b>0.102</b>  | <b>0.058</b>  | <b>0.068</b>  | 0.030         | <b>0.080</b>  | <b>0.077</b>  | -0.013        | <b>0.138</b>  | -0.032        | -0.024        |
| 19 <i>Expertise</i>       | <b>0.234</b>  | <b>0.237</b>  | <b>0.237</b>  | <b>0.161</b>  | <b>0.179</b>  | <b>0.189</b>  | <b>0.207</b>  | <b>0.370</b>  | -0.041        | <b>0.132</b>  |
| 20 <i>AuditSize</i>       | <b>0.084</b>  | <b>0.082</b>  | <b>0.075</b>  | <b>-0.084</b> | <b>0.166</b>  | <b>0.092</b>  | <b>0.111</b>  | <b>0.065</b>  | <b>-0.058</b> | <b>0.068</b>  |
|                           | 11            | 12            | 13            | 14            | 15            | 16            | 17            | 18            | 19            | 20            |
| 11 <i>Size</i>            | 1             |               |               |               |               |               |               |               |               |               |
| 12 <i>Leverage</i>        | <b>0.375</b>  | 1             |               |               |               |               |               |               |               |               |
| 13 <i>MB</i>              | <b>-0.336</b> | <b>-0.246</b> | 1             |               |               |               |               |               |               |               |
| 14 <i>ROA</i>             | <b>0.278</b>  | -0.035        | -0.025        | 1             |               |               |               |               |               |               |
| 15 <i>CFO_sd</i>          | 0.005         | <b>0.062</b>  | <b>0.056</b>  | <b>-0.272</b> | 1             |               |               |               |               |               |
| 16 <i>Freefloat</i>       | <b>0.177</b>  | <b>-0.047</b> | <b>0.045</b>  | <b>0.053</b>  | <b>-0.076</b> | 1             |               |               |               |               |
| 17 <i>JointPartner</i>    | <b>0.200</b>  | <b>0.077</b>  | <b>-0.054</b> | <b>0.055</b>  | <b>0.114</b>  | 0.007         | 1             |               |               |               |
| 18 <i>PartnerAudit</i>    | <b>0.177</b>  | -0.046        | -0.002        | <b>0.105</b>  | -0.025        | <b>0.118</b>  | -0.020        | 1             |               |               |
| 19 <i>Expertise</i>       | <b>0.489</b>  | <b>0.215</b>  | <b>-0.195</b> | <b>0.094</b>  | <b>0.056</b>  | <b>0.107</b>  | <b>0.137</b>  | 0.041         | 1             |               |
| 20 <i>AuditSize</i>       | <b>0.118</b>  | <b>0.165</b>  | <b>-0.088</b> | 0.013         | 0.012         | 0.007         | <b>0.234</b>  | <b>0.070</b>  | <b>0.109</b>  | 1             |

Note: Coefficients in bold represent statistically significant coefficients at the 5 % level at least ( $p < 0.05$ ).

disclosures.<sup>21</sup>

Among control variables, *Size* positively and significantly affects the number of identified items, number of total words, and number of KAM-related words in management disclosures. Regarding board variables, *FinancialExpert* shows a positive and significant coefficient regarding the number of accounting items. Notably, the coefficient of *AuditCom* is not significant, while the Pearson correlation analysis reveals a significant and positive correlation between this variable and all disclosure variables.<sup>22</sup> For audit variables, *Expertise* reveals a positive and significant association with total and KAM-related words (at the 10 % level), while *JointPartner* shows a negative and significant coefficient regarding the number of accounting items.<sup>23</sup>

Table 6 presents the results for H2. In Model 2, the interaction

variables between *AuditCom* and the KAM disclosure variables capture the audit committees' moderating effect in improving the correspondence between auditor and management disclosures. The *TotalItems\_k*\**AuditCom* (coeff. = 0.425, at  $p < 10\%$ ), *TotalWords\_k*\**AuditCom* (coeff. = 0.610, at  $p < 1\%$ ), and *KAMWords\_k*\**AuditCom* (coeff. = 0.671, at  $p < 1\%$ ) coefficients are all positive and significant. Along with the lack of significant coefficients for KAM disclosure variables, these results suggest that the correspondence observed after the implementation of ISA 701 is primarily driven by firms with a separate audit committee.<sup>24</sup> Consistent with our predictions, the results suggest that an audit helps the board improve communication between management and external auditors and enhances the board's monitoring of the financial reporting process. The control variables yield similar results as those in Table 5.

### 5.3. Additional analyses

#### 5.3.1. Alternative disclosure measures

In the main analysis, we focus on the presentation of accounting items, total words, and KAM-related words. This section focuses on risk-specific disclosures and the uncertainty tone associated with reporting significant accounting items by using four alternative disclosure measures.<sup>25</sup> First, we repeat the procedure for identifying a new wordlist

<sup>21</sup> We repeat this regression analysis using the number of KAM-related words scaled by the total number of words to further isolate the effect of relevant information from boilerplate and generic information. We find consistent results for the significant link between auditor and management disclosures using the scaled version of *KAMWords\_m\_scaled* and *KAMWords\_k\_scaled* (coeff. = 0.172,  $p < 5\%$ ); but the coefficient is smaller.

<sup>22</sup> The lack of significant association in regression analysis can be explained by the fact that having an audit committee on boards is optional for Swedish firms; therefore, it is an endogenous variable. In additional analysis, we address the endogeneity issue by using a matched sample analysis and replacing this variable with the characteristics of directors in the audit committee.

<sup>23</sup> Given that we have several control variables and fixed effects in regression models, we further investigate whether there is a concern with multicollinearity. Post-estimation variance inflation factors (VIFs) for individual variables are below 2 for most variables (far below the commonly used benchmark of 10)—with the exception of *Size* (VIF=4.83), *Boardsize* (2.26), and *Expertise* (3.28). Excluding these variables do not alter the results. Further, the mean estimated VIF after including all variables and fixed effects is 11. This large VIF value stems from including two-digit SIC indicators, and excluding these indicators yield a VIF below 2. Excluding industry fixed effects does not alter the results, and actually makes the statistical inferences slightly stronger.

<sup>24</sup> After including the interaction variable, the coefficients of *AuditCom* become significant. This could be due to the multicollinearity between the base variables and the interaction terms. For instance, Brambor et al., (2006, p. 70) write that “[t]he coefficients in interaction models no longer indicate the average effect of a variable as they do in an additive model. As a result, they are almost certain to change with the inclusion of an interaction.” Furthermore, the coefficients of *AuditCom* in this model refer to firms without having any KAM disclosures. Given that there is no observation in the sample that lacks KAM disclosures, the coefficients of base variables are not interpretable.

<sup>25</sup> We focus on risk-related words because they reflect information about company risk factors, which affect expected future cash flows and users' perceptions of future performance.



**Table 5**  
The correspondence between management and auditor KAM disclosures (H1, Model 1).

|                                      | <i>TotalItems<sub>m</sub></i> |             | <i>TotalWords<sub>m</sub></i> |             | <i>KAMWords<sub>m</sub></i> |             |
|--------------------------------------|-------------------------------|-------------|-------------------------------|-------------|-----------------------------|-------------|
|                                      | Coeff.                        | t-stat      | Coeff.                        | t-stat      | Coeff.                      | t-stat      |
| <b><i>TotalItems<sub>k</sub></i></b> | <b>0.329***</b>               | <b>3.17</b> |                               |             |                             |             |
| <b><i>TotalWords<sub>k</sub></i></b> |                               |             | <b>0.229**</b>                | <b>2.06</b> |                             |             |
| <b><i>KAMWords<sub>k</sub></i></b>   |                               |             |                               |             | <b>0.310***</b>             | <b>2.82</b> |
| <i>AuditCom</i>                      | -0.129                        | -0.46       | -23.158                       | -0.39       | -8.34                       | -0.62       |
| <i>OutsideDr</i>                     | 0.324                         | 0.45        | 92.692                        | 0.66        | 31.169                      | 0.9         |
| <i>FinancialExpert</i>               | 0.551**                       | 2.27        | 48.214                        | 1.04        | 8.732                       | 0.79        |
| <i>Boardsize</i>                     | -0.03                         | -0.31       | 3.273                         | 0.18        | 1.798                       | 0.4         |
| <i>Freefloat</i>                     | 0.004                         | 0.54        | 0.744                         | 0.58        | 0.018                       | 0.06        |
| <i>Size</i>                          | 0.473***                      | 4.37        | 56.493***                     | 2.74        | 15.014***                   | 2.9         |
| <i>Leverage</i>                      | -0.525                        | -0.65       | -119.753                      | -0.66       | -44.054                     | -1.07       |
| <i>MB</i>                            | -0.035                        | -0.98       | -6.981                        | -1.36       | -1.649                      | -1.38       |
| <i>ROA</i>                           | -1.510*                       | -1.7        | -206.997                      | -1.36       | -52.582                     | -1.52       |
| <i>CFO<sub>sd</sub></i>              | -0.088                        | -0.78       | -8.128                        | -0.51       | -4.01                       | -1.07       |
| <i>JointPartner</i>                  | -0.569**                      | -2.06       | -69.939                       | -1.27       | -13.1                       | -1          |
| <i>PartnerAudit</i>                  | 0.043                         | 0.52        | -7.862                        | -0.55       | -1.613                      | -0.45       |
| <i>Expertise</i>                     | 0.218                         | 0.57        | 134.591*                      | 1.95        | 31.081*                     | 1.8         |
| <i>AuditSize</i>                     | 0.001                         | 0.15        | 0.121                         | 0.13        | 0                           | 0           |
| Intercept                            | -3.518***                     | -2.89       | -367.153                      | -1.33       | -107.63                     | -1.51       |
| Industry effect                      | Yes                           |             | Yes                           |             | Yes                         |             |
| Year effect                          | Yes                           |             | Yes                           |             | Yes                         |             |
| Adj.R <sup>2</sup>                   | 0.451                         |             | 0.358                         |             | 0.403                       |             |
| N                                    | 551                           |             | 551                           |             | 551                         |             |

Notes: Dependent variables include the total number of critical items disclosed (*TotalItems<sub>m</sub>*), total number of words disclosed (*TotalWords<sub>m</sub>*), and number of relevant words that commonly appear in KAM disclosures (*KAMWords<sub>m</sub>*). Independent variables of interest are disclosure measures in KAM disclosures (*TotalItems<sub>k</sub>*, *TotalWords<sub>k</sub>*, *KAMWords<sub>k</sub>*). All regressions control for a set of industry dummies based on two-digit SIC codes and year dummies. Standard errors are clustered by firm. \*\*\*, \*\*, and \* indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A presents detailed descriptions of all variables.

