MASTER FINAL PROJECT

Master degree in Accounting and Taxation

Title: The Impact of The Disclosure of Key Audit Matters on Market Reaction and Audit Quality, An Empirical Analysis from Spanish IBEX 35

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ABSTRACT

The main purpose of this Final Master Degree Project is to study the impact of key audit matters on market reaction and audit quality in the audit report required by the International Auditing Standard 701. It collects and analyzes related researches in decades on the key audit matters, discussing its importance in the audit reporting, and conducts empirical analysis with samples of audit reports from companies in IBEX 35, which concluded that the key audit matters in the audit report of IBEX 35 companies cannot significantly affect the market reaction and improve the audit quality, analyzing potential reasons causing such results, and proposed further research directions.

Key word: Key audit matter, ISA 701, IBEX 35, Market reaction, Audit quality, Earning management, Cumulative abnormal returns.

I. INTRODUCTION

1.1 Background and Significance

Audit reports are a bridge between companies and investors, and they play an important and irreplaceable role in the capital market. However, the traditional standardized audit report format has been questioned in all aspects in terms of content and format. The focus of the questioning mainly lies in the following points: under the traditional audit report model, there are only differences in the audit opinion section, and there is a trend of homogenization of audit opinion types. Users often think that other parts except audit opinions lack information content, but the valuable information about listed companies and audit itself obtained by auditors is not disclosed. This forms the interests of investors, regulators and other interests in the audit report. The information gap between the relevant parties and the auditor; the format of the report is too uniform, and different types of companies in different industries only differ in the audit opinion section, while other contents may be completely the same. Even in the face of two companies with different audit opinions, it is difficult for investors to understand the risk identification process in the audit process through the audit report. Therefore, it is difficult for investors to make full use of the audit report as an important tool. In addition, the economic situation facing investors is becoming more and more complicated, and the risks of investment are also increasing. In the face of this status quo, all walks of life are increasingly calling for reform of financial statements, and it is urgent to give full play to the communication role of financial statements.

Based on the above background, countries have begun to study the reform direction of financial statements. After years of research and discussion, in 2015, IAASB announced a revised series of auditing standards. Spain's Instituto de Contabilidad y Auditoría de Cuentas has also revised Spain's audit requirements in accordance with the latest audit standards and issued specific new audit standards at the end of 2016. The core requirements of the standard are to improve the information content of audit reports, enhance the transparency of audit work, and strengthen the responsibilities of auditors in relation to auditing.

This paper studies whether the disclosure of key audit matters can bring about positive market reaction and improve audit quality. The research has the following significance: First, from the perspective of the supervisory authority, it can test the effect of the implementation of the key audit matter disclosure standards, so as to understand whether the disclosure of key audit

matters has effectively increased the information content of the audit report and enhanced its role of communication, and to provide basis and reference for the future direction of audit standard reform. Secondly, for market investors, it can provide a basis for investors' investment decisions, increase their reading and understanding of the disclosed content, and increase public supervision of listed companies; finally, from the perspective of an auditor, it can improve auditing The staff's knowledge and understanding of the new standards reminds the auditors to communicate with the audited unit during the work process, maintain their independence, and improve the quality of audit services.

1.2 Research Objectives

The research objectives of this article are: First, whether the disclosure of key audit matters has brought market reaction. The basis is that the reform of the ISA 701 is mainly the current response to the insufficient information content of the audit report. The disclosure of key audit matters enables investors to understand the high audit risk matters found in the audit process and the audit procedures carried out by the auditor. There is also awareness. Therefore, investors can obtain information that is more relevant to investment decisions from key audit matters, and the impact on investment behavior from the perspective of information transmission, which affects the price of securities in the capital market. Therefore, this article studies whether the disclosure of key audit matters has brought about a positive market reaction.

Second, study whether the disclosure of key audit quality has an impact on the audit quality of listed companies. The basis is the disclosure of key audit matters, so that the content originally recorded in the audit papers is included in the audit report and presented to the report users. Therefore, during the disclosure process, the auditor will conduct audit procedures with a more active and rigorous work attitude, maintain good independence and conduct strict review of the disclosure content to maintain the accuracy of the disclosure. At the same time, the auditor will also communicate with the management and governance, so as to deepen the understanding of the audited unit and make it easier to detect fraudulent behaviors by the audited unit. Therefore, this article studies whether the audit quality of listed companies can be improved after the disclosure of key audit matters.

The specific method is as follows: Taking IBEX-35 non-bank or insurance listed companies as the research main part, using the audit reports of the two years before and after the adoption of the ISA 701 audit standard as the data source, and using the cumulative abnormal return rate

and the non-discretionary accruals as the market reaction and the measurement standard of audit quality is an empirical study of whether the two have changed after the disclosure of key audit matters.

1.3 Research framework

The content of this article is arranged as follows:

The first part is the introduction, which mainly elaborates the research background of this article, clarifies the research questions and elaborates the purpose and significance of this article.

The second part is a literature review, which mainly sorts out the research status of key audit matters and the corresponding theory of audit quality, and makes general comments on the existing literature, thus laying the theoretical foundation of this article.

The third part is the basic theory and research hypothesis, combined with related theories and the problems to be studied, put forward the research hypothesis related to this article.

The fourth part is the research design of this article. First, the research object of this article, namely market reaction and audit quality, explains the measurement method, and then explains the method and data source of the sample selected in this article. Various variables and calculation methods are clearly defined, and finally the research model of this article is constructed.

The fifth part is empirical research and analysis. Firstly, it statistically describes the sample data of key audit matters disclosed, then uses multiple linear regression analysis to analyze the relationship between key audit matters, market reaction and audit quality, and finally analyzes the results of regression and their possible reasons.

The sixth part is the research conclusion. It summarizes the empirical results of this paper, draws the research conclusions of this paper, and reflects on the limitations and areas to be improved in the research process, and proposed future research directions.

II. LITERATURE REVIEW

2.1 Key audit matters

According to the definition in ISA 701, key audit matters refer to matters that the auditor considers to be the most important for the audit of financial statements based on professional judgment. The method of confirming key audit matters is as follows: firstly, consider the matters communicated with the governance, and secondly, consider the matters that have been focused on during the audit work in the matters communicated, and determine the most important matters among the matters that have been focused on is the key audit matter.

2.1.1 Research on the importance of key audit matters

The reform of adding key audit matters to the audit report has undergone a series of discussions and studies.

The International Audit and Assurance Standards Board (IAASB) released Proposed International Standard on Auditing (ISA) 701: Communicating Key Audit Matters in the Independent Auditor's Report (2013) in June 2013. In it, the concept of key audit matters, as well as their definition methods and disclosure requirements were put forward for the first time. The purpose of this consultation draft is to obtain the opinions of users of the audit report on this reform. According to (Cordoş & Fülöp, 2015) statistical research on these feedbacks, the disclosure of key audit matters is an important concept for users of audit reports, and its introduction and applicability will have a positive impact on the audit report process. (Weirich & Reinstein, 2014) retained a neutral attitude on key audit matters that may be mandatory to disclose. They believe that the new requirements will increase audit fees and other related expenses, and bring uncertainty to the auditor's work. (Bédard, Gonthier-Besacier, & Schatt, 2014), based on the study of justification of assessments (JOA), believes that the introduction of key audit matters will not have a significant impact on market reaction and audit quality.

2.1.2 Research on the disclosure of key audit matters

The confirmation of key audit matters has already given specific confirmation methods and procedures in the ISA 701 standard.

In practice, the cultures and audit systems of different countries may affect the auditor's judgment and decision on the disclosure of key audit matters (Pinto & Morais, 2019)which may

bring uncertainty to users of audit reports. According to a number of research conclusions, the key audit matters with the highest frequency disclosed in the audit reports is related to asset impairment. Other high-frequency key audit matters include Revenue, Allowance for doubtful debt, Goodwill impairment, Taxation, Investment, Financial instruments, Valuation of inventories, Property valuation, etc.

The number of key audit matters included in an audit report increases with the complexity of the corporate structure. However, industries subject to strict supervision and supervision, such as banking and finance, have fewer key audit matters in their audit reports.

2.1.3 Research on the market effect of key audit matters

The current researches on the market effect of key audit matters are mainly experimental and investigative. Based on these researches, key audit matters mainly influence investors' decision-making in two ways, direct and indirect, thereby causing market reactions.

