

Determinants of Disclosing Key Audit Matters in Japan: Early evidence in audit reports 2021

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I. Introduction

Japan fully implemented the rules for disclosing key audit matters (KAMs) in audit reports in 2021, in line with the global trend of enhancing audit reports against the homogenized traditional style. This study is the first to explore the factors influencing KAM determination in Japan, and focuses on the following three principal aspects: audit-firm characteristics, financial indicators, and corporate governance.

This study regards that the determinants of KAM disclosures are broadly classified as follows: (1) audit firm characteristics and (2) client characteristics. Regarding the audit firm's characteristics, this study focuses on the size of the audit firms and audit fees. The characteristics of the clients are as follows: a) company size and business complexity, b) performance and financial indicators, c) number of accounting estimation items on the balance sheet and negative special items, and d) corporate governance. The analysis results indicate that the size of the audit firm, audit fees, performance deterioration, size of the client firm, business complexity, accounting for estimation items on the balance sheet and negative special items, and efficiency of corporate governance are determining factors. This study primarily contributes to

the global discussion on KAM disclosures in the newest style of audit reports, by providing the first empirical results from Japan, a financially active country.

The aim of introducing KAMs is to provide information on the work performed by auditors, that is, to improve the communication of the auditor's report with its users. The International Auditing and Assurance Standards Board (IAASB) published the International Auditing and Assurance Standards (ISA) 701 "Communication of Key Audit Matters (KAMs)" in 2015 (IAASB, 2015). Following this global trend, Japanese standard-setters revised their audit reports to include KAMs. This revision was intended to enhance the content of audit reports by expanding the explanation and information provision regarding audits to users of financial statements. KAM disclosure rules in Japan have been formally applied since the fiscal year ending March 2021, under Japan's Financial Instruments and Exchange Act. Additionally, voluntary application of KAM disclosures for the fiscal year ending March 2020 are allowed in Japan. The format of traditional audit reports is so standardized that most valuable information is not provided. The setters of international standards have shown that traditional audit report formats are useless for users (IAASB, 2015; Public Company Accounting Oversight Board (PCAOB), 2016). In response to this criticism, the International Standards on Auditors decided to strengthen their audit reports by asking listed companies to include KAMs or important audit items in the U.S. (critical audit matters (CAMs)). According to the revised auditing standards in Japan, KAMs are issues that auditors pay particular attention to during the audit process. This is remarkably important for professional experts participating in the audit of financial statements, under the condition that they discuss it with the audit and supervisory board (or audit committee). As KAMs are determined through many aspects and processes among clients, auditors, and governance, previous studies have attempted to reveal the elements of KAM

determination and disclosure. Sierra-García et al. (2019) discovered that auditor and client characteristics are determinants of the number and type of KAMs disclosed in the audit report. They also insist that companies paying higher audit service fees offer more entity-level risk KAMs and fewer account-level risk KAMs.

Pinto and Morais (2019) discovered that in European countries, the number of KAMs disclosed is associated with many business segments (complexities) and more accurate accounting standards, whereas companies in the financial sector and profitable companies are inactive in disclosing KAMs. Ferreira and Morais (2020) indicated that the number of KAMs disclosed by Brazilian companies has a positive relationship with the Big Four audit firms and complexity of the audited company. However, changes in auditor fees and opinions have a negative relationship with the number of KAMs. Velte (2018, 2020) investigated the relationship between corporate governance mechanisms and KAM disclosures in the UK and discovered that KAM readability is positively associated with the proportion of female audit committee members and the financial and industry expertise of the audit committee. Wuttichindanon and Issarawornrawanich (2020) and Suttipun (2021) investigated the determinants of KAM reporting in Thailand. Wuttichindanon and Issarawornrawanich (2020) proved that companies audited by the Big Four audit firms, companies with many subsidiaries, companies in certain industries, and companies with many independent directors disclose numerous KAMs. Conversely, profitable companies tend to disclose fewer KAMs. Suttipun (2021) also found that the level of KAM reporting differs significantly between audit and non-audit rotations.

Moreover, entity size and complexity have a significant positive impact on the level of KAM reporting, whereas profitability negatively influences the level of KAM reports. Previous studies have shown that various factors influence the KAM report, which is generally summarized using the following three aspects: audit firm

characteristics, client characteristics, and corporate governance. Following previous studies, this study reveals the determinants of KAM disclosures and is the first to provide evidence of empirical research from Japan, where the rules of KAM disclosure were officially implemented in 2021.

This study aims to clarify the determinants of KAM disclosure using data from 2021 when the KAM rule was officially introduced in Japan. This study is the first paper to provide international evidence of the full implementation of KAM in Japan, an economically developed country. This study sets the number of disclosed KAMs and the number of KAMs described for disclosed KAMs as dependent variables. The determinants of KAM disclosure in this research can be roughly divided into (1) characteristics of audit firms and (2) characteristics of customers. Regarding the characteristics of audit firms, this research focuses on the size of audit firms and audit fees. Client characteristics are a) company size and business complexity, b) performance and financial metrics, c) accounting estimates and negative special items on the balance sheet, and d) corporate governance. As a result of the analysis, the determining factors are the size of the audit firm, audit fees, performance deterioration, client size, operational complexity, accounting estimates or negative special items on the balance sheet, and the efficiency of corporate governance. I understand. The contributions of this study are: First, it contributes significantly to the first internationally presented evidence of his empirical study on the introduction of KAM in Japan. Presenting research findings using a Japanese sample could contribute to the international debate on KAM by demonstrating the impact of the international introduction of innovative audit report styles that include firm-specific information. Second, KAM disclosure is not uniform and the factors that contribute to KAM disclosure are complex and not yet understood. In this study, by adopting changes in audit fees before and after the introduction of the KAM system, it is

possible to analyze the impact on audit fees and capture how the increase in audit fees affects KAM disclosure. In addition, this investigation focused on the size of the audit firm and analyzed the determinants by dividing the sample according to the size of the audit. Furthermore, this study focuses on the relationship between his reported KAM, accounting estimates on the balance sheet, and negative special items, and presents a unique perspective not found in previous studies. In recent years, the effectiveness of corporate governance has come to the fore as a determinant, with new evidence emerging on the impact of female board representation on audit quality.

II. Background

Traditional audit report formats are formalized and standardized; thus, little valuable information is provided, as international standard setters indicate that traditional audit report formats are not useful to users (IAASB, 2015; PCAOB, 2016). Therefore, despite the possible choices for audit opinions, traditional audit reports have been criticized for lacking company-specific information from an insider position, such as that of an auditor. They only show the judgment of the audit opinion, which is either pass or fail. This fosters expectation gaps between auditors and investors, regulators, and other stakeholders in audit reports. Unless the expectation gap between stakeholders and auditors is resolved, public trust in the audit system will decline. Under such conditions, countries have begun to dissent the reform direction of financial statements and international audit standard-setters have decided to enhance auditors' reports by asking listed firms to include KAMs, or CAMs in the U.S.

In 2015, the IAASB announced a revised series of auditing standards. The

IAASB (2015) published communication regarding ISA 701 – KAMs, which are, in the auditor’s professional judgment, of most significance in the audit of the financial statements in the current period. KAMs are selected from matters communicated with those charged with governance. KAMs are implemented to provide information about auditors’ performance, to improve the auditor’s report and communication with users. The introduction of KAMs brought effectively audited financial statements for periods ending December 31, 2016. The auditor should describe each KAM and include analysis methods in a new section of the audit report titled “Key Audit Matters” (IAASB, 2015). According to the IAASB (2015), KAMs will result in a less standardized audit report, conveying specific information about the company and providing transparency.

Following global trends, the corporate accounting council in Japan revised the format of audit reports to include KAMs in 2018. This revision enhanced the audit report content by magnifying the explanation and information provision regarding audits to users of financial statements. The mandatory disclosure of KAMs in Japan has been officially implemented since the fiscal year ending March 2021, under Japan’s Financial Instruments and Exchange Act. Additionally, voluntary application of KAM disclosures after the fiscal year ending March 2020, is acceptable in Japan. In ISA 701, material audit items are those that are considered most important by the auditors while auditing financial statements at the discretion of an expert. However, according to Japanese auditing standards, corporate auditors inside the company should be consulted. KAMs are determined as issues that auditors pay particular attention to during the audit process. This is remarkably important for professional experts performing audits of financial statements under the condition that they are discussed with the supervisory board members (or audit committee). According to the revised auditing standards, including KAMs in an audit report improves the

transparency of audits, increasing the information value and reliability of audits. This aids the users of audited financial statements and deepens their understanding. KAM disclosures are expected to alleviate some of the information asymmetries between the management and users of financial statements, closing the expectation gap (Fuller, 2015; Ratzinger-Sakel and Theis, 2019). Additionally, further enhancement in communication with corporate auditors and discussions with management should strengthen corporate governance and effective auditing practices (IAS 701, par. 3, A61). As an innovative new audit report style, KAM disclosures began officially in 2021 in Japan. The breakup of KAM disclosures should be compared with that of the western and other countries already disclosing KAMs in practice. Moreover, as KAMs can enhance corporate governance, the relationship between the firm's structure, including financial situation, content of KAMs, and scale of audit firms in Japan should be clarified because the characteristics of the auditor (audit firm) also influence the scope and nature of KAM disclosures in addition to company characteristics (Sierra-Garcia et al., 2019). Given that Japan recently began implementing the KAMs rule, no empirical research has been conducted on KAM disclosures in Japan. Therefore, this study is the first to provide empirical evidence about the implementation of the KAMs system, clarify the determinants of KAM disclosures, and contribute to the worldwide discussion on the KAMs audit practice.