**Table 6**  
The moderating effect of the audit committee (H2, Model 2).

|   | <i>TotalItems<sub>m</sub></i> |             | <i>TotalWords<sub>m</sub></i> |             | <i>KAMWords<sub>m</sub></i> |             |
|---|-------------------------------|-------------|-------------------------------|-------------|-----------------------------|-------------|
|   | Coeff.                        | t-stat.     | Coeff.                        | t-stat.     | Coeff.                      | t-stat.     |
| <b><i>TotalItems<sub>k</sub>*AuditCom</i></b> | <b>0.425*</b>                 | <b>1.82</b> |                               |             |                             |             |
| <i>TotalItems<sub>k</sub></i>                 | -0.024                        | -0.11       |                               |             |                             |             |
| <b><i>TotalWords<sub>k</sub>*AuditCom</i></b> |                               |             | <b>0.610***</b>               | <b>3.17</b> |                             |             |
| <i>TotalWords<sub>k</sub></i>                 |                               |             | -0.291*                       | -1.65       |                             |             |
| <b><i>KAMWords<sub>k</sub>*AuditCom</i></b>   |                               |             |                               |             | <b>0.671***</b>             | <b>3.12</b> |
| <i>KAMWords<sub>k</sub></i>                   |                               |             |                               |             | -0.272                      | -1.37       |
| <i>AuditCom</i>                               | -1.051                        | -1.62       | -387.482***                   | -2.79       | -91.821***                  | -2.77       |
| <i>OutsideDr</i>                              | 0.319                         | 0.45        | 110.203                       | 0.83        | 35.322                      | 1.06        |
| <i>FinancialExpert</i>                        | 0.527**                       | 2.18        | 33.863                        | 0.76        | 5.057                       | 0.47        |
| <i>Boardsize</i>                              | -0.035                        | -0.36       | 2.91                          | 0.16        | 1.396                       | 0.31        |
| <i>Freefloat</i>                              | 0.004                         | 0.5         | 0.342                         | 0.28        | -0.07                       | -0.23       |
| <i>Size</i>                                   | 0.482***                      | 4.43        | 65.207***                     | 3.15        | 16.974***                   | 3.25        |
| <i>Leverage</i>                               | -0.448                        | -0.56       | -95.794                       | -0.53       | -43.044                     | -1.04       |
| <i>MB</i>                                     | -0.033                        | -0.94       | -6.277                        | -1.21       | -1.595                      | -1.32       |
| <i>ROA</i>                                    | -1.708*                       | -1.9        | -267.179*                     | -1.68       | -67.680*                    | -1.86       |
| <i>CFO<sub>sd</sub></i>                       | -0.083                        | -0.74       | -5.59                         | -0.35       | -3.336                      | -0.9        |
| <i>JointPartner</i>                           | -0.526**                      | -1.99       | -50.606                       | -0.95       | -8.43                       | -0.66       |
| <i>PartnerAudit</i>                           | 0.035                         | 0.43        | -8.108                        | -0.58       | -1.634                      | -0.48       |
| <i>Expertise</i>                              | 0.155                         | 0.41        | 97.087                        | 1.46        | 23.236                      | 1.37        |
| <i>AuditSize</i>                              | 0                             | 0.09        | -0.069                        | -0.08       | -0.031                      | -0.14       |
| Intercept                                     | -2.471**                      | -1.98       | -21.591                       | -0.08       | -27.031                     | -0.39       |
| Industry effect                               | Yes                           |             | Yes                           |             | Yes                         |             |
| Year effect                                   | Yes                           |             | Yes                           |             | Yes                         |             |
| Adj.R <sup>2</sup>                            | 0.456                         |             | 0.388                         |             | 0.427                       |             |
| N   | 551                           |             | 551                           |             | 551                         |             |

Notes: This table shows the analysis results on whether the presence of a separate audit committee on the board moderates the level of correspondence between management and KAM disclosures (Model 2). Dependent variables are the total number of critical items disclosed (*TotalItems<sub>m</sub>*), total number of words disclosed (*TotalWords<sub>m</sub>*), and number of relevant words that commonly appear in KAM disclosures (*KAMWords<sub>m</sub>*). The coefficients of interest relate to the interaction variables: *TotalItems<sub>k</sub>\*AuditCom*, *TotalWords<sub>k</sub>\*AuditCom*, and *KAMWords<sub>k</sub>\*AuditCom*. All regressions control for a set of industry dummies based on two-digit SIC codes and year dummies. We use standard errors clustered by firm. \*\*\*, \*\*, and \* indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A presents a detailed description of all variables.

**Table 7**  
Additional analysis: Alternative disclosure measures.

| Panel A: Model 1                   |                       |         |                           |         |                           |         |                          |         |  |
|------------------------------------|-----------------------|---------|---------------------------|---------|---------------------------|---------|--------------------------|---------|--|
|                                    | ISAWords <sub>m</sub> |         | RiskFactors1 <sub>m</sub> |         | RiskFactors2 <sub>m</sub> |         | Uncertainty <sub>m</sub> |         |  |
|                                    | Coeff.                | t-stat. | Coeff.                    | t-stat. | Coeff.                    | t-stat. | Coeff.                   | t-stat. |  |
| ISAWords <sub>k</sub>              | 0.268**               | 2.41    |                           |         |                           |         |                          |         |  |
| RiskFactors1 <sub>k</sub>          |                       |         | 0.396***                  | 2.88    |                           |         |                          |         |  |
| RiskFactors2 <sub>k</sub>          |                       |         |                           |         | 0.200***                  | 2.63    |                          |         |  |
| Uncertainty <sub>k</sub>           |                       |         |                           |         |                           |         | 0.081                    | 1.00    |  |
| Adj.R <sup>2</sup>                 | 0.379                 |         | 0.377                     |         | 0.316                     |         | 0.268                    |         |  |
| N                                  | 540                   |         | 429                       |         | 551                       |         | 551                      |         |  |
| Panel B: Model 2                   |                       |         |                           |         |                           |         |                          |         |  |
|                                    | ISAWords <sub>m</sub> |         | RiskFactors1 <sub>m</sub> |         | RiskFactors2 <sub>m</sub> |         | Uncertainty <sub>m</sub> |         |  |
|                                    | Coeff.                | t-stat. | Coeff.                    | t-stat. | Coeff.                    | t-stat. | Coeff.                   | t-stat. |  |
| AuditCom*ISAWords <sub>k</sub>     | 0.656***              | 3.42    |                           |         |                           |         |                          |         |  |
| ISAWords <sub>k</sub>              | -0.300*               | -1.73   |                           |         |                           |         |                          |         |  |
| AuditCom*RiskFactors1 <sub>k</sub> |                       |         | 0.481**                   | 2.29    |                           |         |                          |         |  |
| RiskFactors1 <sub>k</sub>          |                       |         | -0.046                    | -0.25   |                           |         |                          |         |  |
| AuditCom*RiskFactors2 <sub>k</sub> |                       |         |                           |         | 0.327**                   | 2.31    |                          |         |  |
| RiskFactors2 <sub>k</sub>          |                       |         |                           |         | -0.097                    | -0.75   |                          |         |  |
| AuditCom*Uncertainty <sub>k</sub>  |                       |         |                           |         |                           |         | 0.280*                   | 1.66    |  |
| Uncertainty <sub>k</sub>           |                       |         |                           |         |                           |         | -0.146                   | -1.02   |  |
| AuditCom                           | -109.343***           | -2.98   | -1.343                    | -1.56   | 0.000                     | -0.1    | -0.098                   | -1.31   |  |
| Adj.R <sup>2</sup>                 | 0.412                 |         | 0.382                     |         | 0.397                     |         | 0.271                    |         |  |
| N                                  | 540                   |         | 429                       |         | 551                       |         | 551                      |         |  |

Note: This table provides estimates for Model 1 (Panel A) and Model 2 (Panel B) using several alternative disclosure measures. *ISAWords<sub>m/k</sub>* represents a disclosure score based on a wordlist created by collecting insistent words from ISA 315 “Identifying and Assessing the Risks of Material Misstatement.” *RiskFactors1<sub>m/k</sub>* represents a disclosure score based on textual risk disclosures following the approach by Kravet and Muslu (2013). *RiskFactors2<sub>m/k</sub>* represents a disclosure score based on risk factors developed by Campbell et al. (2014). *Uncertainty<sub>m/k</sub>* indicates the uncertain tone in disclosures using the uncertain wordlist developed by Loughran and McDonald (2011). Control variables and year and industry dummies are included in all models. Standard errors are clustered by firm, where \*\*\*, \*\*, and \* indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A presents a detailed description of all variables.

(see Section 4.2). However, instead of using KAM disclosures of European listed firms, we use the text from ISA 315, which provides guidelines on identifying and assessing the risks of material misstatements. Accordingly, we import the whole text of this standard into DICTION, obtain “insistence words,” and use all the words, including risk/risks, control, misstatement, material, fraud, and estimate, to construct a new disclosure measure closer to the requirements of ISA 315 (*ISAWords<sub>m</sub>* and *ISAWords<sub>k</sub>*).

Furthermore, we follow recent studies that focus on the determinants and usefulness of risk factors (Kravet & Muslu, 2013; Campbell et al., 2014; Bozzolan & Miihkinen, 2021) and generate two additional variables. First, to capture risk-related disclosures, we follow Kravet and Muslu (2013, p.1094) and code a sentence as including risk-related information if any of these keywords appear: “cannot, could, may, might, risk\*,<sup>26</sup> uncertain\*, likely to, subject to, potential\*, vary\*/varies, depend\*, expos\*, fluctuat\*, possibl\*, susceptible, affect, influence\*, and hedg\*\*” (*RiskFactors1<sub>m</sub>* and *RiskFactors1<sub>k</sub>*).

