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An evaluation of financial statement quality in pre-versus post-IFRS-7 implementation: the case of Iraqi banking industry

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Abstract
This study compares Iraqi banking financial statements before and after IFRS-7 financial instruments disclosure. "Nijmegen Centre for Economics (NiCE)" qualitative content analysis was used to assess financial statement quality, which was measured using NiCE disclosure index. This study analysed data using a paired sample test to meet its goals. After IFRS-7, financial reporting quality is represented by 2016–2018. Before IFRS-7, it was represented by 2013–2015. In addition, the OLS regression analysis was implemented to assess hypotheses, incorporating data from 24 Iraqi institutions. The univariate analysis (t-test) and OLS regression showed that IFRS-7 improves financial statement "relevance, faithful representation, comparability, and timeliness". No correlation was found for "understandability". This study is the first to use Iraqi data and the most recent disclosure index to test the relationship between financial figure quality before and after applying the IFRS-7 financial instruments disclosure standard in developing countries. The results help regulators and policymakers regulate IFRS in Iraq and suggest policy changes to ensure compliance. The findings have major implications for business and policy that executives, lawmakers, and stockholders should consider. This study is applicable to ME countries that share comparable institutional, cultural, and accounting framework characteristics.

Keywords IFRS-7 · Financial statement quality · Banking industry · Middle East · Iraq

1 Introduction

The global economy's huge interaction between the stock market and rising financial activity have made stock markets more interdependent. IASB developed IFRS in 2001 to harmonise accounting information due to the increased need for a unified accounting language. International organisations and multinational firms have become more influential due to globalisation. Globalisation boosted international capital markets. Due to globalisation, which increased international trade, IAS/IFRS is now essential [1]. By 2005, tens of thousands of companies used IAS/IFRS reporting [2]. Despite uncertain "cost–benefit trade-offs," several nations quickly adopted IFRS. IFRS cost–benefit trade-offs vary by country due to authorised, social, and organisational factors [3].

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Reclassifying financial instruments was required by "IFRS 7—Financial Instruments: Recognition and Measurement (IFRS-7)" on October 13, 2008 [4]. In order to fairly present financial position and performance, IFRS-7 mandates companies to report financial instrument importance. Disclosures for "held for trading" (HFT), "available-for-sale (AFS)" and "held-to-maturity investments (HTM)" financial instruments are included. Market participants may expect IFRSs to provide more "transparent, comparable, and accountable" financial information [5]. IFRS-produced financial data is essential for global markets that make uniform economic decisions. Transparent and comparable financial data can help users identify global investment opportunities and risks [6]. IFRS standardises financial statement preparation and reporting. International reporting is cheaper with trusted accounting language [3]. Market players will easily understand and use this information in appraisals. IFRS-7 addressed accounting figures measurement quality, but financial instrument estimation complexity increases managerial bias and agency conflict [7]. The complexity of measuring and estimating financial instruments may affect financial report quality.

Professional accountants, regulators, and financial report users care most about financial reporting quality. Such reports are crucial to conveying the results of financial events and transactions within the organisation. This helps users assess a business's financial performance and condition and make economic decisions as directors. Financial reporting also provides information about management's stewardship, useful decisions, and stewardship evaluation [8]. Financial reporting currently aims to "provide financial information that is useful to users in making decisions relating to providing resources to the entity." The IFRS conceptual framework (2018) lists relevance and faithful representation as the fundamental qualitative characteristics of useful financial information. After the 2008 and 2010 exposure drafts, IASB published a conceptual framework for financial reporting to improve it. The frameworks discuss financial reporting goals and useful financial information's qualitative qualities. Qualitative conceptual framework characteristics are the main assets of financial information for decision-making. Thus, committing to financial reporting information's objective and qualitative characteristics ensures high quality [9]. Useful financial information includes financial statements and other financial information with qualitative characteristics. For financial data to be useful, it has to be "relevant" and "faithfully represent" what it claims to be, according to the recently updated IFRS conceptual framework from March 2018. Financial data is enhanced when it is "comparable, verifiable, timely, and understandable" [10].

In this globalised world, traditional accounting regulation is inadequate for foreign players. Developing countries are integrating their economies due to trade and commercial interests, political collaboration, and integrated economic systems [11]. This harmonises financial data. These changes are significant because developing nations' accounting standards limit their ability to attract foreign investors [3]. The most suitable accounting framework for economic growth is IFRS [12]. Arab-global trade benefits from IFRS standards' financial information transparency and comparability in growing markets [13]. Environment affects accounting practices, policies, and goals worldwide. Countries implement IFRSs because they improve financial report quality [14]. For global investors, IFRS improves financial reporting consistency and comparability [12]. By providing superior financial information to decision-makers, IFRS helps attract domestic and foreign investors [3]. Rich and poor countries can now compare financial reports as a result of IFRS convergence [15]. After IFRS, the company's financial statement quality is still questioned. Implementing the IFRS may improve financial statements because it uses advanced measurements based on current prices. Such measurements will better reflect the company's economic situation. IFRS limits management opportunism [16]. However, IFRS may hinder management's ability to present the real economy [16]. However, refs. [17] and [18] found that IFRS implementation did not improve financial information quality. The research results were inconsistent because financial information quality was not directly measured.

This study addresses the concerns raised by Khlif and Achek [19] regarding the dearth of research on IFRS implementation and the quality of financial reports, particularly in the Middle East, thereby filling the gap in the literature. The 1990 introduction of IFRS and the 2008 disclosure requirements of complex accounting figures in IFRS-7 encouraged additional research in this field. Upon conducting a thorough examination of the literature, we discovered that the majority of the evidence utilised quantitative methodologies to evaluate the quality of financial reporting. At the same time, only a few studies examined the impact of IFRS. Particularly, there has been a dearth of research that concentrates on IFRS-7 in the limited number of attempts that have been made to evaluate the quality of financial reporting during the implementation of IFRS for financial instruments [i.e., 20–24]. Prior studies on the quality of financial statements have employed only three characteristics (namely, comparability, relevance, and earnings management) to assess the accuracy of accounting statements, without including any reference to the adoption of IFRS. The company's performance and the credibility of its financial statements would both improve if management were more accountable, as per Petreski [22]. According to a study conducted by Ewert and Wagenhofer [24], the implementation of more stringent accounting standards has the potential to enhance the integrity of financial statements and reduce earnings management. Both

[25] and [16] arrived at the same conclusion. However, Tendeloo and Vanstraelen [26] did not observe any modifications in the integrity of financial statements either before or after the implementation of IFRS [27].

Consequently, the objective of this investigation is to address the knowledge gap in different ways. First, it investigates the anticipated impact of the implementation of IFRS-7 on the integrity of financial reports. Second, the objective of this study is to evaluate the current body of literature by comparing financial reports that were prepared before and after the implementation of IFRS-7 to ascertain whether the latter has led to an enhancement in the quality of reporting. The authors are unaware of any published evidence regarding the impact of IFRS on the integrity of financial statements subsequent to the implementation of financial instruments. Third, this investigation employs both quantitative and qualitative methodologies to evaluate the integrity of financial reporting. The qualitative measurement approach employed is predicated on the "Nijmegen Centre for Economics (NiCE)." To evaluate the quality of financial reporting, the IASB and FASB have established qualitative characteristics, including "relevance, faithfully represent, comparability, verifiability, timeliness, and understandability." NiCE has established an "index quality measurement" system that is predicated on these attributes [28, 29]. Fourth, this analysis employs data from Iraqi banks. Consequently, the primary objective of this investigation is to examine the banking sector in Iraq, a developing nation. It is feasible that the reporting methodologies implemented in developed economies are inadequate due to empirical disparities among nations [30, 31]. This analysis examines the capital markets in Iraq and the initial challenges associated with IFRS-7.