III. Previous studies

Based on previous studies, KAMs reports are influenced by various factors, indicating a significant relationship between the characteristics of audit firms and reported KAMs. First, regardless of the size of audit firms, the new KAM disclosure rule is likely to be accompanied by an increase in audit fees, because it requires an

additional the amount of audit work. Therefore, the number of KAM disclosures can influence audit fees. Li et al. (2019) proved that the introduction of new audit reports increases audit fees, improving the quality of financial reporting. The application of KAMs is expected to increase the amount of audit work, which may also increase audit fees (Carcello and Li, 2013; Bédard et al., 2019; Pinto and Morais, 2019; Almulla and Bradbury, 2019; Sierra-Garcia et al., 2019; Chen et al., 2020). Reid et al. (2019) and Gutierrez et al. (2018) indicated no significant changes in audit fees or delays associated with the implementation of the new reporting system. Ferreira and Morais (2020) also indicated that auditors' fees have a negative relationship with the number of KAMs. Thus, previous studies do not necessarily provide evidence that the introduction of KAMs is accompanied by an increase in audit fees. Therefore, this study investigates whether differences in the size of audit firms influence the increase in audit fees associated with the introduction of KAMs, by splitting the sample into Big Four and non-Big Four audit firms in the Japanese context.

Second, the size of the audit firm might influence KAMs reporting. This is based on the difference in audit quality and risks faced by audit firms. Disclosing KAMs communicates the auditing process, previously regarded as a black box, to external financial statement users. Although increasing the amount of information is beneficial to the user, there is also the risk of disclosing confidential information to outsiders. Thus, hesitation is reasonable from the perspective of the auditor's responsibility. This is because KAM disclosures can put the auditors at risk. Therefore, the difference in risks (litigation risk) faced by the audit firm, owing to the size of the audit firms, is also expected to influence the positivity of KAM disclosures and content. The larger the size of an audit firm, the higher the quality of audits, owing to sufficient audit resources. Given that active KAM disclosures represent high-quality audits, the higher the quality of audits, the greater the KAM

disclosures. Regarding the relationship between the size of the audit firm and quality of the audit, larger audit firms are expected to willingly disclose KAMs (Kend and Nguyen, 2021; Sierra-García et al., 2019; Wuttichindanon and Issarawornrawanich, 2020). Therefore, the scope of audit firms causes differences in audit quality, which may influence the disclosure of KAMs. The Big Four audit firms act as a monitoring mechanism to assure the quality of financial reports (Fan and Wong, 2005). Previous studies have shown that the introduction of KAMs reporting influences (or improves) the quality of audits (Teucher and Ratzinger-Sakel, 2022; Zeng et al., 2021; Reid et al., 2019). This study investigates how differences in audit quality are affected by differences in the size of audit firms and influence KAM disclosures.

Third, many studies have reported that topics related to accounting items are selected as KAMs. Accordingly, the main audit items most frequently disclosed in audit reports are those related to revenue recognition and accounting estimates. Particularly, KAM reports on impaired fixed assets, including goodwill, are prominent. Other high-frequency KAMs include allowances for doubtful accounts, taxation, investments, financial instruments, and inventory valuations. Therefore, KAM reports are strongly associated with accounting items or economic situations, which is an interesting research subject and determinant. Timely disclosure of KAMs in response to more relevant accounting items and economic conditions indicates the provision of more useful and supplementary information. Pinto and Morais (2019) stated that highly profitable firms tend not to disclose KAMs. Similarly, Limaporn et al. (2019), Velte (2020), Muttanachai (2020), and Suttipun and Swatdikun (2021) also revealed that the words in KAMs reporting are negatively related to financial performance. These results indicate that KAMs are disclosed on time to signal poor performance, providing the opportunity for users to pay attention. Excluding income performance, no previous KAMs studies have focused on consistency within

accounting items. This study clarifies the relationship between financial indicators and top-ranked KAMs topics by comparing the scale of audit firms.

Finally, the KAM disclosure decision involves communication with internal managers and supervisors, and must be influenced by the effectiveness of corporate governance (Velte, 2018, 2020; Suttipun and Swatdikun, 2021). Therefore, the ISA 701 stipulates communication with those in charge of corporate governance. This communication regarding KAMs informs the auditors of the risks to be disclosed, and the management or governance personnel discuss whether to disclose it in the audit report. This study clarifies the relationship between corporate governance and KAM disclosures.

IV. Hypothesis development

First, in this study, we set “the number of KAMs” to be surveyed by the primal indicators, as a measurable criterion to judge the pertinence of KAM disclosures following previous studies (Sierra-García et al., 2019; Pinto and Morais, 2019; Ferreira and Morais, 2020; Wuttichindanon and Issarawornrawanich, 2020; Suttipun, 2020). The number of KAMs, as a dependent variable, is commonly used in most previous studies, whereas some consider the level of KAMs, which is the number of words in KAMs (Ferreira and Morais, 2020; Wuttichindanon and Issarawornrawanich, 2020; Suttipun, 2020). In this study, we consider the number of KAMs and word counts as dependent variables to explore the determinants of KAM disclosures, which enables us to capture robust results.

Next, an important factor in exploring the determinants of KAM disclosures is to consider the first process to be determined using KAMs. According to ISA 701, material audit items are those considered by the auditor to be most important in

auditing financial statements at the discretion of an expert. Under Japanese auditing standards, a consultation with corporate auditors inside the company is required. Therefore, KAMs are determined as issues of importance during the audit process, assuming that they are discussed among the supervisory board members (or audit committee) as a part of corporate governance. Based on this definition, the determination of KAMs mainly depends on client risk, auditors' decisions, and communication between corporate auditors and members of corporate governance. Therefore, KAM disclosures are primarily determined by three factors. The first aspect, which stems from the client, is the financial complexities and risk of material misstatement that charges auditors with more work. The second is auditors' matters based on their decisions, constrained by the auditing environment. The third is corporate governance, which is also part of a client's characteristics, including the function of the audit committee. This study anticipates that these aspects will influence the determinants of KAM disclosures.

The decisions on the disclosure of KAMs are a matter for auditors, but the financial risks to be covered by KAMs are decided by the client. The absence of business risk reduces the necessity of disclosing KAMs. The financial risks stemming from clients are influenced by the business structure and financial positions. The directors of the client firm are responsible for disclosing these risks through their financial statements. Therefore, the function of directors (or director committee) and effectiveness of corporate governance are highly significant prerequisites of KAM disclosures, apart from auditor characteristics. The determinants of financial risks are the potential targets of the KAMs to be disclosed. They include the business structure, financial positions, and corporate governance. The function of corporate auditors within a company is the inter-act effectiveness of corporate governance. KAMs are predominantly determined based on the following three elements: auditors, financial indicators, and corporate governance.

1. Auditor characteristics

Auditors are entirely responsible for deciding which matters are the most relevant in the period analyzed (Dogan and Arefaine, 2017). Therefore, the auditor is required to make many professional judgments about which items should be selected as KAMs, and the judgments should never be formal and uniform. Reid et al. (2019) provide evidence that audit practices may be influenced by the number of KAM disclosures. Disclosures by auditors facilitate the likelihood that management will adopt more acceptable accounting practices, and auditors may feel more accountable for their work and perform better. Additionally, KAM reporting should be constrained because audits are conducted using limited personnel and time. The selection of many items as KAMs does not necessarily reduce the liability of the auditor. From the perspective of audit professionals, it is necessary to choose how to provide useful information to investors under limited conditions (ISA 701). If the amount of audit work increases, it should be accompanied by additional compensation. If auditors cannot get paid for additional work, they may hesitate to choose KAMs because of total optimization. Therefore, the choice of KAM can be determined by the auditor's workload and quality. Overall, what influences the decision and choice of KAMs is based on the audit quality and balance between auditors' fees and productivity. A correlation has been pointed out between audit fees and audit quality in previous research. If the introduction of KAM increases audit fees, it can be assumed that the KAMs disclosed will also increase. Li et al. (2019) report that the introduction of new and revised audit standards improves the quality of audits, resulting in a significant increase in audit fees.

