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## ORIGINAL ARTICLE

## The role of audit styles in financial statement comparability: South African evidence

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This study investigates the role of audit styles at different levels on financial statement comparability in South Africa, a setting where firms report under International Financial Reporting Standards (IFRS), the institutional environment is strong and the audit environment is dominated by the Big 4 audit firms. An output-based comparability measure is used to consider the association between audit styles at a firm level, audit office level and individual auditor level and financial statement comparability. Evidence of audit style effects on financial statement comparability is found at the three different levels-the audit firm, the audit office and the individual auditor. The study further finds some evidence that audit office style dominates audit firm style and individual auditor style dominates audit office style. This finding suggests that even in countries where internal (within the audit firm) and external (country regulations) control mechanisms are strong, the audit style of the individual auditor is present and associated with increased financial statement comparability. Using a setting where firms report under IFRS further suggests that in a principles-based environment, despite strong internal controls and in-house working rules by audit firms, individual auditors continue to have some level of autonomy in the interpretation and application of the accounting principles and in-house working rules.

KEYWORDS audit style, Big 4 audit firms, comparability

## 1 | INTRODUCTION

The objective of this study is to consider the role of audit styles at different levels on financial statement comparability using data from South Africa. South Africa is a unique setting that can provide useful information to both developed and developing economies in this regard as previous studies on this topic might not be generalizable to other countries.

According to the conceptual framework for financial reporting of both the International Accounting Standards Board (IASB) (2010) and the Financial Accounting Standards Board (FASB) (2010), comparability is an enhancing qualitative characteristic of useful financial information that 'enables users to identify and understand similarities in, and difference among, items'. Stressing the importance of comparability, standard setters state that 'One of the most important reasons that financial reporting standards are needed is to increase the comparability of reported financial information' (FASB, 2010, para. BC3.33; IASB, 2010, para. BC2.59).

Initial studies focusing on the role of accounting standards in improving comparability and more specifically the adoption of International Financial Reporting Standards (IFRS) suggested that factors other than changes in accounting standards such as the institutional environment and enforcement can also influence the comparability of financial statements (Barth et al., 2012; Cascino & Gassen, 2015;

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited and is not used for commercial purposes. © 2022 The Author. International Journal of Auditing published by John Wiley & Sons Ltd. Yip & Young, 2012). One line of research that has since emerged and is relevant to this study is the role of economic agents such as auditors and audit committees on financial statement comparability (Cao et al., 2016; Chen et al., 2020; Endrawes et al., 2020; Fang et al., 2015; Francis et al., 2014; Jiu et al., 2020).

Francis et al. (2014) introduced the concept of 'audit style'. They argued that each Big 4 audit firm has its own in-house working rules and unique way of interpreting and implementing accounting and auditing standards or their own 'audit style'. This concept of audit style was then suggested to exist at an audit office level (Kawada, 2014) and an individual auditor level (Chen et al., 2020; Jiu et al., 2020). Kawada (2014) argued that the audit offices implement the in-house working rules prescribed by the audit firms and can influence to some extent how these rules are implemented; thus, each office has its own 'audit office style'. Chen et al. (2020) and Jiu et al. (2020) then argued that individual auditors have their own discretion in implementing these in-house working rules and together with their own personal characteristics and attributes such as experience, knowledge, risk appetite and ethics have their own 'individual auditor style'.

Francis et al. (2014) used a US setting and found that the financial statements of two firms audited by the same Big 4 audit firm are more comparable than those audited by two different Big 4 audit firms. Using the same setting, Kawada (2014) focused on audit office style and concluded that firms audited by the same audit office are more comparable than those audited by the same audit firm, but different audit offices or different audit firms. Recent studies used a Chinese setting where the names of signing auditors are disclosed to examine the role of individual auditor styles on financial statement comparability. The studies by Jiu et al. (2020), Chen et al. (2020) and Shi et al. (2021) concluded that two firms audited by the same individual auditor tor have more comparable financial statements.

These prior studies focusing on the association between audit styles and financial statement comparability have mainly used a US setting for the audit firm and audit office styles associations and a Chinese setting for individual auditor style associations. US Generally Accepted Accounting Principles (GAAP) provides more guidance than the more principles-based IFRS. IFRS settings could therefore require more guidance and in-house working rules to ensure consistent implementation of accounting standards (Francis et al., 2014; Jiu et al., 2020). Such settings could result in stronger audit firm and audit office style effects.