This study builds on previous work on financial statement/reporting quality by evaluating the impact of IFRS-7 using content analysis, a qualitative approach based on the IFRS conceptual framework and the NiCE theoretical foundation. The research is based on the construction of a disclosure index. To accomplish the research objectives, data was collected from 24 publicly traded Iraqi banking institutions between 2013 and 2018 and analysed. Financial statement quality in terms of "Relevance, faithful representation, comparability, and timing" has been improved as a result of applying IFRS-7 financial instruments disclosure, according to the results of the OLS regression. However, we did not discover a change in the mean of the "understandability" factor between the periods before and after IFRS-7. The implications of the findings for business and policy are substantial, and executives, legislators, and stockholders should duly consider them. This study should help the Iraqi government draft more detailed accounting laws and regulations. This has the potential to simplify the disclosure and measurement process while ensuring its quality and safeguarding investors. Investors contemplating investing capital into Iraqi businesses may find clarity and interpretation to be crucial, according to the results of this study. In a broader sense, this study's results apply to countries in the Middle East (ME) that share similar cultural, accounting, and institutional features.

The paper is structured as follows. Section 2 outlines literature evaluation and hypothesis development. Section 3 contains study data and methodology. The findings and discussion are in Sect. 4. Sections 5 concludes the paper.

2 Literature review

Accountants, regulators, and other financial report users care most about financial reporting quality. Such reports are crucial for communicating results of financial events and transactions within the organisation. Users can use this information to evaluate a business's financial performance and make economic decisions as directors. Financial reporting also provides management stewardship information and useful decision-making information [8]. As of now, financial reporting aims to "provide financial information that is useful to users in making decisions relating to providing resources to the entity." Relevance and faithful representation are the fundamental qualitative characteristics of useful financial information, according to the IFRS conceptual framework (2018). Financial statements and other financial information meet the qualitative criteria for usefulness. According to the March 2018 IFRS conceptual framework update, financial information must be "relevant" and "faithfully represent" what it purports to represent. Comparable, verifiable, timely, and understandable financial information is more useful [10].

2.1 Fundamental characterstics

Financial statements need fundamental qualitative characteristics to be useful. Relevance and faithful representation (which replaced reliability) are the fundamental qualitative characteristics of financial reporting, according to the revised conceptual framework in 2014. First, relevance: The IASB's fundamental qualitative characteristic, relevance, requires entities to report timely, predictive, and confirmatory accounting information. The IASB's Basis of Conclusion (2016) states that relevance is only useful for decision-making if it can make a difference. Lennard [32] states that financial reporting allows management to account for the entity's affairs to financial statement users. He also claimed that financial reporting is about informing financial statement users of the company's results and performance to help them make investment decisions. Financial statements must contain relevant information for users to make decisions [32]. If users can use reported data to predict output, it has predictive value. Confirmatory financial statement information provides feedback or confirms previous valuations. Barker et al. [33] believe researchers focus on earnings quality rather than financial reporting quality for relevance. They argue that focusing on earnings quality ignores non-financial information and excludes future financial information from reporting entities' annual reports, such as future transactions and contingent contracts. Predictive values are most relevant to financial information usefulness. Predictive value indicates relevance, according to [34]. They measure predictive values using three items, starting with financial statements that predict company futures. Annual reports' forward-looking statements are measured here. Second, they disclose business risks and opportunities. Annual reports disclose non-financial information like this. Thirdly, it reports company financials using fair-value accounting rather than historical cost. Fair value accounting provides more current and relevant data than cost accounting [35].

Second, faithful representation: Accounting information must be reliable or faithfully presented. The conceptual framework defines reliability as user-reliable information that improves decision-making. Financial statement users usually base their decisions on annual reports or financial statements. Financial statement users will make poor choices with unreliable information. In 2010, the conceptual framework changed 'reliability' to 'faithful representation' [36]. The IASB's conceptual framework requires financial statements to faithfully present relevant phenomena and represent them. Complete, neutral, error-free financial information is required for accurate presentation. Faithful financial statement presentation does not guarantee completeness, accuracy, or error-freeness. The conceptual framework (2018) recognises that perfection is rare. This makes accurate and error-free financial statements unlikely. When financial statements have no material misstatements, they are reliable, complete, and faithful. Even though the company can provide mitigating factors, financial statements are prepared by humans and may contain errors. Financial statements that are complete, neutral, and useful are trustworthy. For faithful presentation, financial statements should not contain material misstatements. Completeness and verifiability are also part of financial statement faithful presentation. Complete financial information includes all descriptions and explanations needed to understand the data. This is achieved by reporting relevant, complete information about the reporting entity [10].

2.2 Enhanced characterstics

Financial statements need enhanced qualitative characteristics to be useful. Enhancing qualitative characteristics of financial reporting must be met and treated as equally important as fundamental qualitative characteristics to achieve the objective. Ernst and Young [37] state that qualitative financial reporting characteristics must be maximised individually and in combination to improve relevance and faithfulness. First, understandability. The IASB's conceptual framework defines understandability as when the quality of reported financial information allows users to understand the financial statements' asserted meanings. The Basis of Conclusion (2016) states that understandability is a qualitative trait that helps users understand reported information, making it useful for decision-making. Financial information must be clear for users to understand. Classifying, describing, and presenting information clearly is understandability. Ernst and Young [37] argued that financial information meets conceptual framework understandability criteria when classified, characterised, and presented clearly and concisely. The conceptual framework recognises that financial statements must be understandable, but some phenomena are inherently complex (based on its standards) and cannot be simplified. Unfortunately, excluding such information from financial reports would make them incomplete and potentially misleading to users. Thus, annual financial statements include notes and disclosure to simplify some items. Financial information is useless unless users can understand and value it [10]. Users of financial statements are more likely to base their economic decisions on reported financial statements if they are understandable and unlikely to negatively impact their decisions. Understandable information helps financial statement users make decisions.

Second, financial information comparability was important in 1989. Comparability is a quality of the relationship between two or more pieces of information and is secondary to relevance and faithful presentation, according to the Conceptual Framework 2010 [37]. The ref. [38] argued that comparability is equally important. Comparability is a qualitative trait that lets users compare two economic phenomena. In ref. [10] argued that comparability lets users see similarities and differences between the reporting entity's current and prior financial statements or those of similar industry entities. Financial information about an enterprise is very useful if it can be compared to accounting information from previous reports or industrial reports, according to the IASB's Conceptual Framework (2013). Comparability can occur when companies in the same industry treat similar transactions the same way and that accounting standards improve comparability. Chatterjee et al. [39] believe comparability has two components: comparability over time and comparability between entities. Jonas and Blanchet [40] suggested asking if the information is prepared for informed comparison with other companies. Third, timeliness: means that financial information is available to financial statement users in time to improve decision-making, so users need the latest information to make decisions. The IASB's Conceptual Framework states that financial statement users may use old information to make decisions, such as analysing firm trends. Generally, financial statement users need timely information. Without a comparability or trend analysis, historical data could mislead decision-making [10].