Second, we use the “financial” and “other idiosyncratic” risk categories in Campbell et al., (2014, p.444) to capture financial and firm-specific risks, respectively, and merge them into one wordlist. Keywords in these categories include lease, obligation, liquidity, leverage, defined-benefit, intangible, and material weaknesses. These keywords relate more closely to what should be disclosed under significant accounting policies and estimates and in KAM disclosures, relative to the wordlists in other categories in Campbell et al. (2014). We select the “financial” and “other idiosyncratic” wordlists to capture financial and

firm-specific risks (*RiskFactors2<sub>m</sub>* and *RiskFactors2<sub>k</sub>*), respectively.<sup>27</sup> Finally, we capture the uncertainty tone using the “Uncertain” wordlist by Loughran and McDonald (2011), which comprises words that denote an unsure attitude, such as appear, ambiguity, assume, and risk. An uncertain sentiment in management disclosures can reflect managements’ efforts to communicate uncertainties when measuring complex accounting judgments and estimates for users (*Uncertainty<sub>m</sub>* and *Uncertainty<sub>k</sub>*).

Table 7, Panel A shows the level of correspondence between auditor and management disclosures. Except for *Uncertainty*, the coefficients for all alternative disclosure variables are significant (*ISAWords<sub>k</sub>*: coeff. = 0.268, at p < 5 %; *RiskFactors1<sub>k</sub>*: coeff. = 0.396, at p < 1 %; *RiskFactors2<sub>k</sub>*: coeff. = 0.200, at p < 1 %). The results further support the correspondence between auditor and management disclosures, especially regarding risk-related information disclosures. Panel B reveals the moderating effect of audit committees and provides significant results on all interaction variables. Consistent with the results of the main analysis, audit committees enhance the correspondence between auditor and management disclosures.

### 5.3.2. Management disclosures before and after ISA 701

Further, to study a potential spillover effect of ISA 701 on management disclosures, we analyze to what degree management disclosures

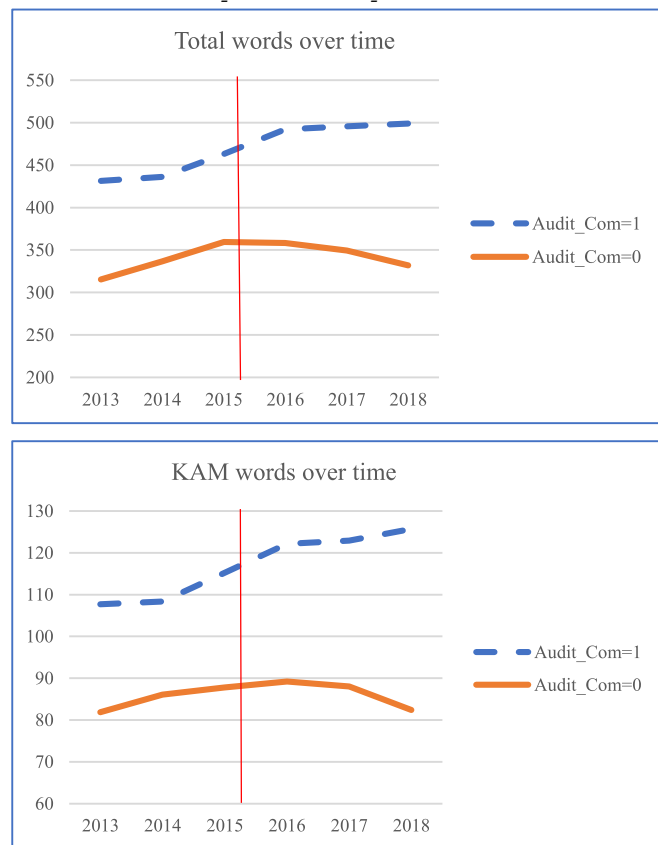
<sup>27</sup> Campell et al. (2014) provide all risk-related keywords partitioned in five different categories (see their Appendix 3, Table 9). Our study adopts “Financial” and “Other Idiosyncratic,” as they refer to company-specific risk. We exclude their three additional categories of legal and regulatory, tax, and other systematic that while including some relevant words, indicate litigation, tax, and economy-wide risks more appropriate for the US setting. Indeed, adopting Campell et al. (2014) has limitations, as they study words specific to the US setting. However, we believe it only means fewer words are picked up by the textual analysis algorithm. Nonetheless, several words in their dictionary are relevant, as they indicate accounting items inherently subject to risk, such as lease, intangible, and defined-benefit.

<sup>26</sup> \* refers to any possible affix attached to the word stem.

**Table 8**  
Management disclosures before and after ISA 701.

| Panel A: Mean difference analysis of management disclosures before and after ISA 701 |                 |                  |            |                 |                  |            |                 |                  |            |
|--|-----------------|------------------|------------|-----------------|------------------|------------|-----------------|------------------|------------|
|  | Whole sample    |                  |            | AuditCom = 1    |                  |            | AuditCom = 0    |                  |            |
|  | Pre (2013–2015) | Post (2016–2018) | Mean_diff. | Pre (2013–2015) | Post (2016–2018) | Mean_diff. | Pre (2013–2015) | Post (2016–2018) | Mean_diff. |
| TotalItems <sub>m</sub>  | 3.720           | 3.766            | 0.046      | 3.958           | 3.977            | 0.019      | 3.485           | 3.078            | -0.407*    |
| TotalWords <sub>m</sub>  | 403.783         | 462.602          | 58.819**   | 444.418         | 495.724          | 51.305*    | 339.681         | 347.420          | 7.739      |
| KAMWords <sub>m</sub>  | 100.993         | 115.289          | 14.296**   | 110.618         | 123.607          | 12.99**    | 85.583          | 86.817           | 1.233      |
| ISAWords <sub>m</sub>  | 110.491         | 129.901          | 19.401***  | 120.789         | 138.509          | 17.719**   | 89.160          | 95.132           | 5.972      |
| RiskFactors1 <sub>m</sub>  | 4.906           | 5.150            | 0.244      | 5.545           | 5.596            | 0.050      | 3.667           | 3.290            | -0.376947  |
| RiskFactors2 <sub>m</sub>  | 0.009           | 0.008            | 0.001      | 0.010           | 0.009            | 0.000      | 0.008           | 0.006            | 0.002**    |
| Uncertainty <sub>m</sub>   | 0.372           | 0.371            | 0.001      | 0.389           | 0.387            | 0.001      | 0.366           | 0.324            | 0.042      |

**Panel B: Mean TotalWords<sub>m</sub> and KAMWords<sub>m</sub> over time for firms with and without audit committees**



Notes: \*\*\*, \*\*, and \* indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A presents a detailed description of all variables.

increased following the regulation. Hence, we collect data for all listed firms three years before the implementation of ISA 701 and introduction of KAMs (2013–2015) and generate a dummy variable *Post* equal to 1 for years 2016–2018, and 0 otherwise. In an untabulated regression analysis, we examine the effect of *Post* on disclosure variables and find no significant coefficient. Furthermore, we assess the interaction effect of *Post*\**AuditCom* and find no significant coefficient. These non-significant results could be because ISA 701 targets KAMs, not management disclosures. However, when we run a univariate analysis to see how the mean values change over time, we observe significant increases in mean values of management disclosures after the implementation of ISA 701 in 2016 (Panel A of the Table 8 and Figure 1a and b in Panel B). Moreover, comparing firms with and without audit committees, we see that management disclosures significantly increase only in firms with an audit committee.

5.3.3. Lagged disclosure variables

In Table 9, we examine whether the correspondence with management disclosures is driven by auditors or management. As a robustness

test, we use the lagged values of the main disclosure variables and repeat Model 1 to better identify the causal direction between management disclosures and KAM disclosures. First, in Panel A we consider the effect of lagged KAM disclosures on management disclosures to examine whether the effect of KAM disclosures on management is more pronounced in the future period. Second, in Panel B we reverse the direction to ensure that our result is not driven by reverse causality. For instance, auditors could use management disclosures as a source of information for KAM disclosures. In this case, using management disclosures as explanatory variables should predict future KAM disclosures.

The results show that the lagged values of KAM disclosures are consistently positive and significant. Thus, the number of items, total words, and KAM-related words by auditors positively affect the future disclosures by management. However, the opposite is not true, as lagged values of management does not have a significant relationship with auditor disclosures. Regarding H2, we also find consistent (untabulated) results using lagged values of audit disclosure variables interacted with the audit committee.

**Table 9**  
Additional robustness tests on causality between management and KAM disclosures.

| Panel A: The effect of lagged KAM disclosure variables on management disclosures |                               |         |                               |         |                             |         |
|--|-------------------------------|---------|-------------------------------|---------|-----------------------------|---------|
|  | <i>TotalItems<sub>m</sub></i> |         | <i>TotalWords<sub>m</sub></i> |         | <i>KAMWords<sub>m</sub></i> |         |
|  | Coeff.                        | t-stat. | Coeff.                        | t-stat. | Coeff.                      | t-stat. |
| <i>TotalItems<sub>k,t-1</sub></i>  | 0.409***                      | 3.24    |                               |         |                             |         |
| <i>TotalWords<sub>k,t-1</sub></i>  |                               |         | 0.231**                       | 1.99    |                             |         |
| <i>KAMWords<sub>k,t-1</sub></i>  |                               |         |                               |         | 0.318***                    | 2.76    |
| Controls for Industry and Year effects   | Yes                           |         | Yes                           |         | Yes                         |         |
| Adj.R <sup>2</sup>   | 0.446                         |         | 0.327                         |         | 0.374                       |         |
| N  | 345                           |         | 347                           |         | 347                         |         |

| Panel B: The effect of lagged management disclosure variables on KAM disclosures |                               |         |                               |         |                             |         |
|--|-------------------------------|---------|-------------------------------|---------|-----------------------------|---------|
|  | <i>TotalItems<sub>k</sub></i> |         | <i>TotalWords<sub>k</sub></i> |         | <i>KAMWords<sub>k</sub></i> |         |
|  | Coeff.                        | t-stat. | Coeff.                        | t-stat. | Coeff.                      | t-stat. |
| <i>TotalItems<sub>m,t-1</sub></i>  | 0.05                          | 1.27    |                               |         |                             |         |
| <i>TotalWords<sub>m,t-1</sub></i>  |                               |         | 0.133                         | 1.34    |                             |         |
| <i>KAMWords<sub>m,t-1</sub></i>  |                               |         |                               |         | 0.148*                      | 1.84    |
| Controls for Industry and Year effects   | Yes                           |         | Yes                           |         | Yes                         |         |
| Adj.R <sup>2</sup>   | 0.226                         |         | 0.304                         |         | 0.341                       |         |
| N  | 345                           |         | 346                           |         | 346                         |         |

Notes: Standard errors clustered by firm. \*\*\*, \*\*, and \* indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A presents a detailed description of all variables.