H1a: If the audit fee is high, the number of KAM disclosures increases.

The Big Four audit firms provide better-quality audits that are more credible than those by non-Big Four audit firms (Wardhani, 2019; Eshleman and Guo, 2014; Francis and Yu, 2009; Krishnan, 2003; DeAngelo, 1981; Raman and Wilson, 1994; Teoh and Wong, 1993). Considering the relationship with audit quality, the size of the audit firms must also influence the determinants of KAMs. As shown in previous studies, the Big Four audit firms can provide higher quality audits, because larger-sized auditing firms can invest in more human and financial resources, resulting in more sophisticated auditing. The Big Four audit firms are better able to curb the loss of audit quality because they have robust quality control systems and more standardized audit procedures (Pittman et al., 2021).

Moreover, the Big Four auditors are more independent of specific clients and, therefore, less likely to compromise the independence of auditor-client relationships (Carcello et al., 2000). Considering that clients audited by the Big Four tend to report more conservative financial information (DeAngelo, 1981; Raghunandan and Rama, 1995), they are expected to be more proactive in disclosing KAMs.

Previous studies have proved that reported KAMs are influenced by differences in the scale of audit firms that are different in terms of the quality of audits and the litigation risks faced by them (Wong et al., 2018). Given that auditors face the risk of litigation, Big Four audit firms are more concerned about audit failures, and are thus expected to disclose more information on KAMs than non-Big Four audit firms (Tangruenrat, 2017; Wuttichindanon and Issarawornrawanich, 2019; 2020). In this study, we expect that clients audited by the Big Four are likely to actively provide KAMs because the Big Four are motivated to provide higher quality audits to protect their reputation and avoid costly litigation (Khurana and Raman, 2004). Wardhani (2019) suggested that commissioning the Big Four audit firms enhances the credibility of voluntary disclosure, implying that auditor characteristics play a key

role in this geographic region.

Conversely, non-Big Four may have a more positive motive for providing KAMs. Given that non-Big Four audit firms have fewer resources, expertise, and means to demonstrate the value of the audit, KAMs provide an opportunity to communicate the audit performance to the users. This opportunity is likely to provide more significant profits to non-Big Four than the Big Four audit firms. In this case, there is a possibility that non-Big Four audit firms tend to actively disclose KAMs. To the extent that investors perceive Big Four audit firms as more credible, the incremental benefits associated with the provision of KAMs are less likely to accrue to Big Four audit firms. This is because they are already viewed as highly credible. Thus, the disclosure of KAMs by the Big Four is not expected to be extensive as they are more credible than other firms (Kim and Park, 2006; Knechel et al., 2007; Nichols and Smith, 1983; Watkins et al., 2004).

The Big Four audit firms offer their clients value-enhancing services, such as up-to-date, nationally-prepared technical accounting bulletins, and expert recommendations on accounting and reporting matters, based on their experience with a large client portfolio in a variety of industries (Bills et al., 2016). However, non-Big Four audit firms possess fewer resources and expertise, and thus have fewer means to demonstrate the value of their audit. KAMs provide an opportunity to communicate the audit performance, which is likely to be more significantly beneficial to non-Big Four audit firms than to the Big Four firms. Although the communication function of KAMs is of significance regardless of the size of the audit firm, this study emphasizes that the size of the audit firm results in differences in the quality of audits and the disclosure of KAMs.

H1b: If a Big Four audit firm audits the client, KAM disclosure increases.

2. Client characteristics

The choice of KAMs depends on the auditor, but the risk of financial misstatement primarily originates from the client. Significant misstatement risks are more likely to occur owing to company-specific risks, regardless of the effectiveness of internal controls. Generally, the risk is influenced by the entity's size and business complexity (Ferreira and Morais, 2020; Lennox et al., 2019; Pinto and Morais, 2019; Sierra-García et al., 2019). Additionally, the worse the client's performance indicators, the more likely the client is to commit to inappropriate accounting reporting, which inevitably increases the risk of audit work. KAM topics tend to focus on accounting estimates, such as asset valuation and revenue recognition items, as evidenced by previous research (Wuttichindanon and Issarawornrawanic, 2020; Sierra-García et al., 2019; Pinto and Morais, 2019; Tangruenrat, 2017). Therefore, the more accounting items that require accounting estimates are recorded at the end of the fiscal year, the more active the disclosure of KAMs should be. Hence, the factors that influence KAM disclosures from the client side include the following: a) company size and business complexity, b) deterioration of performance indicators, c) accounting estimation items on the balance sheet and negative special items, and d) corporate governance.

(1) Client size and business complexity

The judgment of "significance" in accounting and audit is considered to regard quantity and quality. Therefore, the possibility of KAM disclosures inevitably increases for clients prioritizing quantitative significance, or "larger client size," first. Additionally, when the client's business is complicated, regardless of the size of the company, the accounting and audit risks are naturally high because of management and practical complexities (Ferreira and Morais, 2020; Lennox et al., 2019; Pinto and Morais, 2019; Sierra-García et al., 2019).

H2a: If the client is large or its business is complicated, the number of KAM disclosures increases.

(2) Deterioration of performance indicators

Accounting and auditing significance are exceptionally high in high-risk situations, regardless of natural factors such as the size and complexity of the enterprise. For example, the deterioration of the client's performance is a typical company risk. In this case, companies are likely to commit to material misstatements regardless of the effectiveness of internal controls (Wuttichindanon and Issarawornrawanic, 2020; Sierra-García et al., 2019; Pinto and Morais, 2019; Tangruenrat, 2017).

H2b: If the client's performance worsens, the number of KAM disclosures increases.

(3) Relevance to accounting estimation items on the balance sheet and negative special items

In each country, as previously indicated, there is a tendency for information to be disclosed. According to previous studies, many KAM topics are related to accounting items, as auditors select the areas of significance to stakeholders because users of financial statements make decisions using financial statements. This is a natural consequence of the KAMs' decision-making process. Given that auditing is performed on specific individual accounts, topics related to individual-specific financial statement items are inevitably covered in KAMs. Therefore, the KAMs to be disclosed must be selected according to the degree of risk posed by the financial statements. The disclosure of KAM is expected to provide more information on the

risk areas of the audited company.

Conversely, given that the purpose of KAMs is to facilitate communication with users of financial statements, KAMs are unrelated to the risks indicated in financial statements. These may not be considered as useful supplementary information for users. Alternatively, if financial statements indicate significant financial risks but the auditor's disclosure of KAMs is insufficient, KAMs cannot facilitate communication with the users of financial statements. Another concern is the quantification of the risks associated with financial statement items. Given the relevance of the selected KAM topics to the risks of financial statements, it is difficult to quantitatively determine the presence or absence of such risks in cases such as atypical transactions and transactions between related parties, from a research design perspective.

However, the monetary size of items that require accounting estimates related to KAMs topics, can be quantitatively grasped to determine whether there is a significant misrepresentation risk. Therefore, this study focuses on the estimation items for the accounting risk items frequently selected as KAMs and analyzes the determinants of KAM disclosures. Accounting estimates are required for assets, and the larger the amount, the greater the impact of the estimates deviating from the actual ones. Additionally, there is a measurement risk regarding the amount of debt. Apart from the items on the balance sheet that require accounting estimates, negative special items (extraordinary losses) are also likely to trigger KAM disclosure. Negative special items include impairment losses, and restructuring-related losses tend to be recorded in large numbers. These items are inevitably treated as carrying a significant risk of misstatement owing to the importance of the timing of recognition and importance of the amount. Therefore, as a KAM determinant, this study also investigates the relationship with negative special items. A connection is expected between the amount of these accounting items and reported KAMs, resulting in the

reported KAMs being useful to users because they can convey risky financial statement items to the user. Based on these discussions, the association of KAMs reporting with the risks posed by accounting estimation items on the balance sheet and negative special items, is consistent with the objectives of the KAMs system. Therefore, the following hypothesis is proposed:

H2c: KAM disclosures increase with accounting estimation items on the balance sheet and negative special items.

This study investigates the factors that determine KAM disclosures. Given that KAM disclosure is an important audit issue, it is influenced by high levels of financial risk. Previous studies have pointed to account-level risk (Sierra-García et al., 2019). If the risk increases owing to the deterioration of the financial situation, KAM disclosures are expected to naturally increase.