2.3 Hypotheses developments

Due to globalisation, which increased international trade, IAS/IFRS is now essential [1, 41]. This increases the need for global investment agreements. Market demands for current, decision-making financial information have increased dramatically [42, 43]. Thus, IASB created IFRS, a single set of high-quality financial standards for all listed firms worldwide. High-quality financial standards would improve international financial statement soundness and comparability [16, 44]. After seven years of IAS/IFRS adoption in Iraqi firms since 2016, the effects on their reported financial statements are clear. After firms worldwide implement IFRSs, researchers are interested in the debate over shifting to IFRS and its economic effects [45]. Most IFRS research shows that it reduces earnings management, but its effects on financial information value relevance vary by country. Firms with strong enforcement regimes benefit more from IFRS adoption. Armstrong et al. [46] also said harmonised accounting standards reduce information asymmetry. Thus, information comparability and transparency increased, benefiting capital markets. International accounting standards improve capital market efficiency by increasing firm financial reporting consistency and transparency across countries [47]. IFRS financial information is more comparable, allowing investors to trade and invest internationally [48]. Houqe [48] claims that IFRS reduced information asymmetry and improved financial information for decision-making. IFRS increases the value relevance of financial information, the main indicator of its usefulness. Higher value relevance of financial information increases book value and earnings, lowering investment risk because investors rely on less information [49]. In a sample of German and Italian firms, Cascino et al. [50] examined how IFRS implementation affects financial information comparability. The impact was minor, and regional and country-level incentives helped compliance, according to the research. The researcher also found that these incentives improved financial information comparability.

Many IFRS proponents believe that IFRS reporting improves financial information transparency and comparability, reduces information asymmetry, and lowers capital market costs [51]. Hung and Subramanyam [52] found that IFRS implementation in German industrial firms does not improve financial information value relevance or timeliness. Al-Htaybat [3] say IFRS improves financial market quality and stability. Financial information is also more comparable after IFRS implementation [53]. Barth and Israeli [9] found that countries that require IFRS have accounting numbers more like US GAAP than those that use domestic standards. Yip and Young [54] examined financial information comparability in 17 EU countries after IFRS implementation in 2005. IFRS makes financial information more comparable for firms from similar instructional environments than those from different instructional environments. Brochet et al. [53] noted that UK domestic standards are similar to IFRS, which may reduce financial information comparability after IFRS implementation. Additionally, firms that follow domestic standards similar to IFRS can benefit from IFRS adoption. Barth and Israeli [9] found that voluntary IFRS adoption in 21 European countries reduced earnings management, time recognition, and financial information value relevance. Similarly, Leuz and Verrecchia [55] found that Germany firms' voluntary adoption of international accounting standards reduced information asymmetry in bid/ask spreads, share price volatility, and trading volume. Daske and Gebhardt [56] found that 26 countries' stock-market liquidity and cost of capital increased in the first year of IFRS adoption, especially in countries with strong enforcement mechanisms. Some scholars believe convergence and harmonisation to IFRS have improved financial reporting quality rapidly [57]. Ball [5] said IFRS helps investors make decisions by providing complete, accurate, and timely information. Street [58] says IFRS implementation is the best way for investors and stakeholders to compare harmonise statements.

Conversely, adopting IFRS is criticised. Opponents of IFRS implementation have highlighted accountants, auditors, and users' poor professional and technical skills [59]. Increased convergence and transition costs [60, 61]. Hellman [62] noted that moving to IFRS raises concerns about training and education and weak government enforcement mechanisms that can boost compliance. Jones et al. [63] also noted that IFRS makes financial statements more ambiguous, requiring additional disclosures and clarifications to make them understandable. Also, Cascino et al. [50] claimed that post-IFRS implementation in one country has led to less comparable financial information than domestic GAAP. Liao et al. [64]

found that post-IFRS earnings and book values were less comparable in France and Germany. Brüggemann et al. [65] did not provide empirical evidence on how IFRS improves financial information transparency and comparability. Post-IFRS accounting statements are not more comparable, especially in countries with weak enforcement. Lin et al. [23] said IFRS had lower earnings quality than US GAAP.

In developing countries, empirical studies on IFRS adoption's economic effects are scarce. Using a sample of 46 Kenyan listed firms from 2005 to 2007, [15] examined the relationship between IFRS and foreign ownership and share turnover. Foreign ownership and share turnover are positively correlated with IFRS compliance. Arab countries adopted IFRS to follow global firms' reporting standards, according to Fiechter et al. [66]. Arab countries must adopt IFRS to demonstrate transparency and comparability in accounting reporting to their trading partners [67]. IFRS adaptation by trading partners is partly due to their accounting systems. IFRS implementation in such regions is limited by cultural, legal, and taxation systems [68]. Thus, this region's representation on the IASB would help develop and update accounting standards for the region. Turel [69] used price models to study the effects of IFRS implementation on book value and reported earnings in Turkey and Malaysia, two developing countries. After IFRS adoption, book values and earnings were more relevant in Turkey. Earnings value relevance has improved, but book value relevance has decreased since IFRS adoption in Malaysia. Elbannan [70] examines the impact of IFRS-encouraged updated EASs in Egypt since 2006. The findings show that such adoption has not reduced earnings management.

In some Arab, developing markets, adopting IAS/IFRS standards is essential to increase financial information transparency and comparability, which boosts Arab-global trade. IFRSs improve financial report quality, which is why those countries implement them [71]. In addition, IFRS improves financial reporting consistency and comparability for global investors. Professional accountants, regulators, and financial report users care most about financial reporting. Reports on financial transactions are essential. According to ref. [72], this information helps users make business decisions based on the financial performance and state of a business. IFRS objectives to improve firm financial statements emphasise financial reporting transparency, according to the IASB. The IFRS mission is to develop Standards that bring transparency, accountability, and efficiency to global financial markets. We promote global economic trust, growth, and financial stability for the public good [2, 73, 74]. Hypotheses were formatted as follows based on theoretical evidence:

Hypothesis: In Iraqi banking industry, the implementation of IFRS-7 has a significant impact on financial statement quality.

Hypothesis 1.: In Iraqi banking industry, the implementation of IFRS-7 has a significant impact on financial statement quality—in relation to value relevance.

Hypothesis 2: In Iraqi banking industry, the implementation of IFRS-7 has a significant impact on financial statement quality—in relation to faithful representation.

Hypothesis 3: In Iraqi banking industry, the implementation of IFRS-7 has a significant impact on financial statement quality—in relation to understandability.

Hypothesis 4: In Iraqi banking industry, the implementation of IFRS-7 has a significant impact on financial statement quality—in relation to comparability.

Hypothesis 5: In Iraqi banking industry, the implementation of IFRS-7 has a significant impact on financial statement quality—in relation to timeliness.

3 Data and the selection of the sample

3.1 Collecting data and focus

The data was sourced from annual reports of Iraqi banks that were published on the website of the Iraqi bourse between 2013 and 2018. This analysis was initiated in 2013 to reduce the effects of the "Global Financial Crisis (GFC)" and was terminated in 2018 to mitigate the impact of the Covid-19 pandemic on the results. The initial population of the study comprises 54 banks that operate in Iraqi capital markets. 24 banks were excluded due to their affiliation with the Islamic banking system, which has its unique characteristics, and 36 banks were excluded due to the absence of data (refer to Table 1). Consequently, the final selected sample for the research is comprised of the remaining 24 banks which is generally. The selected sample number is aligned with prior research [20–23]. 144 annual reports from 24 Iraqi banks were evaluated and examined to assess the quality of accounting information.