In terms of direct impact, (Doxey, 2014)conducted an empirical study of listed companies on the UK Main Board and found that audit reports that disclose more information can provide new and useful information for investment and influence investor decisions. (Christensen, Glover, & Wolfe, 2014) also used experiments to conclude that key audit matters have a practical effect on investors' decision-making. (Annette, Nicole, & Jochen, 2020) found in experiments that professional investors' assessment of the company's economic conditions is affected by changes in the content of key audit matters disclosures, while non-professional investors have difficulty handling the information disclosed by key audit matters. On the contrary, some studies believe that key audit matters cannot directly influence investors' decision-making. The survey results of (Lennox, Schmidt, & Thompson, 2019) show that the disclosure of key audit matters has information characteristics, but it cannot be regarded as an increase in news by investors. The research of (Gutierrez, Minutti-Meza, Tatum, & Vulcheva, 2018) also shows that other information in the audit report cannot influence short-term market reactions.

From an indirect aspect, in the audit process, the reasons for adding key audit items can fully demonstrate the auditor’s process of making judgments in the professional process, reflecting the principle of professionalism, and at the same time prompting the auditor to maintain an audit Focus on the process. At the same time, auditors can maintain an uncompromising attitude in the face of unreasonable requirements of the audited unit (Lennox, Schmidt, & Thompson,

2019). Therefore, investors make their own investment decisions by perceiving changes in the independence of auditors.

2.2 Research on the impact of audit reports on market reaction

2.2.1 The impact of the audit opinion

From the perspective of audit opinions, the market reaction caused by non-standard audit opinions and standard audit opinions is obvious, and scholars at home and abroad have conducted a lot of research. (Ball & Brown, 1968) first studied the stock returns after the audit opinions were announced. They selected 261 companies listed on the New York Stock Exchange as samples. They found the audit opinions by observing the stock returns during two years. It does have a significant impact on stock prices. (Shank, Murdock, & Dillard, 1977) also conducted a similar study. They divided audit opinions into standard audit opinions and non-standard audit opinions. They studied the impact of non-standard audit opinions and found that non-standard audit opinions would bring negative effects to the stock market. (Ball, Walker, & Whittred, Audit qualifications and share prices., 1979) conducted an in-depth study on reserved opinions. They divided the reserved opinions into three categories, and found that investors would adopt different attitudes and judgments for these three types of reserved opinions, which resulted in different stock prices. Impact. (Estes & Reimer, 1979) studied the evaluations of stock analysts on stock trends, and found that analysts rated companies with unqualified opinions better, while those with qualified opinions were more negative. Both The difference is obvious, and after further research on the stock price using the event research method, it is found that negative opinions have affected the stock price. (Fields & Wilkins, 1991) researched on the announcement of qualified opinions and found that if a company with a qualified opinion is issued, the stock price will rise significantly after the unqualified opinion is cancelled, thus proving the impact of the audit opinion on investor behavior influences.

2.2.2 The impact of specific content of the audit report

More in-depth research found that the market can not only respond to the types of audit opinions, but also identify unqualified opinions with explanations, standard unqualified opinions with Emphasis of Matter Paragraphs. (Chen, Su, & Zhao, 2000) used the unqualified opinion and qualified opinion audit reports with explanatory paragraphs as samples. After performing regression analysis on the sample companies' abnormal returns, they found that the unqualified opinions with explanatory paragraphs could be identified and appeared A lower cumulative

abnormal return rate.

2.3 Research on factors affecting audit quality

The definition of audit quality is different in academic circles, but the mainstream views are the following two. One is from the General Accounting Office of the United States, which believes that audit quality is that auditors conduct audits in accordance with generally accepted auditing standards, with reasonable assurance that the audited financial statements and related disclosures: 1. Statements in accordance with generally accepted accounting principles; 2. Major misstatements caused by errors or fraud. The other one is from (DeAngelo, 1981), (Watts & Zimmerman, 1983) from the definition of audit quality influencing factors. They believe that audit quality is the ability to discover and eliminate errors in financial reports during the audit. It depends on the auditor. The combined effect of professional competence and independence. However, the quality of audits cannot be directly measured. Generally, audit quality is measured by observable audit behaviors.

The main indicators used to measure audit quality are: firm size, audit brand, earnings management and audit fees.

(1) Scale of accounting firm

(DeAngelo, 1981) found that large-scale accounting firms have more client resources and more income, and the greater the amount of compensation in litigation due to audit failures, the greater the damage to reputation. For economic reasons, larger accounting firms can curb speculation and improve high-quality audits. (DeFond & Jiambalvo, 1994) found that companies audited by large accounting firms are significantly less likely to be misreported than companies audited by small accounting firms.

(2) Professional expertise of auditors

(Balsam, Krishnan, & Yang, 2003) found that auditors with industry expertise can play a greater role in suppressing the earnings management of audited entities. (Dunn & Mayhew, 2004) found through research that in certain industries, audit reports disclosed by auditors with industry expertise are more likely to be praised by rating agencies. At the same time, when a listed company intends to transmit its high-quality information to the listed company, it is more willing to hire an auditor with industry expertise. (Carcello & Nagy, 2004) found that the

industry expertise of accounting firms is related to financial manipulation behaviors, and industry special sessions can restrain clients' financial manipulation behaviors.

(3) Audit fees

Large accounting firms generally spend more time on auditing projects, and they also charge relatively high audit fees. Therefore, large accounting firms can often provide high-quality audit services, so they can use Audit fees are used as a substitute variable for audit quality (Palmrose, 1986); moreover, (Francis & Stokes, 1986) studied the relationship between firm size and audit fees through the Simunic model, and found that the two are clearly positively correlated. From the perspective of the replacement of auditors, it is found that for companies with increased audit fees, the changes in audit fees and the company's earnings management change in the same direction, that is, the more manipulable profits, the greater the increase in audit fees.

2.4 Literature review resume

Regarding the reform of auditing standards, the auditing academic community has conducted various studies on the disclosure of key audit matters, including the content, determination, expression and impact of key audit matters in multiple dimensions. Most studies believe that the disclosure of key audit matters can indeed bring about an increase in information content, and can promote investors to obtain effective information from audit reports, thereby having an impact on investors' decision-making. However, some scholars' research results (Vanstraelen, Schelleman, Meuwissen, & Hofmann, 2012) believe that in order to maintain potential economic benefits, auditor will not transmit incremental information in key audit matters, and even if the actual key audit matters are disclosed in the audit report, the information maybe It is released to the market through other means, so there will be no market reaction. Therefore, the current conclusions regarding the market reaction to key audit matters are not clear.

Regarding the aspects of audit reports that affect investors' decision-making, research has shown that different types of audit opinions and audit reports with different content can bring different market reactions, and it also shows that the specific content of the audit report can indeed affect investors. Provide reference for decision-making.

The audit quality is affected and restricted by many factors. However, the existing research on the impact of key audit matters disclosure on audit quality is less, most of the research on this is obtained in a simulated experimental environment, and the empirical research is also based

on the data of the UK market, which is difficult to draw a general conclusion.

In summary, the current analysis of the effects of the disclosure of key audit matters is not clear. Therefore, this article analyzes the disclosure of key audit matters from two aspects. On the one hand, it conducts research on the market reaction after the disclosure of key audit matters, and examines whether the disclosure will bring about changes in stock prices on the capital market. On the other hand, analysis of key audit matters will lead to an improvement in audit quality.

III. THEORETICAL ANALYSIS AND RESEARCH HYPOTHESIS

3.1 Basic theories

3.1.1 Information asymmetry theory

The theory of information asymmetry has attracted the attention of many American economists in the 1870s. This theory provides a good perspective for the market economy. These economists conducted research from the perspectives of several markets such as commodities, labor, and finance. The specific concept of the information market is attributed to George Arthur Akerlof, who carefully studied the second-hand car market and wrote the famous work "*The Market for Lemons: Quality Uncertainty and the Market Mechanism*". In his research, he found that: due to the asymmetry of news between buyers and sellers, the quality of the used car market is getting worse and worse, which ultimately makes the used car market difficult to survive. This is because the phenomenon of information asymmetry will always make the weak party of information lack of confidence, resulting in excessively high transaction costs.