3. Corporate governance

Given that corporate governance is a part of client characteristics, the relationship between directors, corporate auditors, and auditors also influences its effectiveness. However, this study considers corporate governance to be related to audit and client characteristics. An expected effect of the KAM system is its impact on corporate governance. Based on the decision to disclose KAMs, KAMs are clearly a matter of choice on the part of the auditor and depends on communication between corporate auditors and management. In previous studies, KAM determinants were analyzed by focusing on companies with audit committees, external auditors, independent directors, and percentage of female officers. Audit committees are classified as a key monitoring element of internal corporate governance (DeFond and

Zhang, 2014). Introducing the ISA 701 also encourages auditors to communicate KAMs with corporate governance members, allowing auditors to clarify their audit decisions. Management and governance personnel can be involved in disclosing KAMs in audit reports. Therefore, this study aims to determine the effect of corporate governance on KAM disclosures.

Conversely, Gay and Ng (2015) find that when an audit committee is inactive, the presence of KAMs increases the likelihood of the auditor accepting aggressive accounting treatment. Therefore, the auditor feels relieved by the presence of KAMs and, as a result, the quality of the auditor's judgment deteriorates. We anticipate that the effectiveness of corporate governance encourages the reported KAM volume, based on KAMs' essential objectives and effects expected of the institution. Additionally, this study analyzes limited specific indicators and all possible indicators of corporate governance.

H3: The more effective the corporate governance, the more the number of KAM disclosures.

V. Research design

1. Dependent variables

In analyzing KAM determinants, some studies use qualitative indicators such as readability (Velte, 2018; 2020). However, the volume of KAM is set as the explained variable in this study, considering that financial statement users place more importance on quantity than quality (Srijunpetch, 2017; Wuttichindanon and Issarawornrawanich, 2020). There are the following two possible KAM volumes: the number of KAM reports (Pinto and Morais, 2019) and the number of words

(Muttanachai, 2020). In this study, numbers and descriptive quantities are set as explanatory variables for analysis to obtain robust results.

2. Methodology

The regression model is roughly divided as follows: (1) audit characteristics, (2) client characteristics, (3) corporate governance, and (4) controls to test the hypotheses about the determinants of KAMs in this study.

$$KAM = \text{Audit Characteristics} + \text{Client Characteristics} + \text{Corporate Governance} + \text{Controls} \cdots (0)$$

First, the number of reported KAMs (*KAM*) and KAM words (*WORD*) are set as dependent variables to obtain robust results.

$$\begin{aligned} KAM_i \text{ (} WORD_i \text{)} = & \Delta FEE_i + DAYS_i + SWITHCH_i + SIZE_i + SEG_i + \Delta SALES_i + \Delta NI_i + \\ & ROA_i + ROE_i + INVENT_i + FIX_i + DTA_i + LEVERAGE_i + NSPI_i + \\ & ACOM_i + FOREIGN_i + OUTSIDE_i + FEMALE_i + \\ & DIREC_TERM_i + OUTDIREC_TERM_i + AUDITOR_TERM_i + \\ & INST_i + STABLE_i + RETURN_i + TQ_i + VOL_i + e_i \cdots (1) \end{aligned}$$

Second, to verify whether the determinants of KAMs differ depending on the size of the audit firms, the samples are divided into four major audit firm samples (*BIG4*) and a sample of other audit firms (*NON-BIG4*).

$$\begin{aligned}
KAM_i (WORD_i) = & BIG4_i * (\Delta FEE_i + DAYS_i + SWITHCH_i + SIZE_i + SEG_i + \Delta SALES_i + \\
& \Delta NI_i + ROA_i + ROE_i + INVENT_i + FIX_i + DTA_i + LEVERAGE_i + \\
& NSPI_i + ACOM_i + FOREIGN_i + OUTSIDE_i + FEMALE_i + \\
& DIREC_TERM_i + OUTDIREC_TERM_i + AUDITOR_TERM_i + \\
& INST_i + STABLE_i + RETURN_i + TQ_i + VOL_i) + \\
& NON-BIG4_i * (\Delta FEE_i + DAYS_i + SWITHCH_i + SIZE_i + SEG_i + \\
& \Delta SALES_i + \Delta NI_i + ROA_i + ROE_i + INVENT_i + FIX_i + DTA_i + \\
& LEVERAGE_i + NSPI_i + ACOM_i + FOREIGN_i + OUTSIDE_i + \\
& FEMALE_i + DIREC_TERM_i + OUTDIREC_TERM_i + \\
& AUDITOR_TERM_i + INST_i + STABLE_i + RETURN_i + TQ_i + VOL_i) \\
& + e_i \dots (2)
\end{aligned}$$

(1) Audit Characteristics

In this study, “Audit Firm Characteristics” describe the influence of audit firms on audit performance and quality. The size of audit firms may influence the quality of audits, which may positively influence the reported KAMs. This study attempts to identify the scale of audit firms by splitting the sample into Big Four and non-Big Four audit firms and compares the characteristics of these two types of audit firms.

In the regression model, we consider the change in audit fees from 2020 to 2021 (ΔFEE), days between the announcement of financial statements and the account closing date ($DAYS$), and flag for switching audit firms ($SWITCH$). ΔFEE indicates the amount of change in audit fees before and after the introduction of the KAM system in Japan between 2020 and 2021. If the introduction of KAMs increases audit fees, more active KAM disclosures are expected. Therefore, the expected sign is significantly positive. $DAYS$ represents the number of days until the disclosure of financial results. Given that the number of days until the disclosure of financial

results is related to an increase in the amount of audit work, more complicated cases increase the possibility of the disclosure of KAMs. Hence, its expected sign is positive. *SWITCH* denotes the change in an audit firm. Given that the environment surrounding companies requiring the replacement of audit firms is irregular, risk factors are considered to increase accordingly. Therefore, its expected sign is positive as KAM disclosure is expected to be positive. However, if the change in the audit firm is from a small- or medium-sized audit firm to a large audit firm (such as Big Four), KAMs are expected to increase (Ferreira and Morais, 2020; Wuttichindanon and Issarawornrawanich; 2020; Seebeck and Kaya, 2022), or KAMs are expected to decrease in the opposite case (Baatwah, 2022).

(2) Client Characteristics

a. Company size and business complexity

SIZE represents the company's size defined as the natural logarithm of total assets. *SEG* represents the number of segment businesses. The size of a client and many business segments are factors that lead to high business risk and complexity. Audit work also poses many difficulties in the aspects related to a large client, and as a result, the number of reported KAMs is likely to increase.

b. Worsening business performance

Companies may be motivated to commit to material misstatements when business risk is high. The deterioration of the business environment increases business risk, that is, it typically worsens business performance. Under circumstances where the risk of the business environment is increasing, the number of KAMs increase because audit risk is expected to increase. $\Delta SALES$ is the change in sales, and ΔNI is the change in net income. Comparing the results from before and after the

introduction of the KAMs system, if sales and net income, which are key indicators of business performance, decrease during the period, it suggests that the business environment is deteriorated to such an extent that audit risk naturally increases. Additionally, the worsening of *ROA* and *ROE*, which are typical performance indicators, indicates the deterioration of the business environment.

c. Accounting estimation items on the balance sheet and negative special items

In addition to the high business risk faced by a company, if there are many items on the balance sheet that require significant accounting estimates, there will be measurement risk, expected to be disclosed as KAMs. Therefore, inventories (*INVENT*), fixed assets (*FIX*), deferred tax assets (*DTA*), and liabilities (*LEVERAGE*) at year-end balances, which are highly important items in practice and tend to be large in monetary value, are closely related to the determinants of KAM disclosures. Apart from these accounting estimate items on the balance sheets, the recognition of negative special items, such as impairment losses or restructuring loss, is likely to be selected as a KAM topic because of the high risk of material misstatement. Therefore, in this study, negative special items (*NPI*) are also incorporated into the research model to verify their role as a trigger for KAM disclosures.

(3) Corporate Governance

The effectiveness of corporate governance is expected to increase the company's transparency and promote communication with external stakeholders so that KAM disclosures become more active. This study uses several measurement indicators of corporate governance, such as audit and supervisory committee (*ACOM*), foreign shareholder ratio (*FOREIGN*), independent outside directors ratio (*OUTSIDE*), female officers ratio (*FEMALE*), fixed term of office of directors (*DIREC_TERM*),

office days of outside directors (*OUTDIREC_TERM*), office days of corporate auditor (*AUDITOR_TERM*), institutional investor ratio (*INST*), and loyal shareholders ratio (*STABLE*).