Table 1 Sample selection procedure

Panel A: Sample selection	Total firms
Initial sample	54
(-) Islamic banks	(24)
(-) Banks with missing data	*(36)*
Total final accepted sample	*24*

3.2 Research model

The objective of this study is to conduct an empirical assessment of the quality of financial statements subsequent to the adoption of IFRS-7. To accomplish this, we employ a qualitative methodology to assess the quality of financial reporting in this study. The employed qualitative measurement approach is predicated on the "Nijmegen Centre for Economics's (NiCE)" measurement system. NiCE constructs a comprehensive metric for assessing the quality of financial reporting in the form of an index quality measurement utilising the qualitative attributes of the FASB and IASB [10, 28, 29]. This metric is divided into two primary categories: enhanced (comprising understandability, comparability, and timeliness) and fundamental (comprising faithful representation and relevance). An OLS regression model with time-varying fixed effects is employed in this. This analysis employs the proportions of each financial information category, which are proxies for "financial statement quality" as defined by IFRS. The focus is on the Iraqi banking industry, and the implementation of IFRS-7 is examined in relation to this indicator in developing nations. The following modified equations are used in the proposed research paradigm to test hypotheses:

- *Baseline equation*: $$\begin{aligned}FSQ = {} & \delta 0 + \delta 1IFRS7 + \delta 2L\_ASSET + \delta 3ROI + \delta 4DEB + \delta 5GROWTH \\ & + \delta 6BIG4 + \delta 7CHANGE + \delta 8OPINION + FE + \varepsilon\end{aligned}$$

  Modified equations:

- Eq. (1/H1): $$\begin{aligned}RELEVANCE = {} & \delta 0 + \delta 1IFRS7 + \delta 2L\_ASSET + \delta 3ROA + \delta 4DEB + \delta 5GROWTH \\ & + \delta 6BIG4 + \delta 7CHANGE + \delta 8OPINION + FE + \varepsilon\end{aligned}.$$
- Eq. (1/H2): $$\begin{aligned}FAITHFUL\_REP = {} & \delta 0 + \delta 1IFRS7 + \delta 2L\_ASSET + \delta 3ROA + \delta 4DEB + \delta 5GROWTH \\ & + \delta 6BIG4 + \delta 7CHANGE + \delta 8OPINION + FE + \varepsilon\end{aligned}.$$
- Eq. (1/H3): $$\begin{aligned}UNDER\_STAND = {} & \delta 0 + \delta 1IFRS7 + \delta 2L\_ASSET + \delta 3ROA + \delta 4DEB + \delta 5GROWTH \\ & + \delta 6BIG4 + \delta 7CHANGE + \delta 8OPINION + FE + \varepsilon\end{aligned}.$$
- Eq. (1/H4): $$\begin{aligned}COMPARA = {} & \delta 0 + \delta 1IFRS7 + \delta 2L\_ASSET + \delta 3ROA + \delta 4DEB + \delta 5GROWTH \\ & + \delta 6BIG4 + \delta 7CHANGE + \delta 8OPINION + FE + \varepsilon\end{aligned}.$$
- Eq. (1/H5): $$\begin{aligned}TIMELINESS = {} & \delta 0 + \delta 1IFRS7 + \delta 2L\_ASSET + \delta 3ROA + \delta 4DEB + \delta 5GROWTH \\ & + \delta 6BIG4 + \delta 7CHANGE + \delta 8OPINION + FE + \varepsilon\end{aligned}.$$

3.3 Variables measurements

3.3.1 Measurement of financial reporting quality

This study employs content analysis, a qualitative methodology grounded in the IFRS conceptual framework and NiCE theoretical foundation, to assess the effects of IFRS-7 on the aforementioned aspects. This is achieved through the construction of a disclosure index. Consequently, the present study assessed the qualitative attributes of financial statements following the methodologies proposed by refs. [29, 34] and the NiCE measurement model [28]. Each category was evaluated through a series of inquiries, and the scores were derived from the financial report of the organisation. Qualitative content analysis was employed to gather and evaluate the data. We scrutinise the annual reports of all banks, devoting particular scrutiny to each of the five indicators that assess the qualitative attributes of financial information. We were thus capable of categorising 144 annual reports into five discrete groups via coding. Previous studies have underscored the significance of the subcategories as per the IFRS criteria for pertinent information, accurate depiction, comprehensibility, comparability, and promptness [29, 36, 75]. Data were compiled on an annual and bank-by-annual basis. 21 overarching themes and subcategories were derived from the classification of the five categories [29]. We utilise a checklist formulated by previous research to ascertain the number of instances of each category that were incorporated in the study reported by the Iraqi bank [29]. In particular, we determined the frequency of occurrence for each of 21-IFRS statements in the annual reports of Iraqi banks. We developed a checklist of qualitative characteristics mentioned in each report using an unweighted approach. The list of items is presented in Appendix A, Table 8.

To ascertain the score for a specific category, which encompasses relevance, faithful representation, understandability, and comparability, the total actual score of its sub-categories is divided by the total number of sub-categories on the checklist. The natural logarithm of the number of days it took for the auditor to sign the auditors' report after the end of the financial year was employed to measure the timeliness category. The mean values for each category and sub-category are presented in Appendix A, Table 9. This analysis enhances the credibility of the measurement instrument utilised in the research and raises the likelihood that it can be applied universally and locally to other nations. The existing body of research on the influence of qualitative attributes on the utility of financial reporting with respect to timeliness is relatively scarce. As the foundational qualitative attributes of financial reporting, relevance, dependability, and comprehensibility have occupied the majority of research on qualitative characteristics [75].

3.3.2 Measurement of IFRS-7 variable

Following prior research [12, 66, 72] IFRS-7 in the current study is measured as a dummy variable coded 1 for the years subsequent to the IFRS-7 implementation by Iraqi banks (2016–2018) while 0 otherwise of the years (2013–2015). The measurements of variables are provided in Table 2.

4 Results and discussion

4.1 Descriptive statistics and correlation statistics

The descriptive statistics of the utilised variables have been provided in Table 3. The mean value of timeliness is the highest of 2.086 followed by understandability and comparability of 0.825 and 0.824 while relevance and faithful representation are the lowest with mean of 0.727 and 0.61. It can be noticed that the current study's period is divided into two different periods of pre vs. post-IFRS-7 implementation with an average 0.50 for each period.

Table 4 presents the Spearman correlation matrix values for the dependent and independent variables. In regression models, the multicollinearity test eliminates correlation between independent variables. Each model's VIF test mean is

Table 2 Variables measurements

Variable	Measurement
IFRS-7	Dummy variables coded 1 if the firm has disclosures for the complex estimates of IFRS-7 by any category of financial assets through profit and loss, held for trading and those held-to-maturity investments, 0 otherwise
Relevance	Disclosure index: the total real score of its sub-category divided by the total number of sub-categories of 4 presented on the checklist
Faithful representation	Disclosure index: the total real score of its sub-category divided by the total number of sub-categories of 5 presented on the checklist
Understandability	Disclosure index: the total real score of its sub-category divided by the total number of sub-categories of 5 presented on the checklist
Comparability	Disclosure index: the total real score of its sub-category divided by the total number of sub-categories of 6 presented on the checklist
Timeliness	Disclosure index: Natural logarithm of number of days
L_ASSET	The natural Log of a firm's total assets
ROA	The net income by total assets
DEB	The total debt divided by the total assets
GROWTH	The current year revenues to last year revenues
BIG4	Is a dichotomous variable that is set to 1 if the auditor company is among the largest Big-4 auditing firms (PwC, KPMG, Deloitte or E&Y) and to 0 otherwise
CHANGE	Auditor tenure of three years, coded 1 if the audit firm did not change, 0 otherwise
OPINION	Dummy variable coded 1 if the firm receives an unqualified opinion, 0 otherwise

Table 3 Descriptive statistics

Variable	Mean	Median	Std. Dev	Min	Max
Relevance	0.727	0.750	0.271	0.000	1.000
Faithful representation	0.611	0.600	0.244	0.000	1.000
Understandability	0.825	0.800	0.127	0.000	1.000
Comparability	0.824	0.833	0.204	0.000	1.000
Timeliness	2.086	2.151	0.305	1.146	2.929
IFRS-7	0.500	0.500	0.502	0.000	1.000
N	*144*				

All variables are defined in Table 4

less than 2, which eliminates any concerns regarding multicollinearity. The significant positive correlation between the implementation of IFRS-7 and several financial statement quality factors (namely, relevance, faithful representation, comparability, and timeliness) is confirmed by the Spearman correlation. Nevertheless, no such correlation is observed with regard to the understandability factor.