Therefore, the elements of the information asymmetry theory can be summarized into the following two points: one is the difference in the amount of information, the information held by both parties to the transaction is different, there is an advantage in information resources, or that one party is more difficult to obtain information than the other party Much lower. The second is that both parties are aware of this inequality in information. In real life, when a certain contract is established, the relationship formed by the asymmetric information of the two parties involved can be regarded as a principal-agent relationship. This situation is also common, such as commodity sales, insurance and underwriting, and the relationship between patients and physicians. Time can be considered to be formed under this condition. The basic assumption in economics is the rational person assumption, that is, everyone pursues the maximization of benefits under their own conditions. Therefore, when the two parties with asymmetric information face market risks, one party may use information advantages to conceal the relevant situation and make measures that are unfavorable to the other party, which causes two main parts in the theory of information asymmetry. One is Adverse selection can also be called unfavorable selection. It means that before the contract is entered into, the party conducting the market transaction already possesses certain information that the other party does not have, and the party that owns the information will make decisions that benefit itself based on this information. An act that harms the interests of the other party for the benefit of interest; the

other is called moral hazard, also called an act of ethics. After the contract is concluded, the information-superior party does not need to bear the price when it damages the interests of the other party.

Similarly, in the capital market, information asymmetry is widespread. The shareholders and management of listed companies often have an absolute advantage in obtaining information about the company. In an unregulated environment, they can often not disclose or make selective disclosures to the market. Ways to seek their own personal gain. In an orderly and regulated environment, forcing companies to disclose their own situation to the public and investors is to reduce this asymmetry of information, to protect small and medium investors lies in the disadvantages of information access, and to improve access to information by small and medium investors Ability. For auditors, in some respects, their job is to protect the true surname and adequacy of the disclosure of listed companies, effectively reducing the asymmetry of this information. On the one hand, disclosing key audit matters will enable auditors to do more audit work. In this process, it will reduce the information asymmetry between auditors and listed companies, thereby providing protection for the effective disclosure of audit reports. On the other hand, by adding key audit matters to the audit report, investors can read these contents to enable investors to have a better understanding of the actual situation of the company, and also to learn more about the audit performed by the auditors, reducing investment the information gap between the auditor and the auditor and the listed company reduces the existing information asymmetry.

3.1.2 Signaling theory

The Signaling theory originated from the research conducted by Michael Spence in 1974. He was the first to discover education level as a signal, which was transmitted between job seekers and recruiters. Through the analysis of individuals with information advantages in the market, the information is transmitted to the individuals who are weak in information, and job applicants with different production capacities are distinguished and identified, thereby effectively reducing communication costs and realizing a highly efficient market equilibrium. Based on this research, he opened up the research field of signal transmission, and this model of labor market has become a classic style in the field of Signaling theory. Since then, Spence has continued to expand research in this area and carried out a large number of applied researches confirming different market signals. Finally, he summarized the concept of Signaling theory as: commodity information can be transmitted from one party to another through the market as a

medium. Based on the received signals, these receivers will make their own value judgments, and thus make the decision whether to trade. Therefore, signal transmission can play a role in reducing information asymmetry, prompting information receivers to make reasonable decisions, and ensuring market stability and order.

According to the idea of Signaling theory, the theory has two applications in this article. One is the signal transmission involved in the audit report, and the other is the transmission of the auditor's personal reputation. Listed companies are origins of information, and they pass various company information to investors through audit reports. According to the various information in the audit report, the investors perceive the auditor's understanding of the company's situation, make a judgment on the value of company, and reduce the information gap between the investor and the auditor, and make investment or non-investment decisions. In such process, as reducing of information cost and decision-making cost, the market efficiency will be improved. From another aspect, after the audit report with the name of the auditor and the accounting firm to which it belongs is issued, the reputation of the auditor and the accounting firm will also be used as a signal to investors. As the accountant market is becoming more and more saturated and competition is becoming increasingly fierce, the personal reputation of auditors is becoming more and more important. Because once an audit fails or there is an issue of independence in the audit, this negative signal will be transmitted quickly, and it is easy to cause a strong public reaction. Therefore, this has prompted reputable auditors and accounting firms to pay more attention to maintaining their own reputations, deliver a positive reaction to the market, and reduce the risks of audit failures and bad reputation information.

3.1.3 Reputation management theory

In reputation management theory, reputation is considered to be the high evaluation of individuals or groups associated with the actor based on the actor's past behavior, and its essence can enable the actor to obtain long-term benefits.

The main reason for reputation is the asymmetry of information between the parties to the transaction. In fact, in the 18th century, the famous economist Adam Smith studied the important role of reputation in the proper performance of economic contracts. According to the view of reputation theory, reputation is a collection of some information, including the historical behavior and characteristics of the information subject. This information is continuously disseminated and updated in the market, forming a more stable recognition in the minds of

market participants. know. All parties in the market use these corporate information resources to obtain the counterparty's information in advance during transactions, thereby reducing cognitive links, effectively saving transaction resources and reducing transaction costs. According to reputation theory, reputation constitutes the assets of the transaction subject, which will bring definite economic inflows to the company, but the maintenance of reputation also requires the company to invest resources, so the value of reputation can be subtracted from the long-term benefits brought by good reputation the cost of maintaining reputation is calculated. According to this principle, entities with good reputations are more likely to build reputations, because these companies already have a reputation. Maintaining a good reputation can bring them a steady stream of long-term benefits, making them willing to invest sufficient costs. However, if a body with a good reputation has breached the contract or produced unqualified products, the impact on the company will also be very huge, and it may even lead to the bankruptcy of the company in severe cases. In the secondary market, consumers care most about product quality. Before the purchase occurs, they cannot recognize the actual quality of the product, but they can feel the overall evaluation of the product from the broad market and form their own Psychological expectations. If the final purchase of goods far exceeds their own psychological expectations, it will have a great impact on consumers' psychology and form a certain degree of trust in the company. The part that exceeds expectations will also form the company's reputation value. Future decision-making plays a huge role, and can bring this influence to people around, thus bringing benefits to the enterprise.

The audit service provided by auditors is a special commodity, and the evaluation criteria for it are not uniform and fixed. Therefore, it is difficult for audit clients and investors to make judgments about different audit services. In this case, the reputation of auditors has become an important indicator and an effective incentive and restraint mechanism for auditors. If the professional competence and independence of the CPA are relatively strong, the high-quality auditing services it provides will be generally recognized by investors in the customer's market throughout the years, and gradually form its own reputation. On the one hand, this recognition means higher audit quality, which can effectively restrain the management's accrued earnings management behavior and reduce the risk of fraud in corporate financial reports. Therefore, investors can make their own investments based on the contents of the audit report. decision making. On the other hand, in order to make the truthful statements in financial reports recognized by the market, listed companies select accounting firms and auditors with better reputations to provide services for themselves, and accounting firms must also obtain long-term

benefits. In addition, the establishment of reputation requires a long period of high audit service level as the basis, but reputation loss is also very easy. Once the time of failure of the audit occurs, the reputation of the industry that has been painstakingly operated for a long time can be completely destroyed, and it may even be subject to legal litigation and compensation. Moreover, auditors and accounting firms that have failed audits will also receive continuous attention from the market. Regardless of the cause of the audit failures, auditors and accounting firms are considered to lack professional competence and professional rationale. Their future professional activities have brought great obstacles. Therefore, under the role of reputation theory, auditors with good reputation will pay more attention to their own reputation, and thus care more about the quality of their audit services.

3.1.4 The efficient market hypothesis

The "efficient market hypothesis" originated in 1900. The founder of this hypothesis was a Frenchman named Louis Bachelier. When the French mathematician conducted research, he found that commodity prices follow a random walk. It is effective. Therefore, he used mathematical statistical analysis to study the stocks on the market and found that the mathematical expectation of stock returns is constant at zero. In 1970, Eugene Fama conducted in-depth research on this field and finally put forward the theory of the efficient market hypothesis. He believes that in a fully efficient market, all investment participants in the market can obtain a large amount of information at low cost, and the price of the stock market can fully reflect all information. It is impossible for investors in the market to obtain abnormal returns by obtaining information. According to the degree of information asymmetry, the efficient market theory is divided into three levels: one is a strong efficient market, at which all information is immediately reflected in the market price of stocks, and the other is a semi-strong efficient market. The publicly disclosed company-related information is reflected in the stock price, and it is not valid to rely on the analysis of public information to obtain income. The third is a weak effective market, where prices only reflect historical information.