When considering the strict monitoring, the shorter fixed term of directors' office years (*DIREC_TERM*) and the lower loyal shareholders ratio (*STABLE*) are to be thought that corporate governance is also expected to be effective. On one hand, the term of office of directors is at most two years in Japan. However, some companies choose a one-year term of office for directors from the perspective of severe rotation. The function of corporate governance is thought to be more effective in these companies than in those implementing two-year rotations. Therefore, the expected sign of *DIREC_TERM* is negative for disclosing KAMs because of effective corporate governance. On the other hand, whether a high ratio of loyal shareholders leads to effective corporate governance is controversial in the Japanese context. Loyal or stable shareholders are generally expected to be strict monitors, while the characteristic "loyal" might mean "silent" in company decisions in Japan. This study anticipates that the existence of loyal shareholders discourages the reporting of KAMs to outsiders. Therefore, the expected sign of *STABLE* for disclosing the KAMs is negative, indicating that the more effective corporate governance of these indicators (*DIREC_TERM* and *STABLE*) leads to the active KAMs disclosing.

(4) Controls

The market return (*RETURN*) obtained from the database is directly calculated based on the average of the year based on the most recent end of the month. High equity returns indicate that the market is valued as having low business risk, as it reflects good performance and high future potential. Therefore, the expected

relationship between market returns and KAMs volume is significantly negative.

Tobin's q (TQ) controls for a firm's growth opportunities (Skinner and Sloan, 2002; Gunny, 2010; Bartov et al., 2002), which may influence KAM disclosures because the business risk is significantly high for companies facing declining business opportunities. If the q value is greater than one, the value of the company's capital stock is higher than the value of the company's market value, and vice versa. Therefore, the expected sign of TQ is negative for actively disclosing KAMs, indicating that business risk is high when q is smaller.

Market volatility (VOL) measures volatility concerning firm and asset values, calculated as the average annual price movement from average to high and low. It is obtained directly from the database. Previous research indicates that the higher the volatility, the more difficult it is for managers to predict future performance (Lim, 2001; Duru and Reeb, 2002; Givoly et al., 2009). Therefore, higher volatility, representing firms facing higher risks, may increase the probability of actively disclosing KAMs.

VI. Sample selections and Distractive statistics

1. Sample selections

First, data on KAMs disclosed in 2021 in Japan are hand-collected from audit reports provided in annual reports. The data are limited by their availability till March 31, 2021. When collecting the sample of KAMs, the audit report in consolidated financial statements is prioritized and aggregated if the firms disclose consolidated financial statements. Second, in this study, the data on corporate governance disclosing KAMs, are based on NEEDSCges, which is a corporate governance database in Japan. The corresponding financial data are obtained from

the NEEDS-Financial QUEST databases. Financial business firms, such as banks, securities, insurance, and other financial firms, are excluded because they have a substantially different financial reporting framework. Observations with fiscal periods not equal to 12 months, are excluded. The sample data are eliminated at the upper and lower 1% levels for the change in net income (ΔNI) and net income divided by the total assets at the beginning of the fiscal year (NI), considering the impact of COVID-19. Observation with missing data are deleted. Eventually, the sample for this study consists of 3,099 disclosed KAM observations with 2,442 firms adopting Japanese GAAP, because operating income without extraordinary gains and losses and ordinary income are not available under IFRS. Table 1 presents the composition of industry classifications based on Nikkei middle industry classification codes.

Table 2 presents the distribution of samples based on the topics of KAMs. Fixed assets, including accounting estimates with long-term forecasts and evaluations, such as impairment loss recognition, are the most frequently observed KAMs, because of their significant impact on financial statements. Additionally, topics on sales activities, such as revenue recognition, are ranked high in response to their importance and transaction complexity, including their dependence on IT systems. Particularly, as IFRS No. 15, “Revenue from Contracts with Customers,” is applied in Japan as a domestic accounting standard (JGAAP), there are many cases where heavy auditing is required for revenue recognition. The valuation of investment accounts is also ranked high because it often involves determining the impairment recognition of equity method affiliates, and a large number of estimates in the valuation process. Generally, items with a higher risk of material misstatement are selected as KAMs, and there is no significant difference compared to other countries. This suggests that the KAM topics addressed by auditors and presented as KAMs in the audit reports can significantly address the gaps in audit expectations and issues.

Table 1: Industry Composition

Nikkei industry classification (Middle)	Frequency	Percent
Miscellaneous Services	560	22.9
Wholesale - Foods	246	10.1
Electric Equipment, NEC	185	7.6
Machinery, NEC	180	7.4
Chemicals (Major)	157	6.4
Special Constructions	137	5.6
Retail Stores, NEC	127	5.2
Fabricated Metal Products	91	3.7
Grain Mill Products	90	3.7
Real Estate - Rental	77	3.2
Printing	72	3.0
Auto Parts & Accessories	63	2.6
Drugs (Major)	40	1.6
Measuring Devices, NEC	40	1.6
Credit & Leasing	39	1.6
Carbon, NEC	38	1.6
Silk Reeling	37	1.5
Iron & Steel (Major)	37	1.5
Trucking	34	1.4
Harbor Transportation	32	1.3
Railroad (Major)	30	1.2
Communication Services	28	1.2
Other Paper	21	0.9
Tires	12	0.5
Utilities - Electric	12	0.5
Fish & Marine Products	10	0.4
Shipping - Nucleus	10	0.4
Railroad Equipment	9	0.4
Oil & Coal Products	7	0.3
Utilities - Gas	7	0.3
Shipbuilding & Repairing	5	0.2
Mining Except Coal Mining	5	0.2
Air Transportation	4	0.2
Total	2,442	100

Table 2: KAM Topics

Category	Freq.	Percent
Fixed asset	1,190	38.4
Revenue recognition and Other operating revenue	678	21.9
Investment and other long-lived assets	433	14.0
Current assets	357	11.5
Allowance for operating expenses	112	3.6
Mergers and Acquisitions	81	2.6
Disclosure by note	73	2.4
Allowance for loss and Abnormal losses	52	1.7
Financial instruments transactions	41	1.3
Liabilities	21	0.7
Fraudulent accounting / Audit-specific	18	0.6
Trading of fixed assets	14	0.5
IT system	13	0.4
Depreciation	10	0.3
COVID-19	6	0.2
Total	3,099	100

2. Distractive statistics

Table 3 presents the descriptive statistics of the explanatory variables based on all samples and the size of the audit firm, including its mean, median, standard deviation, minimum, and maximum values. This study classifies two sample groups based on the indicator variables, which take the value of 1 for the Big Four audit firms and 0 otherwise. The mean number of disclosed KAMs is 1.26 in Japan, which is lower than that in other countries (Srijunpetch, 2017; Sierra-Garcia et al., 2019; Ferreira and Morais, 2020; Kend and Nguyen, 2021; Li et al., 2019; Özcan, 2021). The proportion of Big Four audit firms in Japan is approximately 70%. Comparing the size of audit firms, the mean number of disclosed KAMs by the Big Four firms is slightly larger than that by the non-Big Four. However, the word count of each KAM of the Big Four firms is significantly larger than that of the non-Big Four. Regarding the change in audit fees during the implementation of KAMs, there is a significant

Table 3: Descriptive Statistics

All Samples (2,442 obs.)				
Variables	Mean	S.D.	Min	Max
<i>KAM</i>	1.26	0.51	1	5
<i>WORD</i>	1,240	721	326	7,380
<i>BIG4</i>	0.695	0.461	0	1
ΔFEE	0.040	0.196	-1	4.667
<i>DAYS</i>	44	11	2	183
<i>SWITCH</i>	0.032	0.175	0	1
<i>SEG</i>	4.633	2.600	1	17
<i>SIZE</i>	10.730	1.783	5.624	17.943
$\Delta SALES$	-0.037	0.193	-1	2.045
ΔNI	-0.109	2.548	-17.458	19.629
<i>INVENT</i>	0.113	0.124	0.000	1.551
<i>FIX</i>	0.430	0.208	0.000	2.667
<i>DTA</i>	0.014	0.017	0.000	0.158
<i>LEVERAGE</i>	0.480	0.225	0.016	3.032
<i>NSPI</i>	0.011	0.027	0	0.418
<i>ROA</i>	0.044	0.081	-0.655	0.528
<i>ROE</i>	-0.005	1.029	-34.049	1.284
<i>COMM</i>	0.296	0.457	0	1
<i>FOREIGN</i>	0.001	0.009	0	0.288
<i>OUTSIDE</i>	0.295	0.130	0	0.889
<i>FEMALE</i>	0.058	0.074	0	0.625
<i>DIREC_TERM</i>	1.25	0.43	1	2
<i>OUTDIREC_TERM</i>	65	45	0	530
<i>AUDITOR_TERM</i>	93	65	0	503
<i>INST</i>	0.085	0.082	0	0.671
<i>STABLE</i>	0.394	0.182	0	0.977
<i>RETURN</i>	-0.008	0.064	-0.414	0.340
<i>TQ</i>	1.362	1.715	0.357	37.460
<i>VOL</i>	2.438	0.876	0.586	8.830