4.2 Mean difference and regression results

Table 5 contains the parametric (independent t-test) outcomes. Using data from 2013 to 2018, this table compares the mean of each category of financial statement quality—"relevance, faithful representation, understandability, comparability, and timeliness—as required by disclosure regulations prior to and subsequent to IFRS-7. The table illustrates that the average of each category has experienced a statistically significant increase subsequent to the implementation of IFRS-7 in the following areas: relevance, faithful representation, comparability, and timeliness, with the exception of the understandability factor. The respective means for faithful representation, timeliness, relevance, and comparability were 0.861, 0.661, 0.870, and 2.151, with corresponding significant coefficients (t-values) of − 6.7943, − 2.4995, − 2.7917, and − 2.5984. On the contrary, the mean of understandability was determined to be insignificant, with a t-value of − 1.3147 and a mean of 0.839.

Following the t-test results, regression analyses are presented in Tables 6 through 7. Models 1–2 of Table 6 illustrate the extent to which the refinements of IFRS-7 impact the quality of financial statements with respect to value relevance and faithful representation. Significant P-values for the models begin at 0.01, and their explanatory power can reach 30%. According to the findings presented in Models 1–2, the implementation of IFRS-7 has a noteworthy and positive impact on the faithful representation of financial statement data (Coeff. = 0.074, and t = 1.740) and value relevance (Coeff. = 0.261, and t = 6.02). This result is consistent with the IFRS conceptual framework update published in March 2018, which affirmed that financial information must be "relevant" and "faithfully represent" its intended meaning in order to be deemed useful. The findings are in accordance with the agency theory and the theoretical foundation that have been previously discussed in research [2, 77]. This confirms that IFRS is essential in improving the quality and utility of accounting information, as historical accounting is no longer pertinent to economic decision-making [78, 79]. According to the agency theory, the implementation of IFRS resulted in a decrease in information asymmetry and an improvement in the quality of financial data used in decision-making [48]. In particular, the results of the analysis are consistent with the case of developing regions, specifically ME. For instance, [2] conducted an analysis that verified the efficacy of IFRS in enhancing audit quality, which in turn fosters the transparency and informativeness of financial statements in Jordan [80]. Consequently, this enables users to make business decisions that are informed by the financial performance and current state of a business. Thus, the analysis accepts H1 and H2.

The findings from Models 3–5 of Table 7 indicate that the implementation of IFRS-7 has resulted in enhanced comparability (Coeff. = 0.96, and t = 2.59) and timeliness (Coeff. = 0.125, and t = 2.23), respectively, of financial data. However, no correlation between financial data quality and understandability was identified through the analysis. This outcome supports the assertion that conventional accounting regulation mechanisms have become inadequate for foreign participants in this globalised economy. Developing countries are being compelled to integrate their economies by political collaboration, integrated economic systems, and closer trade and commercial interests [11, 76, 81]. In doing so, these components harmonise financial data. Traditional accounting norms and practices impede the capacity of developing nations to attract foreign investors; consequently, these developments are consequential [3]. The accounting system that is most effective in measuring economic growth is IFRS [12]. IFRS standards in emerging markets facilitate and enhance the promotion of Arab-international trade and financial information comparability [82]. The environment has an impact

Table 4 Correlation matrix

	Variables	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*	*12*	*13*
1	*Relevance*	1.000												
2	*Faithful representation*	0.495***	1.000											
3	*Understandability*	0.392***	0.495***	1.000										
4	*Comparability*	0.619***	0.555***	0.450***	1.000									
5	*Timeliness*	− 0.047	0.159	− 0.016	0.022	1.000								
6	*IFRS-7*	0.495***	0.205*	0.110	0.228**	0.211*	1.000							
7	*LN_ASSET*	0.002	0.013	− 0.011	0.011	− 0.050	− 0.006	1.000						
8	*ROI*	0.026	− 0.081	− 0.021	0.057	− 0.014	0.000	0.036	1.000					
9	*DEBIT*	0.009	− 0.054	− 0.103	0.042	− 0.102	− 0.147	− 0.028	0.310***	1.000				
10	*SALE_GROWTH*	0.139	− 0.015	− 0.012	0.030	− 0.093	0.083	0.050	0.009	− 0.038	1.000			
11	*AUDITOR_BIG4*	− 0.111	− 0.059	− 0.105	− 0.071	0.076	− 0.027	0.028	− 0.024	− 0.064	− 0.041	1.000		
12	*AUDIT_TENURE*	0.092	− 0.016	0.148	− 0.022	0.068	0.341***	− 0.011	0.106	− 0.052	− 0.071	0.066	1.000	
13	*AUDIT_OPINION*	0.265**	0.373***	0.407***	0.185*	0.114	0.267**	− 0.138	− 0.167*	− 0.134	0.094	0.018	0.107	1.000

This table presents Spearman correlation matrix results amongst the dependent and independent variables. All continuous variables are winsorized at the 1% and 99% levels each year to reduce the influence of potential outliers

**, *Correlation is significant at the 0.01, 0.05 level (2-tailed), respectively

Table 5 Univariate analysis: family vs. non-family firm

Panel A: Financial reporting quality among pre-vs. post- IFRS-7			
Variable	IFRS7 (*IFRS7* = 1) N = 72 firm Mean	IFRS7 (*IFRS7* = 0) N = 72 firm	*t*—value(sig)
Relevance	0.861	0.594	*(– 6.7943)****
Faithful representation	0.661	0.561	*(– 2.4995)****
Understandability	0.839	0.811	*(– 1.3147)*
Comparability	0.870	0.778	*(– 2.7917)****
Timeliness	2.151	2.018	*(– 2.5984)****

FSQ = is a continuous variable of overall ratios of financial statement quality categories (relevance, faithful representation, understandability, comparability and timeliness)

Table 6 Result of OLS regression: fundamental characterstics

DV =	Model (1) *Coeff. (Robust t)* *Relevance*	Model (2) *Coeff. (Robust t)* *Faithful representation*
Intercept	*0.456*	*0.307*
	*(6.32)****	*(4.35)****
IFRS-7	0.261	0.074
	(6.02)***	(1.740)*
LN_ASSET	0.103	0.163
	(0.650)**	(1.860)**
ROI	1.046	– 0.486
	(0.400)	(– 0.190)
DEBIT	0.136	0.215
	(1.120)*	(1.130)*
SALE_GROWTH	0.071	– 0.062
	(1.040)	(– 0.930)
AUDITOR_BIG4	– 0.091	– 0.055
	(– 1.200)	(– 0.750)
AUDIT_TENURE	– 0.069	– 0.083
	(– 0.990)	(– 1.230)
AUDIT_OPINION	0.150	0.306
	(2.07)**	(4.29)***
Robust	*Yes*	*Yes*
Year	*Controlled*	*Controlled*
N	*144*	*144*
F – Statistic	*(10)****	*(10)****
R^2	*30%*	*17%*
Mean VIF	*1.12*	*1.12*

***, **, * Indicate statistical significance at the 0.01, 0.05, and 0.10 percent levels, respectively, using a two-tailed test. This table presents the OLS regressions of the impact of IFRS-7 on financial reporting quality (relevance and faithful representation factors) by Iraqi banks over the period (2013–2018) controlled by year and industry fixed effects

on accounting standards, procedures, policies, and objectives. These nations have adopted IFRSs due to their ability to improve the content of financial reports [14]. Additionally, IFRS improves the consistency and comparability of financial reporting for investors worldwide [12, 80, 83]. Consequently, the analysis admits H4 and H5, while rejecting H3.