**Table 10**  
Additional audit committee robustness tests using Propensity Score Matching (PSM).

|  | <i>TotalItems<sub>m</sub></i> |         | <i>TotalWords<sub>m</sub></i> |         | <i>KAMWords<sub>m</sub></i> |         |
|--|-------------------------------|---------|-------------------------------|---------|-----------------------------|---------|
|  | Coeff.                        | t-stat. | Coeff.                        | t-stat. | Coeff.                      | t-stat. |
| <i>TotalItems<sub>k</sub>*AuditCom</i> | 0.419                         | 1.32    |                               |         |                             |         |
| <i>TotalItems<sub>k</sub></i>          | 0.112                         | 0.58    |                               |         |                             |         |
| <i>TotalWords<sub>k</sub>*AuditCom</i> |                               |         | 0.548***                      | 2.89    |                             |         |
| <i>TotalWords<sub>k</sub></i>          |                               |         | -0.207                        | -1.4    |                             |         |
| <i>KAMWords<sub>k</sub>*AuditCom</i>   |                               |         |                               |         | 0.638***                    | 3.3     |
| <i>KAMWords<sub>k</sub></i>            |                               |         |                               |         | -0.185                      | -1.09   |
| <i>AuditCom</i>                        | -0.657                        | -0.87   | -329.768**                    | -2.23   | -82.369**                   | -2.54   |
| Controls for Industry and Year effects | Yes                           |         | Yes                           |         | Yes                         |         |
| Adj.R <sup>2</sup>                     | 0.361                         |         | 0.352                         |         | 0.324                       |         |
| N                                      | 152                           |         | 152                           |         | 152                         |         |

Notes: We re-run Model 2 using a matched sample of 152 observations, where firms with and without audit committees on the board are matched using a PSM technique. Standard errors clustered by firm. \*\*\*, \*\*, and \* indicate statistical significance at the 1%, 5%, and 10% levels, respectively. Appendix A presents a detailed description of all variables.

5.3.4. Audit committee robustness tests

5.3.4.1. Propensity score matching. In our study setting, appointing an independent audit committee on the board is an endogenous choice. Thus, the results may be driven by selection bias, which occurs if an omitted variable correlates with the choice and the dependent variables (Peel, 2018). To the extent the selection issue is related to observable characteristics, we employ PSM to controls for observable covariances and reduce functional form misspecification (Shipman et al., 2017). Following this approach, we compare firms with a separate audit committee on the board (*AuditCom* = 1) and those without (*AuditCom* = 0) in a matched sample.<sup>28</sup>

The matching procedure substantially reduces the sample to 152

<sup>28</sup> We use a probit model to predict the likelihood of having an audit committee using all confounding factors in the main analysis. We choose a caliper of 0.01 with replacement condition to identify the matched sample. The probit model reveals that the firm's size, board's size, and dispersed ownership structure are predictors of having a separate audit committee on the board. Moreover, the proportion of outside directors and the presence of a financial expert on the board is positively and significantly associated with the presence of an audit committee.

firm-year observations. However, repeating the analysis of Model 2 regarding the moderating effect of audit committees yields consistent results (Table 10).

5.3.4.2. Audit committee characteristics. We consider the effect of audit committee characteristics on auditor and management disclosures. Studies on audit quality indicate that an audit committee's independence, expertise, number of meetings held, and size affect the quality of disclosures (Glendening et al., 2019; Lee & Park, 2019). Glendening et al. (2019) report that an audit committee with accounting expertise yields more quantitative critical accounting estimate disclosures. Further, Lee and Park (2019) report that audit committees' financial expertise drives the quality of textual information, manifested in the tone of management discussions and analyses. In their experimental study, Fuller et al. (2021) note that audit committee expertise enhances management disclosure quality only if KAM disclosures are informative.

We follow prior studies and measure audit committee characteristics using four variables: 1) the proportion of directors on the audit committee with financial education; 2) the proportion of audit committee members who have served as a chief financial officer (CFO), financial manager, or fund manager; 3) the number of audit committee meetings; and 4) the total number of directors on the audit committee. Untabulated results show that a higher proportion of directors with a financial



background enhances the quality of management disclosures. However, the audit committees' expertise does not significantly affect the correspondence between auditor and management disclosures.

## 6. Conclusion

We examine whether following the introduction of ISA 701 there is a correspondence between auditor disclosures of KAMs and management disclosures of significant accounting policies and estimates. Furthermore, we explore whether audit committees moderate the relationship between auditor and management disclosures. We show a correspondence between auditor and management disclosures and that disclosures significantly increased after the ISA 701 adoption in Sweden, especially among firms with an audit committee. Thus, the effectiveness of the audit regulation depends in part on the governance institutions in place as audit committees translate auditor inputs into actual accounting outputs. This conclusion is further supported by the fact that audit committees strengthen the noted correspondence after the implementation of ISA 701.

Our findings should have implications for policymakers in reviewing post-implementation effects of ISA 701 and when implementing new audit and accounting standards. Accordingly, they convey that the enhanced transparency in audit reports causes a second-order effect on the quality of management disclosures. The findings may interest policymakers focusing on improving the corporate governance of firms, as they suggest that having a separate audit committee enhances management disclosures and their correspondence with auditor disclosures.

Future research should explore whether the implementation of ISA 701 impacts management disclosure quantity and quality over time. This study is based on a small Swedish sample and only covers the three years after ISA 701 is implemented. The small sample size, and the resulting low-test power in our additional analyses, could be a contributing factor to why we cannot establish a significant increase in management disclosures after the new regulation. In line with this, univariate comparisons raise the suspicion that the sample size could underlie the result. Thus, this topic can be re-examined once more analyzable data becomes available. Furthermore, future research can explore why the audit committee's moderating effect on management

disclosures vary. For instance, we do not find significant effects when variables on audit committee characteristics, such as directors' expertise, interact with KAM disclosures. Therefore, future research could explore audit committee characteristics (in a larger sample) and examine how such variation could be explained by other factors, including differences in audit committee processes.

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## Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

## Data availability

Data will be made available on request.

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## Appendix A. . Definition of variables

| Variable   | Definition  | Data Source   |
|--|---|---------------|
| <b>Disclosure variables</b>                        |   |               |
| <i>TotalItems<sub>m</sub> / <sub>k</sub></i>       | Total items disclosed based on International Standard on Auditing (ISA) 1, including significant accounting estimates and judgments ( <i>m</i> ), and in Key audit matters (KAMs) disclosures based on ISA 701 ( <i>k</i> )   | Annual report |
| <i>TotalWords<sub>m</sub> / <sub>k</sub></i>       | Total number of words in management disclosures of significant accounting policies and estimates ( <i>m</i> ) and the KAM disclosures ( <i>k</i> )  | Annual report |
| <i>KAMWords<sub>m</sub> / <sub>k</sub></i>         | Total number of "KAM-specific" words in management disclosures of significant accounting policies and estimates ( <i>m</i> ) and the KAM disclosures ( <i>k</i> ); For a detailed discussion of KAM-specific words, see section 4.2; Appendix B presents the wordlist   | Annual report |
| <b>Disclosure variables in Additional Analysis</b> |   |               |
| <i>ISAWords<sub>m</sub> / <sub>k</sub></i>         | Number of insistent words from ISA 315 (Revised 2019); Insistence words are calculated using DICTION, defined as high-frequency words that occur three or more times in a standard (500-word) passage   | Annual report |
| <i>RiskFactors1<sub>m</sub> / <sub>k</sub></i>     | Number of risk words using the dictionary provided by Kravet and Muslu (2013); these keywords are: cannot, could, may, might, risk*, uncertain*, likely to, subject to, potential*, vary*/varies, depend*, expos*, fluctuat*, possibl*, susceptible, affect, influence*, and hedg*                              | Annual report |
| <i>RiskFactor2<sub>m</sub> / <sub>k</sub></i>      | Number of risk-related words based on the "financial" and "other idiosyncratic" risk categories, such as liquidity, leverage, dilution, bank debt, defined-benefit, intangible, and material weaknesses, as developed by Campbell et al. (2014) in management ( <i>m</i> ) and auditor ( <i>k</i> ) disclosures | Annual report |
| <i>Uncertainty<sub>m</sub> / <sub>k</sub></i>      | Number of words that denote an uncertain attitude, such as appear, ambiguity, assume, or risk, as developed by Loughran and McDonald (2011) in management ( <i>m</i> ) and auditor ( <i>k</i> ) disclosures   | Annual report |
| <b>Governance variables</b>                        |   |               |
| <i>Boardsize</i>                                   | Total number of ordinary directors elected by shareholders  | Annual report |
| <i>AuditCom</i>                                    | Dummy variable coded 1 if a separate audit committee exists on the board of directors, and 0 otherwise  | Annual report |
| <i>OutsideDr</i>                                   | Percentage of outside directors, calculated by the number of directors who are independent of executives and the largest shareholders divided by the board size   | Annual report |