According to the research conclusions of (Borges, 2010), the Spanish stock market doesn’t reject the efficient market hypothesis and is most efficient in whole Europe. It can be considered that public information of companies can be reflected in stock prices. Therefore, if the disclosure of key audit information in public audit reports can be considered as an important investment information, it brings stock price fluctuations. Therefore, the company that discloses key audit information may cause changes in stock prices during the window period, resulting

in abnormal returns. Therefore, the research on market reaction in this article can be established.

3.2 Research hypothesis

According to the provisions of the audit standards, key audit matters are selected from matters communicated with management. Therefore, the management's willingness to communicate on key audit matters affects the auditor's access to disclosed information. (Tysiac, 2014) believes that important accounting estimates and other aspects may be disclosed in the new audit report, and this information is likely to arouse investors' negative sentiment towards the company, which will adversely affect the company. Therefore, the management actively communicates with the auditors to enable the auditors to better understand the disclosed matters and minimize the adverse effects of the disclosed content. Therefore, the disclosure of key audit matters can also be regarded as a signal that the management and the auditors have communicated well, reducing investors' uncertainty about the company.

In terms of disclosure content, the unreformed audit report only has differences in audit opinions between different reports, and most of the other content is templated, so report readers cannot obtain the company's existing risk items and audits in the report. What specific audit procedures did the auditor do during the audit process (Humphrey, Loft, & Woods, 2009) So theoretically speaking, the disclosure of key audit matters can increase report readers' understanding of relevant details and improve the information content of the audit report. In terms of specific content, the key audit item section can be divided into "item description section" and "audit response section". The item description section describes the company's business model and operating conditions, so that investors can get a good understanding of the basic situation of the listed company (Bens, Chang, & Huang, 2019). The audit response section enables readers to understand the audit procedures performed by the auditors, and also enables readers to realize that the auditors have communicated with management and governance in terms of risk response, thereby reducing investors' exposure to company risks. Estimate and judge.

In summary, we believe that the disclosure of key audit matters can provide statement users with more information, have an impact on investors' decision-making, and cause certain market reactions.

Based on the above analysis, hypothesis 1 is proposed: **the disclosure of key audit matters can bring about positive market reactions.**

The new standard requires the disclosure of key audit matters, and in the process of disclosure, in order to ensure the authenticity and objectivity of the disclosed information and reduce audit risks, auditors will therefore consider more carefully whether they maintain an objective and fair attitude during the audit process. Use professional skepticism to conduct audit work, carefully treat the problems found in the audit process, adopt a more active work attitude to implement the audit plan, obtain more sufficient audit evidence, and complete the audit work. At the same time, it will also communicate more fully with the management and governance of the audited unit regarding the disclosed matters. In these processes, the probability of auditors being able to find errors or fraudulent behaviors of the audited unit is increased, thereby effectively improving the quality of audits.

Secondly, from the perspective of governance, because there is more communication with auditors, the governance can also detect management’s speculation in accounting policies early, and effectively suppress management’s earnings management through timely communication with management. Behavior, thereby improving audit quality.

Finally, from the management's own perspective, in the face of the supervision of the governance and the auditor's repeated acquisition of audit evidence and the disclosure to the public of matters that were originally only reflected in the auditor's papers, the management will also face these pressures. Adopt more robust accounting policies to ensure reasonable disclosure of key audit matters. Therefore, the behavior of management will also lead to an improvement in audit quality.

Based on the above analysis, hypothesis 2 is proposed: **The disclosure of key audit matters will improve the audit quality.**

IV. RESEARCH DESIGN

4.1 Measurement of market reaction and audit quality

4.1.1 Market reaction

The event study method is used to figure out the market reaction, and the cumulative abnormal return calculated by the market model is used as the proxy variable of the market reaction. The specific method is as follows:

First, it is necessary to determine the event day, event window and estimated window period. This article will include the first publication day of the audit report containing key audit matters as the 0th day of the event day; use [-5, +5] as the event window period. The estimated window is selected from 210 days before the event to the 11th day before the event, a total of 200 days.

For the cumulative abnormal return, divided into the following steps computing. First calculate the expected return, the calculation method is:

$$R_{it}{}' = \alpha + \beta R_{mt} \tag{1}$$

In this formula, R_{it} refers to the actual return of the i-th stock on the t-th day during the window period. The calculation method is:

$$R_{it} = \left(P_{it} - P_{i(t-1)}\right)/P_{i(t-1)} \tag{2}$$

P_{it} represents the closing price of the i-th stock on day t, and $P_{i(t-1)}$ represents the closing price of the i-th stock on day t-l. R_{mt} represents the return of the corresponding market portfolio in the market IBEX-35 on day t. α and β are the independent and dependent variables of R_{it} and R_{mt} for each day, calculated by the least square method with α and β in $R = \alpha + \beta R_{mt}$, using the real number pairs of R_{it} and R_{mt} in the window period.

The calculation method of the abnormal return of a single stock is:

$$AR_{it} = R_{it} - R_{it}{}' \tag{3}$$

The cumulative abnormal return of stock i in the event period:

$$CAR_i = \sum_{t=-5}^{t=5} AR_{it} \tag{4}$$

4.1.2 Audit quality

The detecting of earnings management is a widely used method to measure audit quality. Based on this approach, the well-known Modified Jones Model by (Jones, 1991)) and (Dechow, Sloan, & Sweeney, 1995) is used to detect earnings management:

$$\frac{TA}{A_{\tau-1}} = \alpha_1\left(\frac{1}{A_{\tau-1}}\right) + \alpha_2\left[\frac{\Delta REV_\tau}{A_{\tau-1}}\right] + \alpha_3\left(\frac{PPE_\tau}{A_{\tau-1}}\right) + \varepsilon_\tau \tag{5}$$

Firstly, using this equation to get the estimates of coefficients, and then the expected NDA can be calculated using data in period t.

$$\frac{NDA}{A_{\tau-1}} = \alpha_1\left(\frac{1}{A_{\tau-1}}\right) + \alpha_2\left[\frac{(\Delta REV_\tau - \Delta REC_\tau)}{A_{\tau-1}}\right] + \alpha_3\left(\frac{PPE_\tau}{A_{\tau-1}}\right) + \varepsilon_\tau \tag{6}$$

$$DA = \mathrm{TA} - \mathrm{NDA} \tag{7}$$

TA represents total accruals, NDA represents non-discretionary accruals, DA represents discretionary accruals, A represents total Assets, ΔREV represents variance of revenue, ΔREC represents variance of receivables, PPE represents fixed asset, $\varepsilon_\tau$represents error term.

4.2 Sample selection and data sources

4.2.1 Sample selection

The sample companies selected in this article are the 35 companies included in the IBEX-35 index list of 2019. Excluding 7 financial, bank and insurance industries (Banco Sabadell, Banco Santander, Bankia, Bankinter, BBVA, CaixaBank, Mapfre), in which those companies have different financial structures and distinct methodologies to measure their financial states comparing with other industries, so it is important to avoid the influence of these peculiarities on the analysis results. In addition, ArcelorMittal (MTS) was removed from the sample list because it became a Luxembourg-based company after the acquisition of the former Arcelor and was not included in the SABI database. There are 27 available samples. Each sample company selects the data of the first two years and the next two years of applying the ISA-701 standard, a total of 4 fiscal years. A total of 108 sets of data.

In the process of data collection, there are several key points that need to be specifically pointed out:

1. Except for Inditex SA, the financial year of the other 26 companies is from January 1 to December 31 of each calendar year. Therefore, according to the above data selection criteria, the data for 2015, 2016, 2017, and 2018 are included. The financial year of Inditex SA is from February 1st to January 31st of the following year. In order to unify the data and facility following data analysis, I remark especially the financial year of Inditex SA that the data from February 1st of 2015 to January 31st of 2016 as financial year 2015, so as 2016, 2017, and 2018.
2. Gamesa Corporación Tecnológica S.A. merged with Siemens Wind Power in July 2016, and the new combined company changed its fiscal year end date to September 30 of each year. Accordingly, we can observe that the company published two annual reports in February and November 2017. For the sake of data harmonization, the period from January 1, 2017 to September 30, 2017 is treated as fiscal year 2017, while the period from October 1, 2017 to September 30, 2018 is treated as fiscal year 2018.

4.2.2 Data sources

The information of audit reports of the sample companies is subject to the version published on the CNMV website. It should be pointed out that ArcelorMittal's annual report is not disclosed in CNMV, so the annual report disclosed on its company's official website shall prevail.