The analysis confirmed that the utility of accounting information was improved in terms of its value relevance, faithful representation, comparability, and timeliness as a result of the adoption of IFRS-7. Additionally, the accountant's measurement and disclosure of the complex accounting figures required by IFRS-7 do not impact the level of comprehension

Table 7 Result of OLS regression: enhancing characterstics

DV =	Model (3) *Coeff. (Robust t) Understandability*	Model 4) *Coeff. (Robust t) Comparability*	Model (5) *Coeff. (Robust t) Timeliness*
Intercept	*0.662*	*0.674*	*1.986*
	*(18.36)****	*(10.96)****	*(21.25)****
IFRS-7	– 0.013	0.096	0.125
	(– 0.610)	(2.59)**	(2.23)***
LN_ASSET	0.369	0.407	– 0.699
	(1.650)*	(1.420)*	(– 0.470)
ROI	0.188	0.507	0.398
	(1.280)*	(2.850)**	(2.290)**
DEBIT	– 0.055	0.078	– 0.131
	(– 0.910)	(0.750)	(– 0.830)
SALE_GROWTH	– 0.022	– 0.011	– 0.122
	(– 0.640)	(– 0.200)	(– 1.380)
AUDITOR_BIG4	– 0.063	– 0.043	0.088
	(– 1.660)	(– 0.670)	(0.900)
AUDIT_TENURE	0.048	– 0.081	– 0.028
	(1.400)	(– 1.370)	(– 0.320)
AUDIT_OPINION	0.186	0.116	0.125
	(5.12)***	(1.870)*	(1.690)*
Robust	*Yes*	*Yes*	*Yes*
Year	*Controlled*	*Controlled*	*Controlled*
N	*144*	*144*	*144*
F—Statistic	*(10)****	*(10)****	*(10)****
R^2	*20%*	*10%*	*10%*
Mean VIF	*1.12*	*1.12*	*1.12*

***, **, *Indicate statistical significance at the 0.01, 0.05, and 0.10 percent levels, respectively, using a two-tailed test. This table presents the OLS regressions of the impact of IFRS-7 on financial reporting quality (understandability, comparability and timeliness factors) by Iraqi banks over the period (2013–2018) controlled by year and industry fixed effects

among stakeholders. We have discovered evidence that the quality of financial reporting in Iraq experienced a transformation both before and after the implementation of IFRS. The quality level has improved since the implementation of IFRS, as evidenced by an analysis of the mean value of the financial reporting quality measurement, as opposed to the pre-adoption period. The results are consistent with the research conducted by ref. [2], which showed that the quality of accounting in Jordan improved as a result of the implementation of IFRS. Barth et al.'s research indicates that both value relevance and timely loss recognition have increased. In comparison to the utilisation of US GAAP, the significance of financial reporting is further enhanced by the application of IFRS, as per refs. [28, 29].

The research also demonstrated that the information a company presents is more accurate in reflecting its actual state when IFRS is implemented, suggesting that faithful representation is enhanced. This study provides additional evidence that comparability has improved since the implementation of IFRS, building on the results of the previous investigation. This research suggests that the organisation provides a more comprehensive array of financial information that is more comparable to that of its competitors as a result of the adoption of IFRS. However, there has been no significant improvement in the area of comprehensibility. This is due to the organization's obligation to provide supplementary disclosures in accordance with the IFRS-7 criteria. The issue is hypothesised to have been exacerbated by the pervasive use of uncertain measures and estimations of complex financial assets and liabilities in the presentation of financial information in accordance with the IFRS-7 instructions [84]. We have discovered evidence that the quality of financial reporting in Iraqi institutions underwent a transformation both before and after the implementation of IFRS. In other words, our research indicates that the integrity of financial reporting has improved since the implementation of IFRS. Additionally, the implementation of the principle-based standard improves the quality of financial reporting by increasing the number of disclosures.

5 Conclusion, implications, limitations and future research

The purpose of this study is to investigate the quality of the financial statements in the Iraqi banking sector both before and after the implementation of the IFRS-7 financial instruments disclosure standard. The qualitative content analysis that was developed by the "Nijmegen Centre for Economics (NiCE)" has been utilised in order to investigate the quality of financial statements. As a result, the NiCE disclosure index has been utilised in order to measure the level of quality that is present in financial statements. An analysis of the data was performed using a paired sample test in this research project so that the objectives of the study could be determined. The years 2013–2015 are used to illustrate the quality of financial statements prior to the adoption of IFRS-7 (also known as "pre-IFRS-7"), while the years 2016–2018 are used to illustrate the quality of financial reporting that occurred after the implementation of IFRS-7 (also known as "post-IFRS-7"). The findings of the univariate analysis, which consisted of a parametric independent t-test, confirmed that the use of IFRS-7 for the disclosure of financial instruments tends to result in the conclusion that the implementation of IFRS-7 for the disclosure of financial instruments has led to an improvement in the quality of financial statements in terms of relevance, faithful representation, comparability, and timing despite the fact that we were unable to discover any correlation with regard to the term "understandability."

This study aims to evaluate the correlation between the quality of financial figures in developing settings before and after the implementation of the IFRS-7 financial instruments disclosure standard. Furthermore, this investigation is the first to employ Iraqi data to implement the most recent disclosure index. The findings are beneficial to policymakers and regulators in Iraq, as they can be employed to regulate the application of IFRS and recommend policy enhancements to ensure compliance with IFRSs. The findings are of significant importance to executives, legislators, and stockholders, as they have significant implications for both business and policy. Academics, the preparers community, and government institutions in Iraq that are responsible for the implementation of IFRS benefit from this study. This research is advantageous for regulatory agencies that supervise and regulate the accounting industry in Iraq. This addition broadens the applicability and viability of the analysis's conclusions to a broader range of contexts, including Middle Eastern nations with comparable institutional and cultural characteristics, as well as auditing and accounting practices.

The sample size and time range may limit the usefulness of the results; therefore, future research should broaden this approach to include other contexts and sectors, and this analysis can be expanded to include data from 2019 to 2023. Furthermore, the findings of the study present new opportunities for research in the future. For example, it is possible to investigate the impact of Covid-19 on a variety of aspects of financial reporting, such as earnings management practices and the role that business governance legislation plays.

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Declarations

Competing interests The authors declare no competing interests.