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|                        |   |                                |
|------------------------|---|--------------------------------|
| <i>FinancialExpert</i> | Dummy variable coded 1 if at least one member of the board is an accounting expert, and 0 otherwise   | Annual report                  |
| <i>Education_AC</i>    | Proportion of directors with a financial education background in the audit committee  | Annual report                  |
| <i>Expert_AC</i>       | Proportion of audit committee members with a financial background or vocational experience as a CFO, financial manager, or fund manager   | Annual report                  |
| <i>Nr_meetings</i>     | Total number of meetings held by the audit committee  | Annual report                  |
| <i>Committee_size</i>  | Total number of directors on the audit committee  | Annual report                  |
| <b>Firm variables</b>  |   |                                |
| <i>Size</i>            | Natural logarithm of total assets   | S&P Capital IQ                 |
| <i>ROA</i>             | Earnings before interest and tax in year <i>t</i> , divided by the total assets at the end of year <i>t</i>   | S&P Capital IQ                 |
| <i>CFO_sd</i>          | Standard deviation of cash flow from operations, calculated over the previous five years  | S&P Capital IQ                 |
| <i>MB</i>              | Market-to-book ratio  | S&P Capital IQ                 |
| <i>Leverage</i>        | Total debt at the end of year <i>t</i> , divided by the total assets at the end of year <i>t</i>  | S&P Capital IQ                 |
| <i>Freefloat</i>       | Percentage of shares not held by large owners (5 % or more)   | S&P Capital IQ                 |
| <b>Audit variables</b> |   |                                |
| <i>AuditSize</i>       | Number of listed companies audited by each of the Big N or other audit firms  | Annual report                  |
| <i>JointPartner</i>    | Dummy variable coded 1 if the audit report is signed by two audit partners, and 0 otherwise   | Annual report                  |
| <i>PartnerAudit</i>    | Total number of audit reports signed by the audit partner yearly; In joint audits, we use the average value   | Annual report                  |
| <i>Expertise</i>       | Dummy variable coded 1 if the audit partner's market share exceeds 0.15, and 0 otherwise; this market share equals the yearly audit fees received from a client firm over the total audit fees in the industry in which the specific client is involved | Thomson Reuters; annual report |
| <i>Post</i>            | Time-dummy variable coded 1 for years 2016–2018 (post implementation of ISA 701), and 0 for years 2013–2015   |                                |
| <i>Year Effect</i>     | A set of year dummy variables each year in the sample period  |                                |
| <i>Industry Effect</i> | A set of industry (41 industry) dummy variables based on standardized industry classification (two digit SIC code)  |                                |

**Appendix B. . KAMs wordlist**

|              |                 |                 |               |                |               |               |                |              |               |
|--------------|-----------------|-----------------|---------------|----------------|---------------|---------------|----------------|--------------|---------------|
| ability      | balance         | concern         | different     | financial      | judgement     | obligations   | progress       | right        | test          |
| account      | balances        | condition       | disclosure    | financing      | judgements    | observable    | project        | rights       | testing       |
| accounts     | benefit         | conditions      | disclosures   | forecast       | judgment      | operating     | projected      | risk         | tests         |
| accrual      | benefits        | consideration   | discontinued  | forecasts      | judgmental    | operations    | projections    | risks        | time          |
| accruals     | biological      | considerations  | discount      | forwards       | land          | option        | projects       | rule         | timing        |
| accuracy     | bond            | construction    | discretionary | framework      | law           | options       | properties     | rules        | trade         |
| acquired     | bonds           | consumer        | disposal      | fraud          | lease         | orders        | property       | sale         | trademark     |
| acquisition  | bonus           | customers       | disputes      | fund           | leases        | pandemic      | provision      | sales        | trademarks    |
| acquisitions | bonuses         | contingency     | distribution  | funds          | leasing       | parameters    | provisions     | scenario     | trading       |
| actuarial    | brand           | contingencies   | division      | future         | legal         | parent        | purchase       | scenarios    | transaction   |
| adequacy     | brands          | contingent      | divisions     | goods          | liabilities   | payment       | rate           | scope        | transactions  |
| adoption     | building        | contract        | earnings      | goodwill       | liability     | payments      | rates          | securities   | transfer      |
| advance      | buildings       | contracts       | effect        | gross          | licence       | pension       | realisable     | security     | transferred   |
| advances     | calculate       | contractual     | effects       | growth         | license       | percentage    | realizable     | segment      | turnover      |
| advertising  | calculates      | control         | element       | guarantees     | licenses      | percentages   | receivable     | segments     | uncertainties |
| agreement    | calculated      | controls        | elements      | hedge          | life          | performance   | receivables    | settlement   | uncertainty   |
| agreements   | capital         | convertible     | employee      | hedging        | limited       | period        | recognised     | share        | unlisted      |
| allocated    | capitalised     | convertibles    | employees     | historical     | liquidity     | point         | recognized     | shares       | valuation     |
| allocation   | capitalization  | correct         | entities      | identifiable   | litigation    | points        | recoverability | site         | valuations    |
| allowance    | carryforward    | cost            | environment   | impact         | litigations   | policies      | recoverable    | sites        | value         |
| allowances   | carryforwards   | costs           | environmental | impaired       | loan          | policy        | recovery       | software     | valued        |
| amortised    | cash            | court           | equity        | impairment     | loans         | portfolio     | regulation     | solutions    | valuers       |
| amount       | change          | covid           | estimate      | impairments    | long          | possible      | regulations    | solvency     | values        |
| amounts      | changes         | credit          | estimated     | implementation | loss          | potential     | regulatory     | specific     | vehicles      |
| analysis     | charge          | credits         | estimates     | incentive      | macroeconomic | premiums      | reinsurance    | stock        | venture       |
| application  | charges         | currency        | estimating    | incentives     | maintenance   | present       | rental         | subjectivity | ventures      |
| applications | claim           | currencies      | evaluation    | income         | market        | presentation  | reporting      | subsidiaries | verified      |
| applied      | claims          | current         | evaluations   | incurred       | marketing     | previous      | required       | subsidiary   | vessel        |
| appraisers   | classification  | customer        | events        | indication     | markets       | price         | requirements   | sufficient   | vessels       |
| approach     | classifications | customers       | exchange      | indications    | material      | prices        | research       | supplier     | volume        |
| approaches   | client          | data            | exercise      | indicators     | materiality   | pricing       | reserves       | suppliers    | warranty      |
| arrangement  | clients         | date            | expectations  | infrastructure | matter        | probability   | residual       | supply       | warranties    |
| arrangements | collateral      | debt            | expenditure   | inherent       | matters       | probabilities | resolution     | system       |               |
| assess       | combination     | decommissioning | expenses      | input          | measure       | probable      | restoration    | systems      |               |
| assesses     | combinations    | default         | explanatory   | inputs         | measures      | procedure     | restructuring  | tangible     |               |
| assessment   | commercial      | delivery        | exploration   | instrument     | method        | procedures    | retail         | tangibles    |               |
| assessments  | commission      | depreciation    | exposure      | instruments    | methods       | proceeding    | retails        | tax          |               |
| asset        | commitment      | derivative      | exposures     | insurance      | methodologies | proceedings   | retirement     | taxable      |               |
| assets       | commitments     | derivatives     | facility      | intangible     | methods       | process       | return         | taxes        |               |
| associates   | compensation    | determination   | facilities    | intangibles    | misstatement  | processes     | returns        | technical    |               |
| assumption   | completion      | determined      | factor        | interest       | model         | product       | revaluation    | technique    |               |
| assumptions  | complex         | determining     | factors       | inventories    | models        | production    | revenue        | techniques   |               |
| authority    | complexity      | development     | fair          | inventory      | natural       | products      | revenues       | technology   |               |
| authorities  | complexities    | developments    | fee           | investigations | nature        | profit        | reversal       | technologies |               |
| available    | component       | difference      | fees          | investment     | New           | profitability | review         | temporary    |               |
| average      | components      | differences     | finance       | investments    | obligation    | profits       | reviewed       | terminal     |               |

## Appendix C. . Examples of companies with highest and lowest disclosure scores

We present examples of management disclosures with the five highest and five lowest disclosure scores ( $KAMWords_m$ ).  $KAMWords_m$  indicates the number of unique “KAM-related” words in disclosures using a “bag-of-words” approach. We consider KAM disclosure as the basis for identifying unique words because auditors describe risk of material misstatements in KAM disclosures. Hence, if management disclosures describe useful information regarding the risk, it should correspond with auditor disclosures.

The bag of words is made through several steps. First, we download European listed firms’ KAM disclosures (excluding Sweden) for the year 2016 to 2021 from Audit Analytics database. Second, we import the text to DICTION software to count the number of unique words; the results show 5,745 insistence words. DICTION defines insistence words as “High Frequency Words” that occur three or more times in a standard (500-word) passage.

Two authors review all insistence words that appeared at least 100 times in the whole sample (664 insistence words) to assess and select the most relevant words. We choose words that imply the *risk of material misstatements*, specifically *inherent risk factors* (“subjectivity,” “uncertainty,” and “complexity”) as defined in ISA 315. We also consider words related to KAM topics. Third, after independent assessments and selection of the relevant words by the two authors, one author identified 432 words and another author identified 367 words. A third author reviews the differences between the assessments to synthesize the final words or the bag-of-words. The final bag-of-words includes 447 unique risk related words.

In addition, we qualitatively assess six management disclosures with the highest and lowest  $KAMWords_m$  values to test the validity of our disclosure measure. We consider whether management disclosures indicate any uncertainty, complexity, or subjectivity (significant judgement) in general, and in the method, assumption, and data (three elements of management point estimates) that they used for the account’s estimation. Any sentence that we believe refers to the *risk of material misstatements* is in **bold** format in the table. Our assessment shows that three management disclosures with the highest scores include information that warns users about risks, while three management disclosures with the lowest scores fail to present considerable useful information.