The individual auditor style studies were done in a Chinese setting that has very unique institutional characteristics. China has weak investor protection, poor enforcement, low Big 4 dominance and a relatively weak accounting profession (Jiu et al., 2020; Porumb et al., 2021). The Chinese audit market is very different to most developed countries as it is extremely competitive and consists mostly of small, local audit firms (Jiu et al., 2020). Big 4 audit firms are known to have stronger internal controls than smaller, local audit firms. Because their staff are more dispersed, they need to implement stronger internal controls to ensure that audit and accounting standards are consistently and correctly applied (Burke et al., 2019; Cunningham et al., 2019; Francis et al., 2014). Big 4 firms are larger and thus have more funds and resources to invest in audit programmes, risk control, training and technical support (Chen et al., 2020; Francis et al., 2014; Jiu et al., 2020). The Chinese audit market would therefore have much weaker internal controls (controls within the audit firm) because of the mostly, small local firms, compared with countries where the Big 4 audit firms dominate.

Considering the importance of the institutional environment, Jiu et al. (2020) found that the individual auditor style effect on financial statement comparability reduced after regulations were announced to increase the quality of audits in China. They concluded that the improved regulations resulted in improved internal working rules in audit firms that improved the quality of audits. Francis and Wang (2008) and Ke et al. (2015) found that the audit quality of Big 4 audit firms is lower when the institutional environment is weak. These studies show how country regulations can impact on the financial reporting environment and the importance of a strong institutional environment to achieve desired objectives. Regulations affecting the financial reporting environment are external to the audit firms (external controls) but impact on the operations of these audit firms. This raises the question of whether the individual auditor style effects will be present in better regulated environments where the controls in the audit firms (internal) and the institutional environment (external) are strong. Prior research suggested inconsistent findings relating to audit outcomes and individual auditor disclosures across countries (Blav et al., 2014; Burke et al., 2019; Carcello & Li, 2013), highlighting the need to conduct audit style studies in different settings.

To explore this matter further, this study considers the role of audit styles at different levels, namely, the audit firm level, the audit office level and the individual auditor level, on financial statement comparability in a South African setting. The South African auditing market is very similar to developed countries. South Africa has reported under IFRS as issued by the IASB since 2005 (South African Institute of Chartered Accountants [SAICA], 2003), the audit market is dominated by Big 4 audit firms, the institutional environment is strong and firms have been disclosing the names of signing auditors in the audit reports from 2006. The South African auditing environment can therefore be characterized as having strong internal (Big 4 dominance) and external (institutional environment) controls.

This study uses a comparability measure based on the measure developed by De Franco et al. (2011). Their measure is based on the idea that financial statement comparability is achieved when two firms that face similar economic events (returns) produce similar financial statement amounts (earnings). The initial sample for this study includes the top 200 firms listed on the Johannesburg Stock Exchange (JSE) based on market capitalization on 31 December 2019. Data for these firms are collected from 2005 to 2019. Firm-pairs are created by exhaustively matching all firms in the same industry-year.

The results show significant associations between financial statement comparability and all three levels of audit style (firm level, office level and individual auditor level). Consistent with prior research (Chen et al., 2020; Francis et al., 2014; Jiu et al., 2020; Kawada, 2014), firm-pairs audited by the same audit firm have greater financial statement comparability compared with firm-pairs audited by different audit firms. These results suggest that audit firms develop in-house working rules in a principle-based IFRS environment that enhances financial statement comparability. There is no evidence that firm-pairs audited by the same Big 4 audit firm are more comparable than those audited by the same non-Big 4 audit firm. However, where firms were audited by the same non-Big 4 audit firms in this study, the non-Big 4 audit firms were all mid-tier audit firms. This could suggest some investment in developing in-house working rules by these firms. Moving to an office level, the findings suggest that firms audited by the same audit office are more comparable than those audited by the same audit firm, but different audit offices and that audit office style dominate audit firm style. Lastly, the findings suggest that individual auditor style has a positive association with financial statement comparability, with individual auditor style dominating audit office style to some extent. Additional analyses further suggest the existence of audit firm, audit office and individual auditor style effects. These findings suggest that even in countries where internal (Big 4 dominance) and external (country regulations) control mechanisms are strong, the audit style of the individual auditor is not dominated by audit firm and audit office style and is associated with increased financial statement comparability. Using a setting where firms report under IFRS further suggests that in a principles-based environment, despite strong internal controls and in-house working rules by audit firms, individual auditors continue to have some level of autonomy in the interpretation and application of the accounting principles and in-house working rules.