Table 3: Continuation of the table

Big4 Sample (1,697 obs.)				
Variables	Mean	S.D.	Min	Max
<i>KAM</i>	1.27	0.52	1	5
<i>WORD</i>	1,338	746	408	7,380
<i>BIG4</i>		—		
ΔFEE	0.049	0.177	-1	3.716
<i>DAYS</i>	43	11	12	183
<i>SWITCH</i>	0.031	0.172	0	1
<i>SEG</i>	4.712	2.623	1	17
<i>SIZE</i>	11.108	1.784	6.244	17.943
$\Delta SALES$	-0.039	0.179	-0.950	1.807
ΔNI	-0.101	2.551	-17.458	19.629
<i>INVENT</i>	0.108	0.114	0	1.393
<i>FIX</i>	0.442	0.210	0	2.667
<i>DTA</i>	0.015	0.018	0	0.158
<i>LEVERAGE</i>	0.475	0.211	0.022	2.065
<i>NSPI</i>	0.010	0.023	0	0.351
<i>ROA</i>	0.049	0.081	-0.655	0.528
<i>ROE</i>	0.045	0.197	-4.913	1.284
<i>COMM</i>	0.287	0.452	0	1
<i>FOREIGN</i>	0.001	0.009	0	0.288
<i>OUTSIDE</i>	0.311	0.124	0	0.889
<i>FEMALE</i>	0.063	0.072	0	0.5
<i>DIREC_TERM</i>	1.23	0.42	1	2
<i>OUTDIREC_TERM</i>	66	44	0	530
<i>AUDITOR_TERM</i>	90	63	0	503
<i>INST</i>	0.099	0.084	0	0.6714
<i>STABLE</i>	0.385	0.182	0	0.919
<i>RETURN</i>	-0.006	0.063	-0.228	0.340
<i>TQ</i>	1.414	1.900	0.377	37.460
<i>VOL</i>	2.346	0.755	0.663	5.726

Table 3: Continuation of the table

Non-Big4 Sample (745 obs.)				
Variables	Mean	S.D.	Min	Max
<i>KAM</i>	1.26	0.48	1	4
<i>WORD</i>	1,016	602	326	7,126
<i>BIG4</i>		—		
ΔFEE	0.020	0.232	-0.941	4.667
<i>DAYS</i>	46	12	2	183
<i>SWITCH</i>	0.034	0.180	0	1
<i>SEG</i>	4.454	2.539	1	13
<i>SIZE</i>	9.870	1.451	5.624	16.300
$\Delta SALES$	-0.033	0.223	-1	2.045
ΔNI	-0.128	2.542	-16.308	16.939
<i>INVENT</i>	0.123	0.144	0.000	1.551
<i>FIX</i>	0.405	0.201	0.008	1.050
<i>DTA</i>	0.012	0.015	0.000	0.113
<i>LEVERAGE</i>	0.491	0.254	0.016	3.032
<i>NSPI</i>	0.014	0.035	0	0.418
<i>ROA</i>	0.033	0.081	-0.438	0.436
<i>ROE</i>	-0.119	1.834	-34.049	1.041
<i>COMM</i>	0.317	0.466	0	1
<i>FOREIGN</i>	0.001	0.010	0	0.269
<i>OUTSIDE</i>	0.259	0.137	0	0.75
<i>FEMALE</i>	0.047	0.075	0	0.625
<i>DIREC_TERM</i>	1.29	0.45	1	2
<i>OUTDIREC_TERM</i>	62	45	0	469
<i>AUDITOR_TERM</i>	99	70	0	447
<i>INST</i>	0.053	0.067	0	0.4097
<i>STABLE</i>	0.415	0.181	0.003	0.977
<i>RETURN</i>	-0.013	0.066	-0.414	0.289
<i>TQ</i>	1.245	1.181	0.357	18.452
<i>VOL</i>	2.648	1.075	0.586	8.830

Table 4: Pearson Correlation Matrix

	<i>KAM</i>	<i>WORD</i>	<i>BIG4</i>	Δ <i>FEE</i>	<i>DAYS</i>	<i>SWITCH</i>	<i>SEG</i>	<i>SIZE</i>	Δ <i>SALES</i>	Δ <i>NI</i>	<i>INVENT</i>	<i>FIX</i>	<i>DTA</i>	<i>LEVERAGE</i>
<i>KAM</i>	1													
<i>WORD</i>	0.7414*	1												
<i>BIG4</i>	0.0092	0.2059*	1											
Δ <i>FEE</i>	0.0608*	0.0546*	0.0687*	1										
<i>DAYS</i>	0.0524*	0.0125	-0.0996*	0.0467*	1									
<i>SWITCH</i>	0.0917*	0.0768*	-0.0077	0.1392*	0.2297*	1								
<i>SEG</i>	0.1374*	0.1888*	0.0458*	-0.0361	0.0197	0.0462*	1							
<i>SIZE</i>	0.2886*	0.4103*	0.3197*	-0.0198	-0.1046*	0.0718*	0.3024*	1						
Δ <i>SALES</i>	-0.0944*	-0.1052*	-0.014	0.0324	-0.0891*	-0.0176	-0.0078	-0.0493*	1					
Δ <i>NI</i>	-0.0944*	-0.0908*	0.0049	-0.0163	-0.0778*	-0.0625*	0.0096	0.006	0.1870*	1				
<i>INVENT</i>	0.0365	-0.026	-0.0533*	-0.0037	0.0426*	0.029	0.0422*	0.0820*	0.1014*	0.0313	1			
<i>FIX</i>	0.1330*	0.1760*	0.0817*	-0.0065	-0.028	-0.0147	0.1401*	0.3145*	-0.0908*	-0.0347	-0.2139*	1		
<i>DTA</i>	0.0850*	0.0937*	0.0819*	0.0079	-0.0685*	-0.0082	-0.0306	0.025	0.0293	-0.0294	-0.0734*	0.0329	1	
<i>LEVERAGE</i>	0.1947*	0.2038*	-0.0322	0.0348	0.1105*	0.0777*	0.1648*	0.1556*	0.0864*	0.0024	0.1658*	0.1729*	0.0816*	1
<i>NSPI</i>	0.0886*	0.0681*	-0.0689*	0.0477*	0.1930*	0.0769*	-0.0191	-0.1541*	-0.1465*	-0.0445*	-0.0830*	0.0243	0.0353	0.1526*
<i>ROA</i>	-0.1281*	-0.1159*	0.0916*	-0.0045	-0.1814*	-0.0651*	-0.022	0.0895*	0.3706*	0.1307*	-0.0034	-0.0846*	0.1518*	-0.1800*
<i>ROE</i>	-0.0948*	-0.0738*	0.0734*	0.0029	-0.0662*	-0.004	0.0083	0.0621*	0.0934*	-0.0181	0.0440*	-0.0236	0.0435*	-0.0824*
<i>COMM</i>	-0.0398*	-0.0500*	-0.0301	0.0009	0.0426*	0.0113	-0.0556*	-0.0950*	0.0585*	0.0577*	0.0238	-0.0409*	0.0066	-0.0103
<i>FOREIGN</i>	-0.0244	-0.0324	-0.0151	-0.001	0.0045	-0.0023	0.0191	-0.0546*	0.029	0.0029	0.0328	-0.0508*	-0.0108	0.0326
<i>OUTSIDE</i>	0.0926*	0.1301*	0.1823*	0.0027	-0.0252	0.0289	0.0157	0.2303*	0.0537*	0.0319	-0.0158	-0.0131	0.0815*	0.0187
<i>FEMALE</i>	0.1002*	0.1227*	0.0996*	0.0186	-0.0211	0.0729*	0.0361	0.1671*	0.0542*	0.021	-0.0251	0.0786*	0.0727*	0.0732*
<i>DIREC_TERM</i>	-0.0564*	-0.0867*	-0.0687*	0.0155	-0.0018	-0.0375	-0.0232	-0.1568*	-0.0227	-0.031	-0.0135	-0.017	-0.0205	-0.0515*
<i>OUTDIREC_TERM</i>	0.0053	0.0199	0.0507*	-0.0053	-0.0663*	-0.0221	0.0043	0.0699*	-0.0593*	-0.0282	-0.0125	0.0218	0.0101	-0.0829*
<i>AUDITOR_TERM</i>	-0.0318	-0.0741*	-0.0634*	-0.0303	0.0111	-0.0276	-0.0268	-0.1230*	-0.0109	-0.0302	0.0119	-0.0259	-0.0164	-0.0427*
<i>INST</i>	0.1662*	0.2324*	0.2554*	0.0276	-0.0719*	0.0288	0.1796*	0.5670*	0.0326	0.0188	0.0197	0.1038*	0.0952*	-0.0068
<i>STABLE</i>	-0.1404*	-0.1511*	-0.0773*	-0.0203	-0.0282	-0.0477*	-0.1108*	-0.2794*	0.0101	0.0247	-0.0450*	-0.0455*	0.0233	-0.0185
<i>RETURN</i>	-0.0928*	-0.0616*	0.0546*	0.0285	-0.1853*	-0.0428*	0.0095	0.0682*	0.3580*	0.1151*	-0.0205	0.009	0.1252*	-0.0198
<i>TQ</i>	-0.0405*	-0.0600*	0.0455*	0.0825*	-0.0801*	-0.019	-0.1148*	-0.1359*	0.2202*	0.0482*	-0.1122*	-0.0971*	0.1635*	-0.0005
<i>VOL</i>	-0.0225	-0.1133*	-0.1585*	0.0761*	0.1186*	0.0518*	-0.1126*	-0.4258*	0.1603*	0.0283	0.0105	-0.2506*	0.0355	0.1576*

difference between Big Four and non-Big Four audit firms, showing higher audit fees for Big Four clients. When looking at the number of business segments and size of companies, Big Four clients tend to be bigger and more complex. Regarding performance, the average change in sales and net income were negative owing to COVID-19. The performance of companies audited by the Big Four is better than those audited by non-Big Four.