Table 8 Qualitative characteristics on the usefulness of financial checklist

No	Question	Operationalization	Concept
Relevance			
R1	To what extent does the presence of the Forward looking statement help forming expectations and predictions concerning the future of the company	1 = No forward looking information; 2 = Forward looking information not an apart subsection; 3 = -Apart subsection; 4-Extensive predictions; 5 = Extensive predictions useful for making expectations	Predictive value
R2	To what extent does the presence of non financial information in terms of business opportunities and risks complement the financial information	1 = No non-financial information; 2 = Little non-financial information, no useful for forming expectations; 3-useful non-Financial information; 4-useful non Financial information, helpful for developing expectations	Predictive value
R3	To what extent does the company use fair value instead of historical cost	1-Only Historical cost (HC); 2-Most HC; 3-Balance Fair value (FV)/HC; 4-Most FV; 5 = Only FV	Predictive value
R4	To what extent do the reported results provide feedback to the users of the annual reports as to how various market events and significant transactions affected the company	1 = No feedback; 2 = Little feedback on the past; 3-Feedback is present; 4-Feedback helps understanding how events and transactions influenced the company; 5 = Comprehensive feedback	Confirmatory value
Faithful representation			
F1	To what extent are valid arguments provided to support the decision for certain assumptions and estimates in the annual report	1 = Only described estimations; 2 = General explanations; 3-Specific explanation of estimations; 4-Specific explanation, formulas explained, etc.; 5 = Comprehensive argumentation	Verifiability
F2	To what extent does the company base its choice for certain accounting principles on valid arguments	1 = Changes not explained; 2 = Minimum explanation; 3-Explained why; 4-Explained why + consequences-5 = No changes or comprehensive explanation	Verifiability
F3	To what extent does the company, in the discussion of the annual results, highlight the positive events as well as the negative events	1 = Negative events only mentioned in footnotes; 2 = Emphasize on positive events; 3 = Emphasize on positive events, but negative events are mentioned; no negative events occurred; 4-Balance positive/negative events; 5 = Impact of positive/negative events is also explained	Neutrality
F4	Which type of auditors' report is included in the annual report	1 = Adverse opinion; 2 = Disclaimer of opinion; 3-Qualified opinion; 4 = Unqualified opinion: Financial figure; 5 = Unqualified opinion: Financial figures + Internal Control	Free from material error, verification, neutrality, completion
F5	To what extent does the company provide information on corporate governance	1 = No description CG; 2 = Information on CG limited, not in apart subsection; 3 = Apart subsection; 4-Extra attention paid to information concerning CG; 5-Comprehensive description of CG	Completeness, variability, and free from material error
Understandability			
U1	To what extent is the annual report presented in a well organized manner	Judgment based on: -Complete table of contents;-Headings; -Order of components; -Summary/conclusion at the each subsection	Understandability
U2	To what extent are the notes to the balance sheet and the income statement sufficiently clear	1 = No explanation; 2 = Very short description, difficult to understand; 3 = Explanation that describes what happens; 4-Terms are explained (which assumptions etc.); 5 Everything that might be difficult to understand is explained	Understandability
U3	To what extent does the presence of graphs and tables clarifies the presented information	1 = No graphs; 2 = 1–2 graphs; 3 = 3–5 graphs; 4–6–10|graphs; 5 ≥ 5graphs	Understandability
U4	To what extent is the use of language and technical judgment in the annual report easy to follow	1 = Much jargon (industry), not explained; 2-Much jargon, minimal explanation; 4 = Not much jargon or well explained; 5 = No jargon or extraordinary explanation	Understandability

Table 8 (continued)

No	Question	Operationalization	Concept
U5	What is the size of the glossary	1 = No glossary; 2 = Less than 1 page; 3 = Approximately one page; 4 = 1–2 pages; 5 ≥ 2 pages	Understandability
Comparability			
C1	To what extent do the notes to changes in accounting policies explain in the information of the change	1 = Changes not explained; 2 = Minimum explanation; 3-Explained why; 4-Explain why consequences; 5 = No changes or comprehensive explanation	Consistency
C2	To what extent do the notes to revisions in accounting estimates and judgements explain the implications of the revision	1 = Revision without notes; 2-Revision with few notes; 3 = No revision/clear notes; 4-Clear notes + implications (past); 5 = Comprehensive notes	Consistency
C3	To what extent did the company adjust previous accounting periods figures for the effect of the implementation of a change in accounting policy or revisions in accounting estimates	1 = No adjustments; 2 = Described adjustments; 3 = Actual Adjustments (one year); 4–2 Years; 5 ≥ 2 years + notes	Consistency
C4	To what extent does the company provide comparation of the current accounting period with previous accounting period	1 = No comparation; 2 = Only with previous year; 3 = With 5 years; 4–5 years + description of implications; 5 = 10 years + description of implications	Consistency
C5	To what extent is the information in the annual report comparable to information provided by the other organizations	Judgment based on: -accounting policies; -structure explanations of events; In other words: an overall conclusion of comparability compared to annual reports of other organizations	Consistency
C6	To what extent does the company presents financial index numbers and ratios in the annual reports	1 = No ratios; 2 = 1–2 ratios; 3 = 3–5 ratios; 4–6-10 ratios 5 = 10ratios	Consistency
Timeliness			
T1	How many days did it take for the auditor to sign the auditors' report after book year end	Natural logarithm of amount of days 1 = 1–1,99; 2 = 2–2,99; 3–3–3,99; 4–4-4,99; 5 = 5–5,99	Timeliness

Source: NiCE framework, Yarisandi and Puspitasari [29]; IASB [2]; Pike and Chui [75]

Table 9 Qualitative characterstics scores over the study period

Bank ID	Year	Relevance	Faithful representation	Understandability	Comparability	Timeliness
1	2013	0.7500	0.2000	0.6000	0.8333	1.7853
1	2014	0.7500	0.6000	0.8000	0.8333	1.9191
1	2015	0.7500	0.8000	0.8000	1.0000	1.9191
1	2016	1.0000	0.6000	0.8000	0.8333	2.1461
1	2017	1.0000	0.4000	0.8000	1.0000	1.6232
1	2018	1.0000	0.4000	0.8000	1.0000	1.8513
2	2013	0.2500	0.2000	0.8000	0.6667	1.9494
2	2014	0.2500	0.6000	0.8000	0.6667	1.9638
2	2015	0.2500	0.6000	0.8000	0.6667	1.9445
2	2016	1.0000	1.0000	0.8000	1.0000	1.9345
2	2017	1.0000	1.0000	0.8000	1.0000	1.9345
2	2018	1.0000	1.0000	0.8000	1.0000	1.9243
3	2013	0.5000	0.8000	1.0000	0.8333	2.1430
3	2014	0.5000	0.8000	1.0000	0.8333	2.2430
3	2015	0.5000	0.8000	1.0000	0.8333	2.1790
3	2016	1.0000	1.0000	1.0000	1.0000	2.0253
3	2017	1.0000	1.0000	1.0000	1.0000	2.0492
3	2018	1.0000	1.0000	1.0000	1.0000	2.1553
4	2013	0.7500	0.4000	0.8000	0.8333	1.4771
4	2014	0.7500	0.4000	0.8000	0.6667	1.6232
4	2015	0.7500	0.4000	0.8000	0.6667	2.2355
4	2016	1.0000	0.8000	1.0000	0.5000	2.2380
4	2017	1.0000	0.8000	1.0000	0.5000	2.1732
4	2018	1.0000	0.8000	1.0000	0.5000	2.2577
5	2013	0.7500	1.0000	1.0000	0.8333	2.0645
5	2014	1.0000	1.0000	1.0000	0.8333	2.0086
5	2015	1.0000	1.0000	1.0000	0.8333	2.1553
5	2016	1.0000	1.0000	1.0000	0.8333	2.1584
5	2017	1.0000	1.0000	1.0000	0.8333	2.1732
5	2018	1.0000	1.0000	1.0000	0.8333	2.4362
6	2013	0.5000	0.8000	0.8000	0.8333	1.9685
6	2014	0.7500	1.0000	0.8000	0.8333	1.9395
6	2015	0.7500	1.0000	0.8000	0.8333	2.1959
6	2016	1.0000	1.0000	0.8000	0.8333	2.1523
6	2017	1.0000	1.0000	0.8000	0.8333	2.0792
6	2018	1.0000	1.0000	0.8000	0.8333	2.1399
7	2013	0.2500	0.4000	0.8000	0.6667	2.1399
7	2014	0.2500	0.4000	0.8000	0.6667	2.1818
7	2015	0.2500	0.4000	0.8000	0.6667	2.2577
7	2016	0.5000	0.4000	0.8000	0.6667	2.2742
7	2017	0.5000	0.4000	0.8000	0.6667	2.3222
7	2018	0.5000	0.4000	0.8000	0.6667	1.8633
8	2013	0.5000	0.6000	0.8000	1.0000	1.7709
8	2014	0.5000	0.6000	0.8000	1.0000	2.1614
8	2015	0.5000	0.6000	0.8000	1.0000	2.1644
8	2016	0.7500	0.6000	0.8000	1.0000	2.4330
8	2017	0.7500	0.6000	0.8000	1.0000	2.1139
8	2018	0.7500	0.6000	0.8000	1.0000	2.3655
9	2013	0.2500	0.4000	0.8000	0.5000	2.1399
9	2014	0.2500	0.4000	0.8000	0.5000	2.1492