The findings of this study contribute to the growing body of knowledge on the determinants of financial statement comparability and more specifically on the role of economic agents (Chen et al., 2020; Francis et al., 2014; Jiu et al., 2020; Kawada, 2014). It also contributes to the literature on the role of auditors in financial reporting, which has previously mainly focused on audit quality (Gul et al., 2013; Knechel et al., 2015; Li et al., 2017). This study adds to the financial statement comparability studies previously conducted in a US setting with regard to audit firm (Francis et al., 2014) and audit office style (Kawada, 2014) and those on individual auditor style conducted in a Chinese setting (Chen et al., 2020; Jiu et al., 2020). Although the findings are similar to these prior studies, this study is conducted in a different setting, which has previously not been explored. More specifically, this study provides evidence on the role of individual auditors on financial statement comparability where firms report under IFRS in a strong institutional environment and where the audit environment is dominated by the Big 4 audit firms. The findings suggest that in countries where the internal and external control mechanisms are strong, the audit style effect of the individual auditor is still evident.

The results of this study could further be useful to regulators as it considers the effects of mandatory audit firm and also individual auditor rotations on financial reporting of clients and specifically on financial statement comparability. This study is particularly relevant for South African regulators as it provides insights into the possible implications of mandatory audit firm rotation that will come into effect in South Africa in 2023 and the possible negative effect it might have on financial statement comparability in South Africa in future.

The remainder of this study is organized as follows. Section 2 presents the institutional setting, reviews the related literature and develops the hypotheses. Section 3 details the research design. Section 4 discusses the sample and descriptive statistics. Section 5 reports the results. Additional analyses are reported in Section 6. Section 7 presents concluding remarks.

## 2 | INSTITUTIONAL SETTING, RELATED LITERATURE AND HYPOTHESES DEVELOPMENT

## 2.1 | Institutional setting

South Africa is a developing country that exhibits features similar to those of both developed and developing countries (Wesson, 2021). South Africa's dual economy consists of a small high-skilled, highproductivity economy on the one hand and a large low-skilled, lowproductivity economy on the other hand (World Bank, 2018). South Africa has a well-developed equity market and has the largest stock exchange in Africa and the 19th largest stock exchange in the world based on market capitalization (World Economic Forum, 2018; World Federation of Exchanges, 2021). South Africa is also a member of the G20 that represents the world's largest developed and emerging economies making up more than 80% of the world's gross domestic product (G20, 2022).

South Africa's financial market has historically been highly regarded. For the period 2007 to 2018. South Africa has consistently been ranked in the top 7%-15% of countries globally with regard to its strength of investor protection (World Bank, 2018). From 2010 to 2016, South Africa held the number one position for the strength of its auditing and reporting standards as reported in the World Economic Forum's Global Competitiveness Report. This ranking has dropped to number 30 in 2017 and to 49 in the 2019 report mainly as a result of an increase in the level of corruption and crime, downgrades by credit rating agencies and economic and political uncertainty negatively affected the reputation of South Africa as an investment market (Independent Regulatory Board for Auditors [IRBA], 2017a; SAICA, 2018; Wesson, 2021; World Economic Forum, 2019). A strong institutional environment, specifically relating to the financial reporting environment, can impact on the quality of audits (Jiu et al., 2020; Ke et al., 2015). In South Africa, where investor protection is strong and its auditing and reporting standards are highly regarded, one can conclude that these external controls are strong.