The company's financial data is subject to the data in the SABI database.

The company's stock price data is based on Dow Jones' Factiva database.

4.3 Variable selection and definition

When verifying hypothesis 1, the explanatory variable is whether to disclose key audit matters, and the explained variable is the cumulative abnormal return. When verifying Hypothesis 2, the explanatory variable is whether to disclose key audit matters, and the explained variable is the discretionary accruals.

In terms of control variables, this article combines the research of previous scholars and selects the following 5 control variables:

(1) Company size (SIZE): The total assets of a listed company represent the company's size, expressed in logarithm. Generally speaking, the larger the scale of the company's assets, the more stable the company's stock price, and it is difficult to be manipulated by a few investors. At the same time, companies with large assets often have a sound governance structure and an effective internal control system, which can effectively restrain the management's profit manipulation behavior, and often have relatively high audit quality.

(2) Asset-liability ratio (LEV): The ratio of total liabilities of listed companies to total assets can represent financial risks. Companies with a high debt-to-asset ratio indicate that debt financing accounts for a relatively large proportion and therefore have relatively large financial risks. Investors are considering risk control and generally will not invest in such companies, so they have excessive assets and liabilities. The rate may bring negative changes in stock prices. In addition, for companies with higher debt-to-asset ratios, the company's management has more incentives to whitewash the financial statements, which may result in lower audit quality.

(3) Net asset interest rate (ROA): It is the net profit at the end of the period/total equity at the end of the period. A company with high earnings per share indicates that it can use fewer resources to create stronger profits. Companies with high net asset interest rates will be considered by investors to have stronger profitability and higher enthusiasm for investment in such companies; if the company has stronger profitability, the need for earnings management will decrease. On the contrary, if the company's profitability is worse and there is greater pressure to continue operating, the company's management is very motivated to disguise the company's financial and operating conditions by manipulating earnings.

(4) Growth rate of operating income (GROWTH): Reflects the growth of the company. The calculation method is (operating income of the current year-operating income of the previous year)/operating income of the previous year. Companies with high operating income growth rates generally are in a period of rising business and has future profit expectations, so they are easily recognized by investors; Meanwhile, higher operating income growth rates represents the company's ability to continue operations. Generally speaking, a company with a stronger ability to continue operations has less incentive to manipulate earnings.

(5) Loss: Determined by the company’s net profit. A company that has incurred losses may be considered by investors as a manifestation of inadequate ability to continue operations, which may easily cause investors to sell their stocks. In addition, the loss-making company has the

motivation to cover up the true situation of the company through earnings management. Therefore, use "whether to make a loss" as the control variable for the study.

Type	Name	Code	Meaning
Explanatory variables	Disclosure of key audit matters	KAM	Disclosure as "1"; undisclosed as "0"
Explained variable	Market Reaction	CAR	As 4.1
	Audit quality	DA	As 4.2
Control variable	Company size	SIZE	Natural logarithm of total assets
	Asset-liability ratio	LEV	Total liabilities/total assets
	Net asset interest rate	ROA	Net profit/average total assets
	Growth rate	GROWTH	Operating income growth / operating income of the previous period
	Loss	LOSS	Net profit is less than 0, as "1", otherwise as "0"

4.4 Model construction

In order to verify Hypothesis 1, a multiple linear regression model is established to examine whether key audit matters can bring incremental information to investors, thereby bringing positive market reactions. In the model, the explanatory variable is the cumulative abnormal return, and the explanatory variable is the key audit matter disclosed in the audit report:

$$CAR = \partial_1 + \partial_2 KAM + \partial_3 SIZE + \partial_4 LEV + \partial_5 ROA + \partial_6 GROWTH + \partial_7 LOSS + \varepsilon \quad (8)$$

In order to verify the second hypothesis, a multiple linear regression model is established to examine whether the key audit items can improve the audit quality. In the model, the explanatory variable is non-discretionary accruals, whether the key audit matters are disclosed in the audit report of the explanatory variable,

$$DA = \partial_1 + \partial_2 KAM + \partial_3 SIZE + \partial_4 LEV + \partial_5 ROA + \partial_6 GROWTH + \partial_7 LOSS + \varepsilon \quad (9)$$

V. EMPIRICAL RESULTS AND ANALYSIS

5.1 Data Preparation

5.1.1 Cumulative Abnormal Return

The raw data obtained from the Factiva database contains, daily opening price, closing price, high price, low price, and volume information for 27 companies' stocks as well as the IBEX35 index from May 1, 2015 to May 1, 2019. The daily real returns were obtained by using Equation (2).

Based on Equation (1), the daily returns for each company for each year of the window period were fitted to the market returns for that day in a one-dimensional linear regression to obtain the respective expected return coefficients.

Afterwards, the corresponding expected return is calculated based on the market return and expected return coefficients for the event period of each company's annual audit report release, and the abnormal return is obtained according to Equation (3).

Finally, the abnormal returns for the event period are summed according to Equation (4) to obtain the cumulative abnormal returns (CAR) for each company for each year.

5.1.2 Discretionary Accruals

A multivariate linear fit was performed based on the data obtained from the SABI database according to Equation 5, and the fit coefficients were obtained and tested.

$$\frac{TA}{A_{\tau-1}} = \alpha_1\left(\frac{1}{A_{\tau-1}}\right) + \alpha_2\left[\frac{\Delta REV_\tau}{A_{\tau-1}}\right] + \alpha_3\left(\frac{PPE_\tau}{A_{\tau-1}}\right) + \varepsilon_\tau \tag{5}$$

With:

Table 5-1 Regression parameters comparison table

Y	$TA/A_{\tau-1}$
X1	$1/A_{\tau-1}$
X2	$\Delta REV_\tau/A_{\tau-1}$
X3	$PPE_\tau/A_{\tau-1}$

The results of the fit are shown in Table 5-2 below:

Table 5-2 Result of OLS with Modified Jones Model

Dependent variable: Y

	Coefficient	*Std. Error*	*t-ratio*	*p-value*	
const	−0.0338364	0.0390879	−0.8656	0.3887	
X1	−149.846	18065.0	−0.008295	0.9934	
X2	0.664606	0.0905669	7.338	<0.0001	***
X3	0.167027	0.0301758	5.535	<0.0001	***

Mean dependent var	0.153912	S.D. dependent var	0.330548
Sum squared resid	5.749096	S.E. of regression	0.235117
R-squared	0.508246	Adjusted R-squared	0.494061
F(3, 104)	35.82934	P-value(F)	5.51e-16
Log-likelihood	5.141422	Akaike criterion	−2.282844
Schwarz criterion	8.445681	Hannan-Quinn	2.067183

The non-discretionary accruals of each company per year is then calculated using Equation 6, and finally the discretionary accruals of each company per year is calculated using Equation 7, and its absolute value is taken as the final DA data.

5.2 Descriptive statistics

First, descriptive statistics were conducted for 27 companies for 4 years, as shown in Table 5-3 below:

Table 5-3 Descriptive statistics of all variables

Variable	Mean	Median	S.D.	Min	Max
CAR	-0.00253	-0.00444	0.0524	-0.173	0.160
DA	0.158	0.112	0.163	0.000159	0.843
KAM	0.500	0.500	0.502	0.000	1.00
SIZE	15.4	15.5	1.41	11.9	18.3
LEV	50.0	53.2	22.5	5.00	88.4
ROA	5.45	3.06	11.6	-42.4	68.8
GROWTH	1.16	0.0534	8.73	-0.802	89.6
LOSS	0.139	0.000	0.347	0.000	1.00

From the above table, the direct cumulative abnormal return varies widely from year to year for different companies, with a maximum of 0.1603, a minimum of -0.1729, and a mean of -0.002534, which approximates to 0. The difference in actionable accrued profit is also relatively large, with a maximum of 0.8434, a minimum of 0.0001592, and a mean of 0.1581.

5.3 Correlation test

Before regression analysis of the model, in order to avoid the existence of multicollinearity of the variables involved in the above, the correlation analysis of the variables studied in the model was first performed, and the figures in the Table 4 are the Pearson coefficients between the variables.

The individual numbers in the table indicate the direct relationship and closeness and direction of the two variables, the greater the absolute value of this number, the higher the correlation between the two, and its positive and negative represent the direction. Overall, each coefficient in the above table does not exceed 0.6, which indicates that the design of the model is basically reasonable and there is no problem of multicollinearity that affects the results.