### Examples of companies with highest and lowest disclosure scores (based on $KAMWords_m$ score)

**Company 1) AB Volvo (publ), annual report 2016, TotalItems<sub>m</sub> = 8, TotalWords = 2418,  $KAMWords_m$  = 649** Impairment of tangible assets If, at the balance-sheet date, there is any indication that a tangible asset has been impaired, the recoverable amount of the asset should be estimated. The recoverable amount is the higher of the asset’s net selling price and its value in use, estimated with reference to management’s projections of future cash flows. If the recoverable amount of the asset is less than the carrying amount, an impairment loss is recognized and the carrying amount of the asset is reduced to the recoverable amount. Determination of the recoverable amount is based upon management’s projections of future cash flows, which are generally made by use of internal business plans or forecasts. **While management believes that estimates of future cash flows are reasonable, different assumptions regarding such cash flows could materially affect valuations.** Impairment of goodwill and other intangible assets 20 years 10 years 3 to 8 years Intangible assets other than goodwill are amortized and depreciated over their useful lives. Useful lives are based on estimates of the period in which the assets will generate revenue. If, at the date of the financial statements, any indication exists that an intangible non-current asset has been impaired, the recoverable amount of the asset is calculated. The recoverable amount is the higher of the asset’s net selling price and its value in use, estimated with reference to management’s projections of future cash flows. If the recoverable amount of the asset is less than the carrying amount, an impairment is recognized and the carrying amount of the asset is reduced to the recoverable amount. Determination of the recoverable amount is based upon management’s projections of future cash flows, which are generally based on internal business plans or forecasts. **While management believes that estimates of future cash flows are reasonable, different assumptions regarding such cash flows could materially affect valuations.** The need for impairment of goodwill is determined on an annual basis, or more frequently if required through calculation of the value of the asset. Such an impairment review will require management to determine the fair value of the Volvo Group’s cash generating units, on the basis of projected cash flows and internal business plans and forecasts. **Surplus values differ between the operating segments and they are, to a varying degree, sensitive to changes in assumptions and the business environment.** The Volvo Group has performed similar impairment reviews since 2002. No impairment was recognized for the period 2002 until 2016. The goodwill related to planned divestments was revaluated in accordance with IFRS 5. Deferred taxes The Volvo Group recognizes valuation allowances for deferred tax assets where management does not expect such assets to be realized based upon current forecasts. In the event that actual results differ from these estimates or adjustments are made to future periods in these estimates, changes in the valuation allowance may be required. **This could have significant impact on the financial position and the income for the period.** The Volvo Group has substantial tax-loss carryforwards that are assessed as being probable to be utilized due to sufficient income generated in the coming years. The base for this assessment is possibilities to offset tax assets and tax liabilities and that a significant part of tax-loss carryforwards is related to countries with long or indefinite periods of utilization. In order to ensure the likelihood of utilization, business plans are used when relevant. Receivable The assessment of credit loss reserves on customer-financing receivables is dependent on estimates including assumptions regarding past dues, repossession rates and the recovery rate on the underlying collaterals. The impairment requirement is primarily evaluated for each respective asset. **If, based on objective grounds, it cannot be determined that one or more assets are subject to an impairment loss, the assets are grouped in units based, for example, on similar credit risks to evaluate the impairment loss requirement collectively.** This is in order to cover credit losses incurred but not yet individually identified in a larger population. Individually impaired assets or assets impaired during previous periods are not included when grouping assets for collective assessment. **If the conditions that gave rise to the recognition of an impairment loss later prove to no longer be valid the impairment loss is reversed in the income statement as long as the carrying amount does not exceed the amortized cost at the time of the reversal.** As of December 31, 2016, the total credit loss reserves in Financial Services amounted to 1.43 % (1.41) of the total credit portfolio in Financial Services. **This reserve ratio, which is used as an important measure for Financial Services, includes operating leases and inventory, whereas this note specifies the balance sheet item customer finance receivables for the Volvo Group and thereby excludes operating leases and inventory as they are recognized elsewhere in the balance sheet.** Inventory obsolescence If the net realizable value is lower than cost, a valuation allowance is established for inventory obsolescence. The total inventory value, net of inventory obsolescence allowance, was SEK 48,287 M (44,390) as of December 31, 2016. Pension Assumptions when calculating pensions and other post-employment benefits Provisions and costs for post-employment benefits, mainly pensions and health-care benefits, are dependent on assumptions used by actuaries when calculating such amounts. The appropriate assumptions and actuarial calculations are made separately for the respective countries of the Volvo Group’s operations which result in obligations for post-employment benefits. **The assumptions include discount rates, health care cost trends rates, inflation, salary growth, retirement rates, mortality rates and other factors. Healthcare cost trend assumptions are based on historical cost data, the near-term outlook and an assessment of likely long-term trends. Inflation assumptions are based on an evaluation of external market indicators. The salary growth assumptions reflect the historical trend, the near-term outlook and assumed inflation. Retirement and mortality rates are based primarily on officially available mortality statistics.** The actuarial assumptions are reviewed annually by the Volvo Group and modified when deemed appropriate. Revenue Buy-back agreements and residual value guarantees In certain cases, Volvo Group enters into a buy-back agreement or residual value guarantee after having sold the product to an independent party or in combination with an undertaking from the customer to purchase a new product in the event of a buy-back. **In such cases, there may be a question of judgement regarding whether or not significant risks and rewards of ownership have been transferred to the customer. If it is determined that such an assessment is incorrect, the Volvo Group’s recognized revenue and income for the period will decline and instead be distributed over several reporting periods.** OTHER PROVISIONS The uncertainties about the amount or timing of outflows vary for different kind of provisions. Regarding provisions for warranty, extended coverage, residual value risks and service contracts, the provisions are based on historical statistics and estimated future costs, why the provided amount has a higher correlation with the outflow of resources. **Regarding provisions for disputes, like tax and legal disputes, the uncertainty is higher.** Residual value risks In the course of its operations, the Volvo Group is exposed to residual value risks through operating lease agreements and sales combined with repurchase agreements. Residual value commitments amounted to SEK 25,822 M (22,585) as of December 31, 2016. Residual value risks are reflected in different ways in the Volvo Group’s consolidated financial statements depending on the extent to which the risk remains with the Volvo Group. In cases where significant risks pertaining to the product remain with the Volvo Group, the products, primarily trucks, are generally recognized in the balance sheet as assets under operating leases. Depreciation of these products is recognized on a straight-line basis over the term of the commitment and the depreciable amount is adjusted to correspond to estimated net realizable value at the end of the commitment. The estimated net realizable value of the products at the end of the commitment is monitored individually on a continuing basis. **A decline in prices for used**

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trucks and construction equipments may negatively affect the Volvo Group's operating income. High inventories in the truck industry and the construction equipment industry and low demand may have a negative impact on the prices of new and used trucks and construction equipments. In monitoring estimated net realizable value of each product under a residual value commitment, management makes considerations of current price-level of the used product model, value of options, mileage, condition, future price deterioration due to expected change of market conditions, alternative distribution channels, inventory lead-time, repair and reconditioning costs, handling costs and indirect costs associated with the sale of used products. Additional depreciations and estimated impairment losses are immediately recognized in the income statement. In cases where the products have been recognized as assets under operating leases, the residual value commitment agreed with the customer is recognized as current and non-current residual value liabilities. For contracts which have been financed by Financial Services the residual value liability is being eliminated on Group level and instead recognized as finance liability both in the Financial Services and Group Balance Sheet. Read more in Note 22 Liabilities about residual value liabilities. If the residual value risk commitment is not significant, independent from the sale transaction or in combination with a commitment from the customer to buy a new product in connection to a buy-back option, the asset is not recognized on the balance sheet. **Instead, the risk that the Volvo Group would have to dispose the used products at a loss is reported as a residual value provision.** To the extent the residual value exposure does not meet the definition of a provision, the gross exposure is reported as a contingent liability. For contracts which have been financed by Financial Services the residual value commitment is recognized as finance liability, hence no contingent liabilities are recognized for these contracts. Read more in Note 24 Contingent liabilities. Provision for product warranty Warranty provisions are estimated with consideration of historical claims statistics, the warranty period, the average time-lag between faults occurring and claims to the company and anticipated changes in quality indexes. Estimated costs for product warranties are recognized as cost of sales when the products are sold. Estimated warranty costs include contractual warranty and goodwill warranty (warranty cover in excess of contractual warranty or campaigns which is accepted as a matter of policy or normal practice in order to maintain a good business relation with the customer). **Differences between actual warranty claims and the estimated final claims cost generally affect the recognized expense and provisions in future periods.** Refunds from suppliers, that decrease the Volvo Group's warranty costs, are recognized to the extent these are considered to be certain. Provisions for extended coverage An extended coverage is a product insurance sold to a customer to cover a product according to specific conditions for an agreed period and/or content in addition to the factory contractual warranty. The provision is intended to cover the risk that the expected cost of providing services under the contract exceed the expected revenue. Provision for service contracts Service contracts offer the customer preventive maintenance according to an agreed service plan. The provision is intended to cover the risk that the expected cost of providing services and repairs under the contract exceeds the expected revenue. Legal proceedings Provisions for legal disputes are included within Other provisions in the table below. The Volvo Group recognizes obligations as provisions or other liabilities only in cases where the Volvo group has a present obligation from a past event, where a financial responsibility is probable and the Volvo Group can make a reliable estimate of the amount. **When these criteria are not met, a contingent liability may be recognized.** The Volvo Group regularly reviews the development of significant outstanding legal disputes in which the Volvo Group companies are parties, both regarding civil law and tax disputes, in order to assess the need for provisions and contingent liabilities in the financial statements. Among the factors that the Volvo Group considers in making decisions on provisions and contingent liabilities are the nature of the dispute, the amount claimed, the progress of the case, the opinions or views of legal counsels and other advisers, experience in similar cases, and any decision of the Volvo Group's management as to how the Volvo Group intends to handle the dispute. **The actual outcome of a legal dispute may deviate from the expected outcome of the dispute. The difference between actual and expected outcome of a dispute might materially affect future financial statements, with an adverse impact upon the Volvo Group's operating income, financial position and liquidity.** In January 2011, the Volvo Group and a number of other companies in the truck industry became part of an investigation by the European Commission regarding a possible violation of EU antitrust rules. On November 20, 2014, the European Commission issued a Statement of Objections stating its preliminary view that the Volvo Group and several other European Truck companies may have violated the European Competition rules. After an evaluation of the Statement of Objections, the Volvo Group decided to recognize a provision of EUR 400 M in the fourth quarter of 2014. An additional provision of EUR 250 M was recognized in the second quarter of 2016. The provisions impacted the Volvo Group's operating income in each of the respective quarters negatively with the same amount. In July 2016, the Volvo Group reached a settlement with the European Commission in the investigation. As part of the settlement, the Volvo Group paid a fine of EUR 670 M in the fourth quarter of 2016. The part of the amount not covered by the provisions already made (EUR 20 M) impacted the Volvo Group's operating income negatively in the third quarter of 2016. Read more in Note 24 Contingent liabilities. Provision for externally issued credit guarantees for Construction Equipment in China The provision for externally issued credit guarantees decreased during 2016. Read more in Note 8 Other operating income and expenses and Note 24 Contingent liabilities. Provisions in insurance operations Volvo Group has a captive insurance company and the provisions in insurance operations consist of the claims reserve related to third party claims addressed to companies within the Volvo Group. The claims reserve also includes a provision for unreported losses based on past experience. The unearned premium reserve is reported as an accrued expense within other current liabilities. Other provisions Other provisions mainly includes provisions for tax disputes, provisions for legal disputes, provisions for externally issued credit guarantees and other provisions, unless separately specified and commented in the table and text.