Francis and Wang (2008) found that earnings quality increased for firms audited by the Big 4 audit firms in countries with strong investor protection and thus a strong institutional environment. Another feature of the South African audit environment is the dominance by the Big 4 audit firms. IRBA (2016) reported that the market capitalization of clients audited by Big 4 audit firms on the JSE represented 96% of the market. This is similar to that reported in developed countries such as the United States and the European Union (EU) where 97% of the clients based on market capitalization are audited by Big 4 audit firms in the United States and more than 70% of statutory audits of public interest entities are performed by them in the EU (Public Company Accounting Oversight Board, 2017). One of the advantages of Big 4 firms is that they are larger and thus have more funds and resources to invest in controls such as audit programmes, risk control, training and technical support (Chen et al., 2020; Francis et al., 2014; Jiu et al., 2020). One can therefore conclude that the audit environment in a country, such as South Africa, which is dominated by the Big 4 audit firms, has strong internal controls.

Concerns regarding auditor independence and the implications of the high level of concentration in the audit market were noted by IRBA (2017b) when they announced mandatory audit firm rotation in South Africa for all public interest entities from 1 April 2023. Audit firms will be allowed to serve for a maximum of 10 years and will only be eligible again after a cooling off period of 5 years. This new requirement is expected to enhance the independence of the auditors and to advance transformation in the profession (IRBA, 2017b). This study could provide insight into the possible implications of mandatory audit firm rotation on financial statement comparability in South Africa in future.

Another feature of the South African auditing environment is that the Companies Act, No. 71 of 2008, which became effective in May 2011, requires that an individual auditor may not be appointed as the auditor of a firm for more than five consecutive years (Republic of South Africa, 2008). In addition, firms have been disclosing the names of signing auditors in the audit reports from 2006<sup>1</sup> and from 2011 section 150.6 of the Code of Professional Conduct for Registered Auditors required that the audit report include the name of the signing auditor (IRBA, 2010). This feature provides an opportunity to assess individual auditor style effects on financial statement comparability in South Africa, a setting where the internal and external controls in the audit environment are strong.

#### 2.2 | Financial statement comparability

Comparability is a characteristic of useful financial information that allows users of financial statements to obtain an understanding of both similarities and differences in financial information (FASB, 2010; IASB, 2010). A unique feature of this characteristic is that it does not relate to an individual item but requires a comparison of two items. This unique feature that comparability is measured relative to other firms and cannot be independently measured like most other accounting concepts is likely one of the reasons that despite the importance of comparability, limited empirical research existed compared with other accounting concepts (Francis et al., 2014; Sohn, 2016). This, however, changed with the development of comparability measures, such as those employed by De Franco et al. (2011), Barth et al. (2012) and Francis et al. (2014). Empirical research relating to comparability initially focused on the economic consequences of financial statement comparability. These consequences include among others an improved information environment (De Franco et al., 2011), higher informativeness of stock prices (Choi et al., 2019), lower cost of capital (Imhof et al., 2017), improved internal decision making (Chen et al., 2013; Chen et al., 2018) and benefits in the debt market (Kim et al., 2013).

Another line of research examined the adoption of IFRS and the related comparability effects. The adoption of IFRS was mostly found to have increased financial statement comparability between countries (Barth et al., 2012; Cascino & Gassen, 2015; Yip & Young, 2012), and various benefits associated with increased financial statement comparability have been reported. Such benefits include, but are not limited to, lower cost of capital (Li, 2010), increased foreign analysts following (Tan et al., 2011), increased foreign mutual fund ownership (DeFond et al., 2011), higher firm value, liquidity, improved analysts' information environment (Neel, 2017), improved investment efficiency (Gao & Sidhu, 2018b, 2018a) and improved financial market integration (Dhaliwal et al., 2019).

Although these studies found an increase in comparability after the adoption of IFRS, their results suggested that standards alone might not be sufficient to improve comparability of financial statements and that other factors such as a strong institutional environment or the enforcement of standards could also be drivers of comparability changes (Barth et al., 2012; Cascino & Gassen, 2015; Yip & Young, 2012). Consequently, a number of studies examined the determinants of financial statement comparability and specifically the role of economic agents such as auditors and audit committees on financial statement comparability (Cao et al., 2016; Chen et al., 2020; Endrawes et al., 2020; Fang et al., 2015; Francis et al., 2014; Jiu et al., 2020).