In order to show the correlation between each variable more intuitively, the following is its correlation matrix:

Graph 1 correlation matrix of all variables

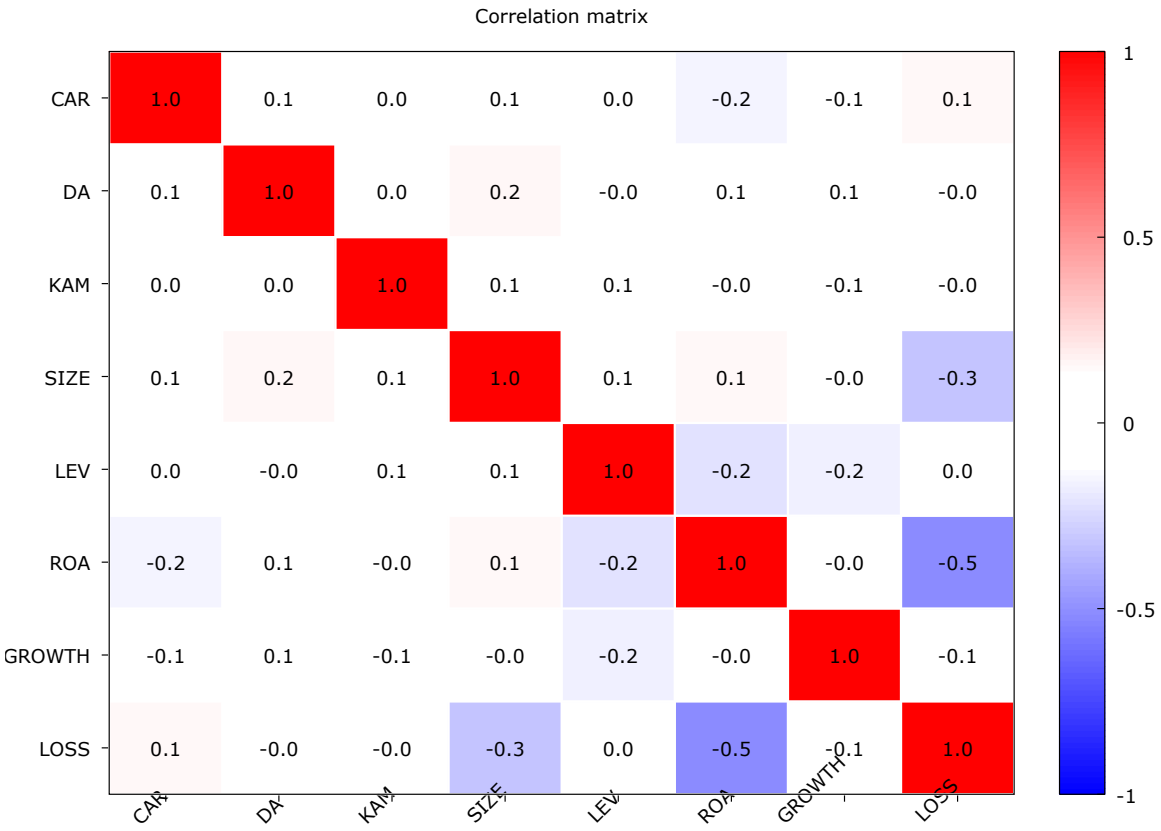

Table 4 Correlation coefficients, 5% critical value (two-tailed) = 0.1891 for n = 108

CAR	DA	KAM	SIZE	LEV	ROA	GROWTH	LOSS	
1.0000	0.1173	0.0099	0.0726	0.0222	-0.1623	-0.0543	0.1491	CAR
	1.0000	0.0486	0.1501	-0.0326	0.0956	0.1006	-0.0047	DA
		1.0000	0.0809	0.0608	-0.0472	-0.0881	-0.0268	KAM
			1.0000	0.0963	0.1475	-0.0171	-0.3265	SIZE
				1.0000	-0.2251	-0.1765	0.0324	LEV
					1.0000	-0.0207	-0.5221	ROA
						1.0000	-0.0612	GROWTH
							1.0000	LOSS

5.4 Multiple linear regression results

5.4.1 multiple linear regression with model 1

In order to test hypothesis 1, which is whether the disclosure of key audit matters in the annual reports of all companies would lead to a positive market reaction, a multiple linear regression was conducted with the annual reports of companies in the IBEX35 index as samples, following model 1, and the results are presented in the table 5.

Table 5 Result of multiple linear regression with model 1
Dependent variable: CAR

	Coefficient	*Std. Error*	*t-ratio*	*p-value*
const	−0.0747937	0.0604864	−1.237	0.2191
KAM	−0.000662605	0.0102231	−0.06481	0.9484
SIZE	0.00500991	0.00384880	1.302	0.1960
LEV	−7.48157e-05	0.000239285	−0.3127	0.7552
ROA	−0.000565349	0.000532665	−1.061	0.2911
GROWTH	−0.000319382	0.000598685	−0.5335	0.5949
LOSS	0.0188973	0.0181172	1.043	0.2994

Mean dependent var	−0.002534	S.D. dependent var	0.052439
Sum squared resid	0.279250	S.E. of regression	0.052582
R-squared	0.050928	Adjusted R-squared	-0.005453
F(6, 101)	0.903284	P-value(F)	0.495745
Log-likelihood	168.4748	Akaike criterion	−322.9495
Schwarz criterion	−304.1746	Hannan-Quinn	−315.3370

From the regression results, the R-squared is 0.05 and P-value is 0.495745 which is smaller than F(6,101), failed to pass the F-test, so according to this model we cannot accept the hypothesis 1, that is, we cannot judge that the disclosure of key audit matters from 2017 will come to bring a positive market reaction.

Analyzing from each parameter, where the coefficient of KAM is -0.000662605 and the p-value is 0.9484, the result is not significant. The other coefficients such as firm size (SIZE), capital profitability (ROA), and loss of profits (LOSS) show relatively high correlations with the cumulative abnormal returns.

5.4.2 multiple linear regression with model 2

In order to test hypothesis 2, which is whether the disclosure of key audit matters will improve the audit quality, a multiple linear regression was conducted with the annual reports of companies in the IBEX35 index as samples, following model 2, and the results are presented in the table 6.

Table 6 Result of multiple linear regression with model 2
Dependent variable: DA

	Coefficient	*Std. Error*	*t-ratio*	*p-value*
const	−0.176773	0.187777	−0.9414	0.3487
KAM	0.0181912	0.0317372	0.5732	0.5678
SIZE	0.0197540	0.0119484	1.653	0.1014
LEV	−2.17996e-05	0.000742850	−0.02935	0.9766
ROA	0.00204522	0.00165363	1.237	0.2190
GROWTH	0.00222812	0.00185859	1.199	0.2334
LOSS	0.0639097	0.0562441	1.136	0.2585

Mean dependent var	0.158092	S.D. dependent var	0.163040
Sum squared resid	2.691304	S.E. of regression	0.163238
R-squared	0.053778	Adjusted R-squared	-0.002433
F(6, 101)	0.956713	P-value(F)	0.458513
Log-likelihood	46.12834	Akaike criterion	−78.25668
Schwarz criterion	−59.48176	Hannan-Quinn	−70.64413

The regression results for model 2 exhibit similar results to model 1, with a lower R-squared value (0.053778) demonstrating a lower correlation that does not pass the F-test, among others. This also brings similar consequences, i.e., the inability to accept hypothesis 2, thus we cannot judge that the disclosure of key audit matters from 2017 will come to improve the audit quality.

5.5 Analysis of the results

The ISA 701 standard issued by the International Auditing and Assurance Standards Board (IAASB) is to improve the information content of audit reports, so that investors can obtain more effective content from them, so that investors have more confidence in the investment target, thereby promoting the prosperity and stable development of the capital market.

However, judging from the research results of this article, the disclosure of key audit matters

has not achieved the expected results. The possible reasons are:

1. Among the factors that affect the company's stock price, the opinions and decisions of institutional investors are very important. They themselves have a wealth of information sources, as well as strong financial report analysis and data mining capabilities. Therefore, the content covered in the key audit matters is not obvious for the information supplement of institutional investors, and cannot significantly improve their information acquisition capabilities, thereby enhancing their confidence in the investment target.