**Company 2) Telia Company AB, annual report 2016, Total Items<sub>m</sub> = 9, Total Words = 2221, KAM Words<sub>m</sub> = 597** Revenue recognition For a telecom operator, if and when revenue should be recognized requires management judgment in a number of cases. Principal or agent – gross versus net presentation When the group acts as a principal, income and payments to suppliers are reported on a gross basis in revenue and operating costs. If the group sells goods or services as an agent (mainly content services) revenue and payments to suppliers are recorded in revenue on a net basis, representing the margin/commission earned. **Whether the group is considered to be principal or agent in a transaction depends on analysis by management of both the legal form and substance of the agreement between the group and its business partners; such judgments impact the amount of reported revenue and operating expenses but do not impact net income or cash flows.** Features indicating that the group is acting as a principal include: responsibility for providing the goods or services and the group has latitude in establishing prices or provides additional goods and services. Features indicating that the group is acting as an agent include: the group does not have exposure to significant risks and rewards associated with the sale of goods or services or the amount the group earns is predetermined, being either a fixed fee per transaction or a stated percentage of the amount billed to the customer. Bundling of products and services In bundling of products and services, determining fair values and if or when revenue should be recognized requires management judgment. Revenue is allocated between the goods and services using relative fair values. **The fair values determined for goods or services may impact the timing of the recognition of revenue. Determining the fair value of each element can require complex estimates but is mainly based on expected cost plus a margin.** Income taxes Significant management judgment is required in determining current tax liabilities and assets as well as provisions for deferred tax liabilities and assets, in particular as regards valuation of deferred tax assets. As part of this process, income taxes have to be estimated in each of the jurisdictions in which Telia Company operates. **The process involves estimating the actual current tax exposure together with assessing temporary differences resulting from the different valuation of certain assets and liabilities in the financial statements and in the tax returns.** Management must also assess the probability that the deferred tax assets will be recovered from future taxable income. Actual results may differ from these estimates due to, among other factors, future changes in business environment, currently unknown changes in income tax legislation, or results from the final review of tax returns by tax authorities or by courts of law. For additional information on deferred tax assets and liabilities and their carrying values as of the end of the reporting period, see Note C10 "Income taxes." Valuation of intangible and other non-current assets Intangible assets, and property, plant and equipment represent a significant part of Telia Company's total assets. Useful lives Determination of the useful lives of asset classes involves taking into account historical trends and making assumptions related to future socio-economic and technological development and expected changes in market behavior. In 2016 and 2015, amortization, depreciation and impairment losses totaled SEK 11,533 million and SEK 12,780 million, respectively. For additional information on intangible and tangible assets subject to amortization and depreciation and their carrying values as of the end of the reporting period, see Note C12 "Goodwill and other intangible assets" and Note C13 "Property, plant and equipment." Impairment testing A number of significant assumptions and estimates are involved when measuring value in use and fair value less costs of disposal based on the expected future discounted cash flows attributable to an asset, for example with respect to factors such as market growth rates, revenue volumes, market prices for telecommunications services, costs to maintain and develop communications networks and working capital requirements. Forecasts of future cash flows are based on the best estimates of future revenues and operating expenses using historical trends, general market conditions, industry trends and forecasts and other available information. These assumptions are prepared by management and subject to review by the Audit Committee of the Board of Directors. The cash flow forecasts are discounted at the weighted average cost of capital for the relevant cash-generating unit. For Denmark the key assumptions on sales growth and EBITDA margin development in the forecasts are deviating from historical trends. For the forecast period Telia Company has clear and committed plans for sales initiatives, cost reductions and working capital improvements. **Despite firm business plans, there is a risk that forecasted performance for Denmark could be impacted by operational factors as well as external factors like WACC increase or unexpected market development affecting forecasted revenue which could result in an impairment loss.** For additional information on goodwill and its carrying value as of the end of the reporting period, see Note C12 "Goodwill and other intangible assets." Collectability of trade receivables Telia Company's allowance for doubtful receivables reflects estimated losses that result from the inability of customers to make required payments. Management determines the size of the allowance based on the likelihood of recoverability of accounts receivable taking into account actual losses in prior years and current collection trends. **Should economic or specific industry trends worsen compared to management estimates, the allowance may have to be increased, negatively impacting earnings.** See section "Credit risk management" in Note C26 "Financial risk management" for a

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description of how risks related to trade receivables are mitigated. For additional information on the allowance for doubtful receivables and its carrying value as of the end of the reporting period, see Note C17 "Trade and other receivables." Provisions for pensions and employment contracts The most significant assumptions that management has to make in connection with the actuarial calculation of pension obligations and pension expenses affects the discount rate, the expected annual adjustments to pensions, and the longevity. Changes in any of these key assumptions may have a significant impact on the projected benefit obligations, funding requirements and periodic pension cost. For additional information on assumptions made, sensitivity analysis related to change in assumptions and pension obligations and their present values as of the end of the reporting period, see Note C21 "Provisions for pensions and employment contracts." Provisions for restructuring activities, contingent liabilities and litigation Telia Company has engaged, and may in the future need to engage, in restructuring activities, which require management to make significant estimates related to expenses for severance and other employee termination costs, lease cancellation, site dismantling and other exit costs and to realizable values of assets made redundant or obsolete (see section "Valuation of intangible and other non-current assets" above). Should the actual amounts differ from these estimates, future results could be materially impacted. Determination of the treatment of contingent assets and liabilities in the financial statements is based on management's view of the expected outcome of the applicable contingency. Management consults with legal counsel on matters related to litigation and other experts both within and outside the company with respect to matters in the ordinary course of business. There are ongoing investigations in Sweden, the Netherlands and the US regarding Telia Company's operations in Uzbekistan and suspected irregularities related to those and to the market entry into Uzbekistan. As announced on September 15, 2016, Telia Company received a proposal from the authorities for resolution of the pending investigations. The authorities have proposed a global resolution that includes a total financial sanction of USD 1.45 billion. Without certainty as to the timing and amount that may be paid at the time of a final resolution, Telia Company has recorded a USD 1.45 billion (SEK 13.2 billion) provision at the balance sheet date. For more information on these investigations, see Note C34 "Discontinued operations and assets classified as held for sale" and "Risks and uncertainties" section "Review of Eurasian transactions." For additional information on restructuring provisions, including their carrying values as of the end of the reporting period, and on contingencies and litigation, see Notes C22 "Other provisions" and C29 "Contingencies, other contractual obligations and litigation," respectively. Classification as held for sale and discontinued operations Non-current assets and disposal groups are classified as held-for-sale if their carrying value will be recovered principally through a sale transaction rather than through continuing use. The determination if and when non-current assets and disposal groups should be classified as held-for-sale requires management judgment considering all facts and circumstances relating to the transaction, the parties and the market and entities can come to different conclusions under IFRS. One of the conditions that must be satisfied for classification as held for sale is that the sale is highly probable within one year. One criteria for the sale to qualify as highly probable is that the appropriate level of management must be committed to a plan to sell the assets or disposal group in its present condition. In the telecom industry acquisitions often require regulatory approval. If the buyer is a telecom operator in the same market entities often have to agree to a number of remedies to get the approval. If the buyer is expected to be a telecom operator in the same market and significant remedies are expected, a sale is usually not regarded as highly probable and consequently the assets are not classified as held for sale by Telia Company, until the remedies are agreed upon and accepted by management. Former segment region Eurasia is classified as held for sale and discontinued operations since December 31, 2015. Telia Company is still committed to the plan to divest the remaining parts of Eurasia and the delay during 2016 in the sales process was caused by events and circumstances beyond Telia Company's control. The remaining Eurasian parts are available for immediate sale and divestment of these units are deemed highly probable within one year. Due to the specific circumstances in each market and the complex owner structures there is some uncertainty relating to the timing of the divestment of Eurasia. See Note C34 "Discontinued operations and assets classified as held for sale" and "Risks and uncertainties" for more information on discontinued operations and risks that may affect the timing of divestment. Fair value estimates – discontinued operations In accordance with IFRS 5, the discontinued operations are measured at the lower of carrying value and estimated fair value less costs to sell. The valuation is based on an overall assessment of the input from the sales process and the Annual and Sustainability Report 2016 risks in the different countries. Fair value is the price that would be received to sell the discontinued operations in an orderly transaction between market participants at the measurement date under current market conditions. There are no directly observable prices for Telia Company's discontinued operations and fair values have therefore been estimated using other valuation techniques which require the use of judgement. For the Eurasian operations the estimated fair values are based on agreed sales prices, indicative bids received, valuation discussions with potential buyers and for Uzbekistan the combined results of different valuation models. Apart from the normal business risks, there are a number of specific risks related to the valuation of the different Eurasian operations such as cash repatriation issues, foreign exchange risks, unstable regulatory environment, owner structure and finding the right buyer from a sustainability point of view. Given the lack of precedents and factual evidence, it is difficult to quantify the valuation impact of all such risks. Any potential discount, moreover, will be highly subject to the specific views of an interested buyer. The specific risks of each country have also been factored in to the fair value estimates. See Note C34 "Discontinued operations and assets classified as held for sale" and "Risks and uncertainties" for more information on discontinued operations and risks that may affect the estimated fair values. Unquoted equity instruments Unquoted equity instruments are measured at fair value with fair value changes recognized in other comprehensive income. Telia Company's primary valuation technique for unquoted equity instruments is based on the most recent transaction for the specific company if such transaction has been recently done. Adjustments to the carrying value is made to reflect significant changes in circumstances since the transaction date if Telia Company assess that the change will have a material impact on the fair value. The estimated fair value for material unquoted equity instruments is verified by applying other valuation models in the form of valuation multiples from peers on relevant financial and operational metrics. Although Telia Company uses its best judgement, and cross references results of the primary valuation model against other models in estimating the fair value of unlisted equity instruments, there are inherent limitations in any estimation techniques. The fair value estimates presented herein are not necessarily indicative of an amount that Telia Company could realize in a current transaction. Future confirming events will also affect the estimates of fair value. The effect of such events on the estimates of fair value could be material. Unlisted equity instruments for which the fair value cannot be reliably measured are measured at cost less any impairment. For information on unquoted equity instruments, see section "Fair value measurement of Level 3 financial instruments" in C25 "Financial assets and liabilities by category and level."