# 2.3 | Auditors' role in financial statement comparability

Francis et al. (2014) argued that auditors play a vital role in all the different features that comprise the financial reporting system. The financial reporting system is an intricate interaction of various parts that include accounting standards, their interpretation, enforcement, auditing and litigation of the accounting standards (Barth et al., 2012). Francis et al. (2014) further argued that each of the Big 4 audit firms has their own in-house working rules and unique way of interpreting and implementing accounting and auditing standards and thus their own 'audit style'. They found that two firms that are audited by the same Big 4 audit firm will likely have more comparable financial statements than those that are audited by two different Big 4 audit firms. Fang et al. (2015) also considered the role of Big 4 audit firms and found that firms with higher US institutional investment are more likely to change from a non-Big 4 audit firm to a Big 4 audit firm and that this switch is associated with increased financial statement comparability. Related to the study by Francis et al. (2014) is the study by Johnston and Zhang (2021) that examines whether audit style at a

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firm level is associated with financial reporting similarity. Using an input-based measure of financial statement comparability, they find that firms that have the same audit firm, either Big 4 or non-Big 4, have more similar line items in their financial statements.

Prior research has highlighted the difference between Big 4 and non-Big 4 audit firms and the impact these firms can have on financial statement comparability (Chen et al., 2020; Francis et al., 2014; Shi et al., 2021). Francis et al. (2014) argued that the Big 4 audit firms are in a better position compared with non-Big 4 audit firms to standardize in-house working rules and to consistently implement auditing and accounting standards. Big 4 audit firms have extensive in-house knowledge, better quality control procedures, greater investment in training and more resources and funding available to them to ensure consistent implementation (Chen et al., 2020; Francis et al., 2014; Shi et al., 2021). Francis et al. (2014) found some evidence that firms audited by Big 4 audit firms have greater financial statement comparability compared with firms audited by non-Big 4 audit firms because of these standardized in-house working rules. These rules, which are implemented to ensure consistent audit outcomes, could however weaken the audit style of the individual auditor. This would likely be more evident in Big 4 audit firms compared with non-Big 4 audit firms (Shi et al., 2021).

Considering smaller groupings within audit firms, Kawada (2014) argued that it is the audit office that implements the in-house working rules and found greater comparability for firms audited by the same audit office compared with those audited by the same firm, but different offices or those audited by different firms. Cao et al. (2016) used data from mergers of audit firms in China and found that groups within these firms impact on financial statement comparability of clients.

With individual auditor data becoming available in a number of countries, recent research considered the influence that individual auditors have on audit quality and other audit outcomes (Gul et al., 2013; Knechel et al., 2015; Li et al., 2017; Porumb et al., 2021). Gul et al. (2013) found variation in audit guality at an individual level and found that this could to some extent be explained by individual auditor characteristics. Knechel et al. (2015) concluded that auditors have their own individual audit styles and that aggressive or conservative reporting for individual auditors will continue both over time and to other clients. Similarly, Li et al. (2017) concluded that auditors that had failed audits also showed lower audit quality in other clients during the same period and over time. Porumb et al. (2021) considered the effect of audit styles at different levels (audit firm, audit office and individual auditor) on audit quality and concluded that individual auditors have a significant effect on audit quality after controlling for audit firm and audit office effects.

Although a number of the studies above examined audit quality, financial statement comparability cannot directly be assumed from it, because it does not mean that the variation in quality between firms is automatically close (Shi et al., 2021). This lead to a line of research considering audit styles and financial statement comparability (Chen et al., 2020; Jiu et al., 2020; Shi et al., 2021). These studies argued that individual auditors have certain discretion when implementing the guidelines and rules as developed by the audit firms and consequently each individual auditor's own audit style could impact on the comparability of firms audited by the same individual auditor. All three studies found that individual auditors have their own unique audit style and that firms audited by the same individual auditor will have greater financial statement comparability.