Table 9 (continued)

Bank ID	Year	Relevance	Faithful representation	Understandability	Comparability	Timeliness
9	2015	0.2500	0.4000	0.8000	0.5000	2.1106
9	2016	0.5000	0.4000	0.8000	0.5000	2.0569
9	2017	0.5000	0.4000	0.8000	0.5000	2.2430
9	2018	0.5000	0.4000	0.8000	0.5000	2.1072
10	2013	0.7500	0.8000	0.8000	1.0000	1.9590
10	2014	0.7500	0.8000	0.8000	1.0000	2.0645
10	2015	0.7500	0.8000	0.8000	1.0000	2.3444
10	2016	0.7500	0.8000	0.8000	1.0000	2.3263
10	2017	0.7500	0.8000	0.8000	1.0000	2.9294
10	2018	0.7500	0.8000	0.8000	1.0000	2.9440
11	2013	0.2500	0.2000	0.8000	0.6667	2.0086
11	2014	0.2500	0.2000	0.8000	0.6667	2.0086
11	2015	0.2500	0.2000	0.8000	0.6667	2.1959
11	2016	1.0000	0.6000	1.0000	1.0000	2.2175
11	2017	1.0000	0.6000	1.0000	1.0000	2.2601
11	2018	1.0000	0.6000	1.0000	1.0000	2.3541
12	2013	1.0000	0.6000	0.8000	1.0000	2.1072
12	2014	1.0000	0.6000	0.8000	1.0000	1.9823
12	2015	1.0000	0.6000	0.8000	1.0000	2.2014
12	2016	1.0000	0.6000	0.8000	0.8333	2.2014
12	2017	1.0000	0.6000	0.8000	0.8333	2.1703
12	2018	1.0000	0.6000	0.8000	0.8333	2.1206
13	2013	0.7500	0.6000	0.8000	1.0000	2.1903
13	2014	0.7500	0.6000	0.8000	1.0000	2.1790
13	2015	0.7500	0.6000	0.8000	1.0000	2.0719
13	2016	0.0000	0.0000	0.0000	0.0000	2.4183
13	2017	0.7500	0.6000	0.8000	1.0000	2.3979
13	2018	0.7500	0.6000	0.8000	1.0000	2.4065
14	2013	0.7500	0.6000	0.8000	1.0000	2.0414
14	2014	0.7500	0.6000	0.8000	1.0000	2.4014
14	2015	0.7500	0.6000	0.8000	1.0000	2.5302
14	2016	0.7500	0.6000	0.8000	1.0000	2.4843
14	2017	0.7500	0.6000	0.8000	1.0000	2.4456
14	2018	0.7500	0.6000	0.8000	1.0000	2.5237
15	2013	0.0000	0.0000	0.0000	0.0000	2.1584
15	2014	0.2500	0.2000	0.8000	0.5000	2.1761
15	2015	0.2500	0.2000	0.8000	0.5000	2.1173
15	2016	1.0000	0.6000	0.8000	1.0000	2.2355
15	2017	1.0000	0.6000	0.8000	1.0000	2.6866
15	2018	1.0000	0.6000	0.8000	1.0000	2.4346
16	2013	0.2500	0.2000	0.8000	0.6667	1.1461
16	2014	0.5000	0.2000	0.8000	0.6667	1.1461
16	2015	0.5000	0.2000	0.8000	0.6667	1.2788
16	2016	1.0000	0.2000	0.8000	0.6667	1.5563
16	2017	1.0000	0.2000	0.8000	0.6667	1.4914
16	2018	1.0000	0.2000	0.8000	0.6667	1.3010
17	2013	1.0000	0.4000	0.8000	0.8333	0.8451
17	2014	1.0000	0.4000	0.8000	0.6667	2.1847
17	2015	1.0000	0.4000	0.8000	0.8333	2.3483
17	2016	1.0000	0.4000	0.8000	0.8333	2.3444

Table 9 (continued)

Bank ID	Year	Relevance	Faithful representation	Understandability	Comparability	Timeliness
17	2017	1.0000	0.4000	0.8000	0.8333	2.1790
17	2018	1.0000	0.4000	0.8000	0.8333	2.1004
18	2013	0.7500	0.4000	0.8000	0.5000	2.1703
18	2014	0.7500	0.4000	0.8000	0.5000	2.2601
18	2015	0.7500	0.4000	0.8000	0.5000	1.9777
18	2016	0.7500	0.4000	0.8000	0.8333	2.0607
18	2017	0.7500	0.4000	0.8000	0.8333	2.1761
18	2018	0.7500	0.4000	0.8000	0.8333	2.1430
19	2013	0.2500	0.8000	0.8000	0.6667	2.2330
19	2014	0.2500	0.8000	0.8000	0.6667	2.4378
19	2015	0.5000	0.8000	0.8000	0.6667	2.4065
19	2016	1.0000	0.8000	0.8000	1.0000	2.2304
19	2017	1.0000	0.8000	0.8000	1.0000	2.4728
19	2018	1.0000	0.8000	0.8000	1.0000	2.4150
20	2013	0.7500	0.8000	1.0000	1.0000	1.7559
20	2014	0.7500	0.8000	1.0000	1.0000	1.8129
20	2015	0.7500	0.8000	1.0000	1.0000	1.7709
20	2016	1.0000	0.8000	1.0000	1.0000	2.1790
20	2017	1.0000	0.8000	1.0000	1.0000	2.1818
20	2018	0.7500	0.8000	1.0000	1.0000	1.7924
21	2013	0.2500	0.6000	0.8000	0.5000	2.2742
21	2014	0.2500	0.6000	0.8000	0.5000	2.2601
21	2015	0.2500	0.6000	0.8000	0.5000	2.0453
21	2016	0.7500	0.6000	0.8000	0.8333	1.5563
21	2017	0.7500	0.6000	0.8000	0.8333	1.8865
21	2018	0.7500	0.6000	0.8000	0.8333	2.4683
22	2013	0.7500	0.6000	0.8000	0.8333	2.1673
22	2014	0.7500	0.6000	0.8000	0.8333	2.2175
22	2015	0.7500	0.6000	0.8000	0.8333	2.1732
22	2016	0.7500	0.8000	0.8000	0.8333	2.2227
22	2017	0.7500	0.8000	0.8000	1.0000	2.0607
22	2018	0.7500	0.8000	0.8000	1.0000	2.0043
23	2013	0.2500	0.2000	0.8000	0.3333	2.2041
23	2014	1.0000	0.8000	0.8000	1.0000	1.5185
23	2015	1.0000	0.8000	0.8000	1.0000	1.5315
23	2016	1.0000	1.0000	0.8000	1.0000	1.7853
23	2017	1.0000	1.0000	0.8000	1.0000	1.7160
23	2018	1.0000	1.0000	0.8000	1.0000	1.3222
24	2013	0.7500	0.6000	0.8000	1.0000	1.7324
24	2014	0.7500	0.6000	0.8000	1.0000	2.0453
24	2015	0.7500	0.6000	0.8000	1.0000	1.7993
24	2016	0.7500	0.6000	1.0000	1.0000	2.2900
24	2017	0.7500	0.6000	1.0000	1.0000	2.0645
24	2018	0.7500	0.6000	1.0000	1.0000	2.0569

Appendix A

See Tables 8, 9

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