**Company 3) Telefonaktiebolaget LM Ericsson (publ), annual report 2018, TotalItems<sub>m</sub> = 8, TotalWords = 1092, KAMWords<sub>m</sub> = 523** Revenue recognition The Company uses estimates and judgments in determining the amount and timing of revenue under IFRS 15, "Revenue from Contracts with Customers", particularly when determining the transaction price and its allocation to performance obligations identified under the contract. Transaction price may consist of variable elements such as discounts, performance related price and contract penalties. Transaction price, including variable considerations, is estimated at the commencement of the contract (and periodically thereafter). Judgment is used in the estimation process based on historical experience with the type of business and customer. IFRS 15 also requires revenue to be allocated to each performance obligations by reference to their standalone selling prices. The Company considers that an adjusted market assessment approach should be used to estimate stand-alone selling prices for its products and services for the purposes of allocating transaction price. These estimates are comprised of prices set for similar customer and circumstances, adjusted to reflect appropriate profit margins for the market. Estimates are used to determine discounts that relate specifically to each performance obligations, thus impacting their stand-alone selling prices. Judgments made in relation to accounting policies applied Management applies judgment when assessing the customer's ability and intention to pay in a contract. The assessment is based on the latest customer credit standing and the customer's past payment history. This assessment may change during the contract execution, and if there is evidence of deterioration in the customer's ability or intention to pay, then under IFRS 15 no further revenue shall be recognized until the collectability criteria is met. Conversely, this assessment may also change favorably over time, upon which revenue shall now be recognized on a contract that did not initially meet the collectability criteria. Revenue for standard products shall be recognised when control over the equipment is transferred to the customer at a point in time. This assessment shall be viewed from a customer's perspective considering indicators such as transfer of titles and risks, customer acceptance, physical possession, and billing rights. Judgment may be applied in determining whether risk and rewards have been transferred to the customer and whether the customer has accepted the products. In a sale of software licence, judgment may also be applied to determine when the software is made available to the customer by considering when they can direct the use of, and obtain substantially all the benefits of, the licence. Often all indicators of transfer of control are assessed together and an overall judgment formed as to when transfer of control has occurred in a customer contract. Revenue for customised solutions shall be recognized over time if progress of completion can be reliably measured and enforceable right to payment exists over the duration of the contract. The progress of completion is estimated by reference to the output delivered such as achievement of contract milestones and customer acceptance. Judgment are applied when determining the appropriate revenue milestones that best reflect the progress of completion and are aligned with key acceptance stages within the contract. Customer contract related balances The Company monitors the financial stability of its customers, the environments in which they operate and historical credit losses. This is combined with expectations of future economic conditions to calculate expected credit losses (ECLs). ECLs on trade receivables and contract assets are assessed using a provision matrix based on days past due for groupings of customers that have historically had similar loss patterns. The amount of ECLs is sensitive to changes in the circumstances of our customers and the environments in which they operate as well as management's expectations of future economic conditions. Actual credit losses may be higher or lower than expected. Total allowances for expected credit losses as of December 31, 2018 were SEK 4.1 billion or 6.0 % of gross trade receivables and contract assets. For further detailed information see Note F1, "Financial risk management". Customer financing assets are valued at fair value on an individual basis. When market pricing is not available, an internal valuation model is applied considering external credit rating, political and commercial risks and bank pricing. Regular monitoring of

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customer behavior is also a part of the internal assessment. The Company monitors the financial stability of its customers and the environment in which they operate to make estimates regarding the likelihood that the individual receivables will be paid. **Total allowances for estimated losses as of December 31, 2017, were SEK 3.6 billion or 5.3 % of gross trade and customer finance receivables.** For further detailed information, see Note F1, "Financial risk management." Credit risks for outstanding customer finance credits are regularly assessed as well, and allowances are recorded for estimated losses. Inventory valuation Inventories are valued at the lower of cost and net realizable value. Estimates are required in relation to forecasted sales volumes and inventory balances. **In situations where excess inventory balances are identified, estimates of net realizable values for the excess volumes are made. Inventory allowances for estimated losses as of December 31, 2018, amounted to SEK 2.6 (2.4) billion or 8 % (9 %) of gross inventory.** For further detailed information, see Note B5, "Inventories." Acquired intellectual property rights and other intangible assets, including goodwill At initial recognition, future cash flows are estimated, to ensure that the initial carrying values do not exceed the expected discounted cash flows for the items of this type of assets. After initial recognition, impairment testing is performed whenever there is an indication of impairment, in addition goodwill impairment testing is performed at least once per year. **Negative deviations in actual cash flows compared to estimated cash flows as well as new estimates that indicate lower future cash flows might result in recognition of impairment charges.** As disclosed in Note C1, "Intangible assets" **impairment has been recognized due to changes during 2018 in the accounting estimates for future cash flows.** Write-downs for intangible assets and goodwill amounted to SEK 0.5 (17.2) billion for 2018. At December 31, 2018, the amount of acquired intellectual property rights and other intangible assets amounted to SEK 33.5 (32.0) billion, including goodwill of SEK 30.0 (27.8) billion. For further discussion on goodwill, see Note A1, "Significant accounting policies". **Estimates related to acquired intangible assets are based on similar assumptions and risks as for goodwill.** For more information, see Note C1, "Intangible assets." Judgments made in relation to accounting policies applied At initial recognition and subsequent remeasurement, management judgments are made, both for key assumptions and regarding impairment indicators. In the purchase price allocation made for each acquisition, the purchase price shall be assigned to the identifiable assets, liabilities and contingent liabilities based on fair values for these assets. Any remaining excess value is reported as goodwill. **This allocation requires management judgment as well as the definition of cash-generating units for impairment testing purposes. Other judgments might result in significantly different results and financial position in the future.** Provisions Provisions are mainly related to estimates for onerous contracts with customers and suppliers. Onerous customer contract provision includes estimate of costs to be incurred based on the latest conditions and progress on the contract. **Assumptions on the probable outcomes of revenue and costs, which may include costs of potential compensation or penalties on exit, are revised regularly based on latest available information and the provision remeasured accordingly. Other sources for estimation uncertainty are restructuring program execution, patent and other litigations as well as for unresolved income tax and value added tax issues.** As commented above in the initial part of this note the amounts may come to differ due to future reassessments and outcomes. As disclosed in Note D1, "Provisions" **provisions have been recognized due to significant changes during 2018 and 2017 in the accounting estimates for customer contracts resulting in identification of onerous contracts.** At December 31, 2018, provisions amounted to SEK 16.0 (9.9) billion. For further detailed information, see Note D1, "Provisions." Judgments made in relation to accounting policies applied Whether a present obligation is probable or not requires judgment. **The nature and type of risks for these provisions differ and management's judgment is applied regarding the nature and extent of obligations in deciding if an outflow of resources is probable or not.** Contingent liabilities As disclosed under 'Provisions' there are uncertainties in the estimated amounts. The same type of uncertainty exists for contingent liabilities. Judgments made in relation to accounting policies applied As disclosed under Note A1, "Significant accounting policies" a potential obligation that is not likely to result in an economic outflow is classified as a contingent liability, with no impact on the Company's financial statements. **However, should an obligation in a later period be deemed to be probable, then a provision shall be recognized, impacting the financial statements.** Foreign exchange risks Foreign exchange risk impacts the financial results of the Company, see further disclosure in Note F1, "Financial risk management," under Foreign exchange risk. Pension and other post-employment benefits Accounting for the costs of defined benefit pension plans and other applicable post-employment benefits is based on actuarial valuations, relying on key estimates for discount rates, future salary increases, employee turnover rates and mortality tables. The discount rate assumptions are based on rates for high-quality fixed-income investments with durations as close as possible to the Company's pension plans. In countries where there is not a deep market in high-quality corporate bonds, the market yields on government bonds shall be applied. **Judgment is applied in determining the deepness of the high-quality corporate bond market in each country. The impact of applying an alternative discount rate based on Swedish covered bonds is disclosed in Note G1, "Post-employment benefits."** At December 31, 2018, defined benefit obligations for pensions and other post-employment benefits amounted to SEK 90.3 (87.6) billion and fair value of plan assets to SEK 64.3 (64.9) billion. For more information on estimates and assumptions, see Note G1, "Post-employment benefits." Deferred taxes Deferred tax assets and liabilities are recognized for temporary differences and for tax loss carry-forwards. Deferred tax is recognized net of valuation allowances. The valuation of temporary differences and tax loss carry-forwards, is based on management's estimates of future taxable profits in different tax jurisdictions against which the temporary differences and loss carry-forwards may be utilized. **The largest amounts of tax loss carry-forwards are reported in Sweden, with an indefinite period of utilization (i.e. with no expiry date), except for withholding taxes that expires after five years.** For further information, see Note H1, "Taxes." At December 31, 2018, the value of deferred tax assets amounted to SEK 23.2 (22.0) billion. The deferred tax assets related to loss carry-forwards are reported as non-current assets. Accounting for income tax, value added tax, and other taxes Accounting for these items is based upon evaluation of income, value added and other tax rules in all jurisdictions where the Company performs activities. **The total complexity of rules related to taxes and the accounting for these require management's involvement in judgments regarding classification of transactions and in estimates of probable outcomes of claimed deductions and/or disputes.**

**Company 4) eWork Group AB (publ), annual report 2016, TotalItems<sub>m</sub> = 0, TotalWords = 30, KAMWords<sub>m</sub> = 3** Management has not identified any areas where it believes there is a significant risk that the Group would suffer a negative adjustment of carrying amounts in the coming financial year.

**Company 5) Indutrade AB (publ), annual report 2018, TotalItems<sub>m</sub> = 2, TotalWords = 69, KAMWords<sub>m</sub> = 12** The Group makes estimations and assumptions about the future. By definition, the estimations for accounting purposes that are a consequence of these rarely match the actual outcome. This applies primarily for the need to recognise impairment of goodwill and defined benefit pension obligations. Assumptions and estimations are evaluated continuously and are based on historical experience and anticipations of future events that are considered to be reasonable under prevailing conditions.

**Company 6) MQ Holding AB, annual report 2017, TotalItems<sub>m</sub> = 2, TotalWords = 57, KAMWords<sub>m</sub> = 14** Write-down review of goodwill and brands When calculating the cash-generating units' recoverable value in order to assess any write-down requirement on goodwill and brands, several assumptions about future conditions and estimates of parameters were made. These are outlined in Note 14. As is evident from the description in Note 14, the write-down review did not indicate any write-down requirement.

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