2. The disclosure of key audit matters does provide independent investors with a way to obtain more investment information. However, reading and understanding key audit matters still places high requirements on the financial literacy of independent investors, which is probably what they lack. Therefore, the effect of making up for the information gap between independent investors and investment targets by disclosing key audit markets may be very limited.

3. The release of key audit matters has not changed the habits of investors in a short period of time. Investors tend to ignore the contents of the audit report for the financial report that the audit institution has issued an unqualified opinion report. The monotony and uniformity of audit reports for a long time, especially when unqualified opinions are issued, has made investors not have the habit of carefully reading audit reports. Therefore, in the short term when the new standard is issued, such as the first and second years of the sample in this article, the disclosure of key audit matters in the audit report may not have attracted enough attention from investors. Therefore, the market reaction affected by this is not obvious.

In addition, the issuance of new standards that require the disclosure of key audit matters puts forward new requirements for audit companies, and has more conditions for evaluating audit quality. The disclosure of key audit matters requires auditors to publish the contents of the audit working paper, which poses new challenges to the rigor and professionalism of the audit work. However, judging from the statistical research results of this article, the disclosure of key audit matters does not have a significant effect on the improvement of audit quality. This may be caused by the following points:

1. The disclosure of key audit matters has not brought about a substantial revolution in audit tasks, and the working methods and corresponding requirements of auditors are still succumbed to other existing auditing standards. The key audit matters disclosed originally exist in the audit working paper, which surprises the auditors may not even need to do additional work to meet

the requirements of the new standards.

2. For top audit firms, the requirements for audit quality are not only compliance with international auditing standards, but also strict internal systems. The top audit firms have raised the assurance of audit quality to a very high level in all aspects of talent selection, training and management. Therefore, only the requirement of disclosing key audit matters cannot revolutionize the current audit quality.

3. Although ISA-701 puts forward a series of requirements and standards for the disclosure of key audit matters, there is still a lack of strict and detailed standards. As the main body of audit work, auditors still have room for subjective opinions on the number, specific aspects and expressions of key audit matters disclosed. This makes the disclosure of key audit matters to improve audit quality to a large extent depend on the professionalism of the auditors themselves.

4. Similar to investors, in the first two years when the auditing standards required the disclosure of key audit matters, the auditor's understanding of the role of key audit matters in improving audit quality is likely to be still in the exploratory stage, and possibly can't effectively disclose key audit matters to provide audit quality.

VI. CONCLUSION

6.1 Research conclusions

The following conclusions are drawn from this paper's study of the impact of requiring the disclosure of key audit matters in audit reports since 2017, within the context of IBEX-35 companies.

First, comparing market data for a total of four years before and after the issuance of the requirement to disclose key audit matters, the disclosure of key audit matters did not result in a positive or negative market reaction at the statistical level.

Second, comparing the market data for the four years before and after the issuance of the requirement to disclose key audit matters, the disclosure of key audit matters did not have a statistically significant effect on the improvement of audit quality.

6.2 Limitations and Research prospects

Finally, it must be pointed out that due to the availability of data, the limitations of data analysis capabilities, and some deficiencies in the overall research design, the conclusions of this empirical analysis have some limitations.

1. The number of samples. In this study, the audit reports of non-bank insurance financial companies in IBEX 35 were used as samples. Although the sampling year was extended to two years before and after, the number of samples was still very limited compared to the multiple linear regression analysis model used.

2. Sample selection. IBEX 35 selects high-quality, representative, and important companies in the Spanish national economy as components of its index.

First of all, these companies are in good operating conditions, with high internal management quality, and the management's motivation and operability for earnings management are very low. However, this article uses earnings management as a proxy variable of audit quality, which will make it less significant compared to other companies.

Secondly, most of these companies have maintained a long-term good social reputation, and their operations continue to be subject to media reports and authority supervision, which makes

investors less concerned about their audit reports, which will weaken the market reaction brought about by the new contents of the audit reports to a certain extent.

3. Selection of variables. This article takes discretionary accruals in earnings management as a proxy variable for audit quality. Although many relevant researches use such approach, it does not fully reflect the true characteristics of audit quality. It simply measures the possibility of financial manipulation by the management of the audited unit, but ignores the decisive significance of the auditor's work in audit quality.

In further research, the scope of the sample can be expanded, especially to include small and medium-sized listed companies that have less transparent financial and operating information.

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VIII. ANEXOS

Anexo 1 List of sample companies:

code	name
1	ACCIONA, SA
2	ACERINOX, SA
3	ACS, ACTIVIDADES DE CONSTRUCCION Y SERVICIOS, SA
4	AENA S.M.E. SA.
5	ALMIRALL SA
6	AMADEUS IT GROUP SA
7	CELLNEX TELECOM SA.
8	CIE AUTOMOTIVE, SA
9	ENAGAS SA
10	ENDESA SA
11	FERROVIAL SA
12	GRIFOLS SA
13	IBERDROLA, SOCIEDAD ANONIMA
14	INDRA SISTEMAS, SOCIEDAD ANONIMA
15	INDUSTRIA DE DISEÑO TEXTIL SA
16	INMOBILIARIA COLONIAL SOCIMI S.A.
17	INTERNATIONAL CONSOLIDATED AIRLINES GROUP SA
18	MELIA HOTELS INTERNATIONAL SA.
19	MERLIN PROPERTIES SOCIMI SA.
20	NATURGY ENERGY GROUP SA.
21	PHARMA MAR SA
22	RED ELECTRICA CORPORACION SA
23	REPSOL SA.
24	SIEMENS GAMESA RENEWABLE ENERGY SOCIEDAD ANONIMA
25	SOLARIA ENERGIA Y MEDIO AMBIENTE, SA
26	TELEFONICA, SA
27	VISCOFAN SA

Anexo 2 List of multiple linear regression database

NAME	CAR	DA	KAM	SIZE	LEV	ROA	GROWTH	LOSS
ANA-2015	-0.0412	0.012934	0	15.47612	40.249	3.359	-0.242873436	0
ANA-2016	-0.00919	0.177603	0	15.57137	36.814	6.743	-0.493542192	0
ANA-2017	0.009402	0.143677	1	15.60521	38.883	2.834	-0.073835942	0
ANA-2018	0.065909	0.159463	1	15.70691	46.15	2.969	1.488539376	0
ACX-2015	-0.05317	0.071798	0	14.83923	75.52	-0.829	0.048344685	1
ACX-2016	-0.02491	0.087223	0	14.8079	75.48	0.015	0.046987708	0
ACX-2017	0.043789	0.089181	1	14.79689	79.459	0.48	0.059699716	0
ACX-2018	-0.02437	0.030812	1	14.72946	88.378	-5.041	0.049849049	1
ACS-2015	-0.0126	0.064186	0	15.82976	70.114	1.739	-0.248320251	0
ACS-2016	0.03023	0.139937	0	15.76623	64.786	18.089	2.033555303	0
ACS-2017	-0.02729	0.027383	1	15.68097	56.603	10.044	-0.649357161	0
ACS-2018	-0.00452	0.224047	1	15.84392	53.864	13.915	-0.170657832	0
AENA-2015	0.027846	0.023104	0	16.60706	71.271	6.322	0.069636134	0
AENA-2016	0.04526	0.023612	0	16.51334	63.875	10.132	0.080910358	0
AENA-2017	-0.04069	0.012925	1	16.49678	58.769	10.916	0.070895483	0
AENA-2018	-0.04069	0.009247	1	16.4626	55.173	12.111	0.055744208	0
ALM-2015	-0.05292	0.255172	0	14.71242	42.694	4.001	-0.556421537	0
ALM-2016	0.052604	0.058691	0	14.73087	43.11	2.445	-0.020621389	0
ALM-2017	0.028786	0.189908	1	14.58036	45.69	-8.171	-0.033467649	1
ALM-2018	-0.08993	0.059105	1	14.71881	51.118	2.808	0.075908388	0
AMS-2015	0.012361	0.002487	0	14.19145	73.859	24.004	0.091328894	0
AMS-2016	0.026219	0.09901	0	15.54486	74.108	14.908	8.871816214	0
AMS-2017	0.000919	0.467482	1	15.54786	79.472	11.954	0.084493217	0
AMS-2018	-0.07836	0.492822	1	15.72897	82.321	11.165	0.049155217	0
CLNX-2015	0.063322	0.211341	0	14.34609	73.203	0.72	0.219091519	0
CLNX-2016	0.025434	0.169052	0	14.74566	81.824	0.636	0.53176646	0
CLNX-2017	-0.02068	0.137087	1	14.98974	85.727	-0.056	0.053413529	0
CLNX-2018	-0.12521	0.102652	1	15.1118	84.77	-1.53	-0.096833814	1
CIE-2015	0.053447	0.11373	0	14.0824	62.959	7.658	0.154688058	0