3. Correlation

The Pearson correlation matrix for the independent variables in Table 4 is reported before calculating the regression results. The number of KAMs and word

<i>NSPI</i>	<i>ROA</i>	<i>ROE</i>	<i>COMM</i>	<i>FOREIGN</i>	<i>OUTSIDE</i>	<i>FEMALE</i>	<i>DIREC_T</i>	<i>OUTDIREC_T</i>	<i>AUDITOR_T</i>	<i>INST</i>	<i>STABLE</i>	<i>RETURN</i>	<i>TQ</i>	<i>VOL</i>
1														
-0.3333*	1													
-0.1573*	0.2541*	1												
-0.0125	0.0307	0.0097	1											
0.0199	0.0129	-0.0027	0.0269	1										
-0.0244	0.0955*	-0.0083	0.2304*	0.0124	1									
0.0339	0.0195	0.0011	-0.0414*	0.0128	0.2222*	1								
-0.017	-0.0319	0.0171	-0.3697*	-0.0155	-0.2438*	-0.0646*	1							
-0.0384	0.0125	-0.002	-0.0799*	-0.017	0.0273	-0.0498*	0.0657*	1						
0.0219	-0.0134	0.0258	-0.3092*	-0.0296	-0.2065*	-0.0831*	0.2497*	0.1932*	1					
-0.0908*	0.1899*	0.0483*	-0.0492*	-0.0353	0.3229*	0.1973*	-0.1431*	0.0445*	-0.1142*	1				
-0.0534*	0.0631*	0.0099	-0.0465*	-0.0081	-0.2735*	-0.1368*	0.0611*	0.0035	0.0594*	-0.4632*	1			
-0.2399*	0.4817*	0.1596*	0.0128	-0.0088	0.0269	0.0309	-0.0081	0.0194	-0.0112	0.0827*	0.0562*	1		
0.0234	0.2839*	0.0089	0.0025	0.0064	0.1100*	0.0985*	-0.0066	0.0590*	0.0032	0.0873*	-0.0237	0.3220*	1	
0.1598*	-0.0501*	-0.0780*	0.0408*	0.0503*	0.0502*	-0.006	0.0434*	-0.0769*	-0.0047	-0.1069*	-0.0195	0.0083	0.2542*	1

counts were significantly related to each explanatory variable, except for *INVENT*, *FOREIGN*, and *OUTDIREC_TERM*. Consistent with previous studies, which mention that companies with poor performance tend to disclose KAMs, there is a significant and negative relationship between them. The Big Four audit firms are also related to a positive change in audit fees, larger and more complex clients, better performance, and corporate governance. Considering the change in audit fees (ΔFEE), the size of audit firms, implementation of KAMs, and active disclosure of KAMs may be related to an upward change in audit fees.

VII. Empirical results

Table 5 presents the results of the regressions for the determinants of the number of KAMs (*KAM*), obtained by comparing the divided sample based on the size of audit firms. The number of KAM disclosures is significantly and negatively related to audit fees, business size and complexity, change in net income, financial indicators relating to KAM topics, and some corporate governance indicators such as *OUTSIDE* and *FEMALE*. Therefore, the number of KAMs is determined by audit fees and client characteristics, such as financial indicators, including corporate governance, supporting Hypotheses 1 to 4. Interestingly, the expected results are more informative in the Big Four sample than in the non-Big Four sample. This implication excludes ROE, which indicates that the size of the audit firm influences the determination of KAM disclosures. The result supports Hypothesis 1, that is, the higher the audit quantity or quality, the greater the increase in KAM disclosures. Notably, the percentage of outside directors (*OUTSIDE*) and female directors (*FEMALE*) are significantly associated with active KAM disclosures in corporate governance, especially for the Big Four clients. This study reveals that directors' independence (inside or outside) and gender (male or female) influence the effectiveness of corporate governance and the active disclosure of KAMs. Furthermore, the results show KAM disclosures for the clients of big audit firms only when the audit committee is established or the term of corporate auditors is longer. Overall, the effectiveness of corporate governance in big audit firms and their impact on the active disclosure of KAMs are clarified.

Table 6 shows the empirical results for the determinants of the word counts of KAMs (*WORD*), as independent variables. The results show that audit fee is significantly associated with company size, performance, and financial indicators.

Table 5: Regressions of the Determinants of KAMs (Dependent variable: the number of reported KAMs)

Dependent variable: <i>KAM</i>		All Samples (2,442 obs.)	Big4 Sample (1,697 obs.)	Non-Big4 Sample (745 obs.)
Explanatory variable	Exp. Sign	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)
ΔFEE	+	0.161*** (3.32)	0.339*** (5.23)	-0.075 (-1.01)
<i>DAYS</i>	+	0.001 (0.98)	0.000 (-0.17)	0.004*** (2.23)
<i>SWITCH</i>	+	0.090 (1.61)	0.104 (1.54)	0.066 (0.66)
<i>SEG</i>	+	0.007** (1.89)	0.003 (0.70)	0.014 (1.96)
<i>SIZE</i>	+	0.079*** (8.17)	0.084*** (7.42)	0.052*** (2.66)
$\Delta SALES$	-	-0.081 (-1.44)	-0.192*** (-2.49)	0.022 (0.27)
ΔNI	-	-0.010*** (-2.75)	-0.007* (-1.68)	-0.012** (-1.82)
<i>INVENT</i>	+	0.079 (0.78)	0.215 (1.58)	-0.145 (-0.97)
<i>FIX</i>	+	0.030 (0.51)	0.013 (0.19)	0.024 (0.24)
<i>DTA</i>	+	2.165*** (3.74)	2.399*** (3.55)	1.731 (1.53)
<i>LEVERAGE</i>	+	0.164*** (3.27)	0.189*** (2.87)	0.116 (1.47)
<i>NSPI</i>	+	0.716** (1.91)	1.013* (1.68)	0.152 (0.27)
<i>ROA</i>	-	-0.314** (-2.06)	-0.471** (-2.07)	-0.236 (-0.90)
<i>ROE</i>	-	-0.033*** (-3.50)	0.055 (0.60)	-0.032*** (-3.43)
<i>COMM</i>	+	0.026 (1.03)	0.049* (1.61)	-0.007 (-0.16)
<i>FOREIGN</i>	+	-0.760 (-0.75)	-0.934 (-0.72)	-0.440 (-0.28)
<i>OUTSIDE</i>	+	0.026* (1.71)	0.030** (1.87)	0.016 (0.50)
<i>FEMALE</i>	+	0.253* (1.87)	0.280* (1.65)	0.214 (0.94)

Table 5: Continuation of the table

Dependent variable: <i>KAM</i>		All Samples (2,442 obs.)	Big4 Sample (1,697 obs.)	Non-Big4 Sample (745 obs.)
<i>DIREC_TERM</i>	-	-0.012 (-0.50)	-0.019 (-0.63)	0.006 (0.15)
<i>OUTDIREC_TERM</i>	+	-0.001 (-0.33)	-0.001 (-0.25)	0.000 (-0.03)
<i>AUDITOR_TERM</i>	+	0.001 (0.80)	0.003* (1.65)	-0.003 (-1.26)
<i>INST</i>	+	-0.014 (-0.08)	-0.115 (-0.62)	0.436 (1.29)
<i>STABLE</i>	-	-0.056 (-0.91)	-0.047 (-0.61)	-0.094 (-0.92)
<i>RETURN</i>	-	-0.361** (-2.03)	-0.219 (-0.98)	-0.535** (-1.85)
<i>TQ</i>	-	0.003 (0.50)	0.002 (0.33)	0.006 (0.38)
<i>VOL</i>	+	0.036*** (2.66)	0.034** (1.80)	0.030 (1.50)
<i>Cons.</i>	?	0.126 (0.37)	0.022 (0.901)	0.352 (0.16)
<i>INDUSTRY</i> (R ²)		included (0.146)	included (0.175)	included (0.132)

Notes: Robust standard errors are shown in parentheses; ***p<0.01, **p<0.05, *p<0.1

However, if it is divided by the scale of an audit firm, the significant result disappears, contradicting the result that significant associations with corporate governance are observed across all samples. In Table 5, the shift in audit firms (*SWITCH*) influences the volume of KAM disclosures upward. As previously suggested, the quality of KAM disclosures improve when shifting to the Big Four because the number of KAM disclosures increase significantly. Moreover, the number of KAM disclosures is significantly reduced when shifting to non-Big Four audit firms, suggesting that the shift to small- and medium-sized audit firms can reduce the disclosure of KAMs, thus deteriorating KAM quality.