CIE-2016	-0.04488	0.136691	0	14.32074	67.463	4.09	0.086666292	0
CIE-2017	-0.06305	0.108345	1	14.3452	67.439	4.969	0.196762894	0
CIE-2018	-0.0197	0.241058	1	14.3378	75.968	2.495	-0.249848607	0
ENG-2015	-0.04044	0.088561	0	15.62378	65.853	5.604	-0.040324656	0
ENG-2016	0.031598	0.061351	0	15.53224	62.293	5.957	-0.039251337	0
ENG-2017	0.050432	0.071573	1	15.45047	58.783	6.557	-0.012712213	0
ENG-2018	-0.00954	0.114083	1	15.62089	64.921	5.901	-0.024518413	0
ELE-2015	0.008836	0.195434	0	16.55137	48.408	6.723	-0.802266556	0
ELE-2016	0.000576	0.111701	0	16.54851	48.234	8.693	0.097313433	0
ELE-2017	0.057634	0.106946	1	16.54988	47.766	9.655	-0.031556039	0
ELE-2018	-0.00054	0.15561	1	16.85224	61.17	7.011	0.110674157	0
FER-2015	-0.07036	0.118837	0	16.20809	50.668	0.587	0.181134005	0
FER-2016	0.033377	0.102433	0	16.12724	51.729	0.763	0.084152037	0
FER-2017	-0.01372	0.096854	1	15.98102	48.984	0.974	-0.336143504	0
FER-2018	0.031811	0.112738	1	15.97214	53.853	0.555	-0.027972028	0
GRF-2015	-0.00962	0.077954	0	14.67562	44.115	9.044	0.153827906	0
GRF-2016	-0.01736	0.041356	0	14.52143	28.545	14.72	0.193372641	0
GRF-2017	-0.03624	0.281483	1	15.45785	69.368	5.908	0.142252483	0
GRF-2018	-0.01689	0.076097	1	15.45191	66.526	5.582	0.094333923	0
IAG-2015	-0.05862	0.086503	0	15.94525	15.828	4.888	0.185818127	0
IAG-2016	0.006891	0.103348	0	15.95843	11.626	6.42	-0.053724624	0
IAG-2017	-0.00437	0.100182	1	15.94053	14.853	7.015	-0.021213889	0
IAG-2018	-0.17285	0.103564	1	15.95523	20.792	7.781	10.61794421	0
IBE-2015	-0.05847	0.698241	0	17.74024	33.278	-0.089	-0.261361452	0
IBE-2016	0.034309	0.510587	0	17.69319	31.318	2.83	0.505432968	0
IBE-2017	-0.00155	0.429468	1	17.65356	28.466	3.461	0.011193444	0
IBE-2018	-0.02206	0.289752	1	17.6743	31.54	1.957	-0.184762754	0
ITX-2015	-0.05081	0.736364	0	15.81987	54.327	27.995	0.174463373	0
ITX-2016	0.014353	0.815377	0	15.923	55.057	29.265	0.169817249	0

ITX-2017	0.089969	0.843387	1	15.89132	50.545	31.162	0.103880634	0
ITX-2018	-0.03251	0.193409	1	16.53812	20.091	68.764	0.614636008	0
IDR-2015	0.063145	0.225876	0	14.8964	84.709	-18.893	0.043620924	1
IDR-2016	-0.03406	0.143487	0	15.00325	83.671	3.182	0.024773902	0
IDR-2017	-0.03955	0.142883	1	15.15885	79.298	2.93	0.015212622	0
IDR-2018	0.015279	0.150202	1	15.13405	79.023	1.003	0.492590375	0
COL-2015	0.069065	0.187748	0	14.93952	46.206	9.153	0.10279417	0
COL-2016	-0.05739	0.167845	0	15.11177	48.173	1.69	0.012668591	0
COL-2017	0.004253	0.171995	1	15.46613	51.392	0.675	0.161989615	0
COL-2018	0.030759	0.164302	1	15.64224	50.169	0.572	0.973494982	0
MEL-2015	0.075174	0.138739	0	14.62531	77.144	-0.386	0.101215259	1
MEL-2016	0.013775	0.106063	0	14.64892	64.491	3.047	0.045593519	0
MEL-2017	-0.02482	0.137163	1	14.66276	62.861	2.823	0.153057033	0
MEL-2018	0.001382	0.116208	1	14.69856	62.544	2.558	0.080822102	0
MRL-2015	-0.01827	0.338676	0	14.98733	11.415	0.925	89.57552083	0
MRL-2016	-0.05687	0.27956	0	15.97246	53.434	1.365	2.374644202	0
MRL-2017	0.057198	0.137923	1	15.99683	55.653	0.881	0.630474511	0
MRL-2018	-0.00781	0.10474	1	16.00905	56.518	2.382	0.000240366	0
NTGY-2015	-0.08924	0.018331	0	17.31743	58.362	3.007	0.085564399	0
NTGY-2016	-0.00535	0.023103	0	17.28365	58.088	3.064	0.082486252	0
NTGY-2017	0.036075	0.016252	1	17.34084	60.353	2.77	0.012713404	0
NTGY-2018	0.019017	0.123524	1	17.32831	48.643	15.747	0.097314202	0
PHM-2015	0.154603	0.153516	0	13.0445	27.902	-10.137	0.173803736	1
PHM-2016	-0.06515	0.113167	0	13.07783	32.781	-1.206	0.178620738	1
PHM-2017	0.064682	0.315193	1	12.69757	44.902	-42.432	0.041592138	1
PHM-2018	-0.06148	0.207981	1	12.50966	45.331	-20.377	0.057641715	1
REE-2015	-0.03153	0.087322	0	14.70285	5.987	20.911	0.075798855	0
REE-2016	0.017348	0.111955	0	14.75479	6.447	21.782	0.096842873	0
REE-2017	0.004844	0.108274	1	14.82729	7.042	22.882	0.12901835	0
REE-2018	-0.06927	0.094841	1	14.93143	11.247	21.172	0.031302315	0
REP-2015	0.074411	0.013711	0	16.89001	22.667	-2.139	-0.50728988	1
REP-2016	-0.00826	0.193742	0	16.98284	16.117	13.388	1.63794604	0

REP-2017	0.036713	0.037497	1	16.93399	17.203	-3.86	-0.717255031	1
REP-2018	-0.01945	0.236327	1	17.2495	37.545	1.783	0.585764294	0
SGRE-2015	-0.03779	0.020579	0	13.77499	6.234	11.944	-0.325822579	0
SGRE-2016	0.031694	0.04444	0	13.80361	5.003	10.435	0.893676703	0
SGRE-2017	0.160275	0.611971	1	16.06746	15.827	-18.71	-0.751374903	1
SGRE-2018	0.029757	0.12994	1	16.28637	31.945	0.484	7.358326731	0
SLR-2015	-0.05089	0.059042	0	11.98455	56.825	-7.012	-0.310935069	1
SLR-2016	-0.02484	0.071215	0	11.92907	57.681	-3.29	-0.241839458	1
SLR-2017	0.071598	0.129571	1	11.8686	53.033	2.041	0.451936095	0
SLR-2018	-0.08937	0.082932	1	12.27231	23.419	0.819	0.292055203	0
TEF-2015	-0.01958	0.000159	0	18.25831	72.753	-1.759	-0.320979259	0
TEF-2016	0.050785	0.061236	0	18.23748	75.646	3.442	-0.539142046	0
TEF-2017	0.066124	0.088318	1	18.25657	76.592	0.322	0.360738863	0
TEF-2018	0.001539	0.102057	1	18.26804	75.596	2.637	0.327921214	0
VIS-2015	-0.09976	0.044141	0	13.16111	16.783	20.804	0.042428149	0
VIS-2016	-0.03773	0.112472	0	13.22888	20.34	13.324	-0.034537846	0
VIS-2017	0.033594	0.029237	1	13.25837	19.263	16.057	0.0534092	0
VIS-2018	0.035736	0.053542	1	13.29761	21.593	15.716	0.108476225	0