Therefore, specific to small and medium-sized audit firms, KAM disclosures

Table 6: Regressions of the Determinants of KAMs (Dependent variable: word count of reported KAMs)

Dependent variable: <i>WORD</i>		All Samples (2,442 obs.)	Big4 Sample (1,697 obs.)	Non-Big4 Sample (745 obs.)
Explanatory variable	Exp. Sign	Coef. (t-value)	Coef. (t-value)	Coef. (t-value)
ΔFEE	+	197.7*** (2.98)	359.8*** (3.97)	-50.8 (-0.55)
<i>DAYS</i>	+	0.2 (0.13)	-1.3 (-0.85)	5.2*** (2.58)
<i>SWITCH</i>	+	52.0 (0.68)	190.9** (2.02)	-248.2** (-1.96)
<i>SEG</i>	+	16.5*** (3.15)	14.1** (2.17)	23.1*** (2.68)
<i>SIZE</i>	+	148.7*** (12.05)	149.7*** (10.19)	76.9*** (3.24)
$\Delta SALES$	-	-138.8* (-1.81)	-264.4*** (-2.54)	46.4 (0.45)
ΔNI	-	-19.6*** (-3.80)	-16.2*** (-2.58)	-16.8** (-1.98)
<i>INVENT</i>	+	-330.8*** (-2.97)	-383.3*** (-2.60)	-143.0 (-0.89)
<i>FIX</i>	+	3.4 (0.05)	-31.2 (-0.37)	82.0 (0.69)
<i>DTA</i>	+	330.7*** (4.32)	375.9*** (4.15)	264.1 (0.19)
<i>LEVERAGE</i>	+	318.8*** (4.86)	445.6*** (5.15)	131.8 (1.36)
<i>NSPI</i>	+	1224.3*** (2.34)	2435.9*** (2.91)	-184.9 (-0.26)
<i>ROA</i>	-	-710.0*** (-3.42)	-1033.7*** (-3.27)	-138.4 (-0.41)
<i>ROE</i>	-	-37.4*** (-2.88)	69.8 (0.55)	-43.9*** (-3.63)
<i>COMM</i>	+	-43.8 (-1.26)	-47.5 (-1.12)	-36.9 (-0.63)
<i>FOREIGN</i>	+	-1141.0 (-0.82)	-1140.8 (-0.62)	-1224.0 (-0.60)
<i>OUTSIDE</i>	+	34.9* (1.68)	23.6 (0.98)	51.0 (1.23)
<i>FEMALE</i>	+	309.0* (1.69)	252.9 (1.08)	208.0 (0.73)

Table 6: Continuation of the table

Dependent variable: <i>KAM</i>		All Samples (2,442 obs.)	Big4 Sample (1,697 obs.)	Non-Big4 Sample (745 obs.)
<i>DIREC_TERM</i>	-	- 30.1 (- 0.90)	- 36.3 (- 0.87)	- 6.9 (- 0.13)
<i>OUTDIREC_TERM</i>	+	0.0 (0.03)	0.1 (0.18)	0.0 (- 0.09)
<i>AUDITOR_TERM</i>	+	- 0.1 (- 0.56)	0.1 (0.53)	- 0.8** (- 2.25)
<i>INST</i>	+	- 59.3 (- 0.27)	- 313.4 (- 1.21)	574.6 (1.34)
<i>STABLE</i>	-	- 51.4 (- 0.62)	- 177.6* (- 1.68)	122.2 (0.96)
<i>RETURN</i>	-	- 242.1 (- 1.00)	101.3 (0.32)	- 844.0** (- 2.31)
<i>TQ</i>	-	1.2 (0.14)	- 1.7 (- 0.17)	1.3 (0.06)
<i>VOL</i>	+	23.7 (1.32)	13.9 (0.55)	36.9 (1.48)
<i>Cons.</i>	?	- 662.8*** (- 3.84)	- 505.9** (- 2.32)	- 293.4 (- 1.01)
<i>INDUSTRY</i> (R ²)		included (0.243)	included (0.267)	included (0.148)

Notes: Robust standard errors are shown in parentheses; ***p<0.01, **p<0.05, *p<0.1

increase if the timing of the announcement of accounting settlement (*DAYS*) is delayed. For small- and medium-sized audit firms, the longer the term of corporate auditors, the smaller the KAM description. However, for large audit firms, there is a negative relationship between the balance of inventories and number of KAM disclosures. This is in contrast to the expectation that the larger the balance of inventories, the greater the number of KAM disclosures. This is interpreted as an aggressive reduction in the book value of inventories at the end of the period, owing to the re-evaluation loss of inventories leading to the aggressive disclosure of KAMs. Furthermore, regarding major audit firms, the number of KAM descriptions tends to decrease owing to the existence of stable shareholders. This implies that the smaller

the number of stable shareholders, the smaller the incentive for disclosures to external shareholders. The results of the analysis generally support all hypotheses regarding the determinants of KAM disclosures. In other words, a positive change in audit fees results in the aggressive disclosure of KAMs, and the same applies to the size of the audit firm (the Big Four disclose more KAMs). Accordingly, audit characteristics are determinants of KAM disclosures (H1). Second, regarding the client's characteristics, the company's size and business complexity are related to the active disclosure of KAMs (H2). Third, it has been proven that the deterioration of business performance is significantly related to the active disclosure of KAMs (H3). Fourth, considering that KAM disclosures are related to material misstatements in financial statements, they are expected to be a more relevant topic in the domain of accounting statements. The analysis reveals that many accounting estimation items on the balance sheet and negative special items are significantly associated with KAM disclosures (H4). Finally, the decision to disclose KAMs was found to be influenced by the effectiveness of corporate governance (H5); in particular, a high proportion of outside directors and female officers is significantly and positively associated with the disclosure of KAMs.

VIII. Conclusion

This study aims to clarify the determinants of KAM disclosures using 2021 data, when the KAMs rule was officially introduced in Japan. This study is the first to provide international evidence of the full implementation of KAMs in Japan, an economically advanced country. This study set the number of disclosed KAMs and number of KAMs described for the disclosed KAMs as explanatory variables. The determinants of KAM disclosures were broadly classified as follows: (1) audit firm

characteristics and (2) client characteristics. Regarding the characteristics of the audit firms, this study focused on the size of the audit firms and audit fees. The following client characteristics were considered: a) company size and business complexity, b) performance and financial indicators, c) accounting estimation items on the balance sheet and negative special items, and d) corporate governance. The results of the analysis indicate that the size of the audit firm, audit fees, performance deterioration, client size, business complexity, accounting estimation items on the balance sheet or negative special items, and the efficiency of corporate governance, are all determining factors.

The contributions of this study are as follows. First, it is the first study to present evidence of empirical research on the introduction of KAMs in Japan. Providing research results using Japanese samples can contribute to the international discussion on KAMs by showing the impact of the international introduction of innovative audit report styles containing company-specific information. Second, the disclosure of KAMs is not uniform and the factors that contribute to KAM disclosures are complicated and unclear. This study adopted the changes in audit fees before and after the introduction of the KAM system to analyze its impact on audit fees and capture how upward changes in audit fees influence KAM disclosures. Additionally, this study focused on the size of audit firms and analyzed their determinants by dividing the sample based on audit size. Furthermore, this study also regarded the relationship between reported KAMs and accounting estimation items on the balance sheet and negative special items, which is a unique viewpoint not considered in previous studies. In recent years, the effectiveness of corporate governance has attracted attention as a determining factor, providing new evidence on the impact of the proportion of female directors on audit quality.

Although many contributions of this study can be enumerated, this study lacks

sufficient accumulated samples because the sample period is only one year. Moreover, the results of this study have been obtained from areas specific to Japan. Institutional and cultural aspects, such as the characteristics of audit firms and corporate governance characteristics of companies, may also influence KAM behavior. Future studies should incorporate the characteristics of each country into an analytical model using international data.

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