Apart from the studies by Francis et al. (2014), Johnston and Zhang (2021) and Kawada (2014) that used US data and focused on audit firm style and audit office style, respectively, the studies that examined the role of individual auditor styles in respect of financial statement comparability used Chinese data (Chen et al., 2020; Jiu et al., 2020; Shi et al., 2021). Some of the unique features of the Chinese audit market are that their accounting standards are principles based, their audit market is very competitive and is not dominated by the Big 4 audit firms and they have weak investor protection (Jiu et al., 2020). Although Chinese Accounting Standards are substantially converged with IFRS, China has not formally adopted IFRS (IFRS Foundation, 2020). In addition, China's accounting profession is considered to be weak and their institutional environment is characterized by poor enforcement and weak regulations. These unique institutional features of China limit the generalizability to other markets (Porumb et al., 2021). Differences noted in prior research relating to audit outcomes and individual auditor disclosures across countries suggest that the unique features of the different audit markets can lead to inconsistent findings (Blay et al., 2014; Burke et al., 2019; Carcello & Li, 2013). Burke et al. (2019) found a significant increase in accounting quality in the United States in the year after the requirement to disclose individual auditor names was adopted. Although similar results were found in the United Kingdom (Carcello & Li, 2013), no change in accounting quality was found after the disclosure requirements were mandated in the Netherlands (Blay et al., 2014). This raises the question of the extent to which the above findings relating to financial statement comparability and audit styles at the different levels can be generalized to other countries.

To further examine the role of audit styles in financial comparability, this study focuses on South Africa, a country that has reported under IFRS as issued by the IASB since 2005 (SAICA, 2003), where the audit market is dominated by Big 4 audit firms and the institutional environment is strong. These characteristics are similar to those of developed countries. This study uses the South African setting to examine the role of audit style at an audit firm level, an audit office level and an individual auditor level on financial statement comparability.

#### 2.4 | Hypotheses development

Focusing first on audit style at an audit firm level, this study considers the effect that different audit firms' in-house rules and their interpretation and implementation of both accounting and auditing standards have on financial statement comparability. Francis et al. (2014) found that US firms audited by the same Big 4 audit firm have greater financial statement comparability than those US firms audited by two different Big 4 audit firms. Their study was conducted in a US GAAP setting that provides more guidance than a more principles-based IFRS setting. Kothari et al. (2010) argued that in a principles-based setting, auditors will be even more inclined to develop in-house working rules to ensure that the accounting standards are consistently implemented. It is therefore expected that firms audited by the same audit firm will have greater financial statement comparability compared with those firms audited by different audit firms in a principles-based IFRS setting. Therefore, the first hypothesis is:

**H1.** Firms audited by the same audit firm will have greater financial statement comparability compared with firms audited by different audit firms.

Prior literature, however, suggests differences between Big 4 and non-Big 4 audit firms (Becker et al., 1998). Because of their size, Big 4 audit firms are able to invest greater amounts in training and technical guidance and to ensure that audit methodologies are consistently applied. Furthermore, strong internal quality control systems ensure high accountability for these firms and are in place to maintain their reputation (Burke et al., 2019; Cunningham et al., 2019; Francis et al., 2014). These additional controls and funds ensure more consistent interpretation and implementation of standards compared with smaller firms (Francis et al., 2014). Francis et al. (2014) argued that because of more consistent interpretation and implementation of standards, one can expect firms audited by the same Big 4 audit firm to be more comparable than those audited by the same non-Big 4 audit firms. However, they only found weak evidence to support their argument. This matter is further explored in a setting that is dominated by Big 4 audit firms, similar to the United States, but where accounting standards are principles based. In such a setting, an individual auditor's own interpretation, specifically in the non-Big 4 audit firms where there are less guidance, could lead to less comparable financial statements. It is therefore expected that firms audited by the same Big 4 audit firm will have greater financial statement comparability than those audited by the same non-Big 4 audit firm. Therefore, the second hypothesis is:

**H2.** Firms audited by the same Big 4 audit firm will have greater financial statement comparability compared with firms audited by the same non-Big 4 audit firm.

Next, the study will focus on audit style at an audit office level. Kawada (2014) explored the role of audit offices in financial statement comparability between firms. He based his argument on the idea that each audit office has its own unique audit style in addition to the guidelines and in-house working rules developed by the audit firms. Although the audit firms develop these guidelines and rules, it is ultimately the audit offices that implement these and the audit offices are to some extent autonomous (Kawada, 2014). Although some training take place at a national level, others happen at the audit offices and can influence how the rules and guidelines are implemented (Kawada, 2014). Focusing on Big 4 audit firms, consistent with these arguments, he found greater comparability for firms audited by the same audit office compared with those audited by the same audit firm, but different audit offices or those audited by different audit firms. Although these arguments are made in a US setting where there are many different offices and regions, the same level of autonomy is expected in the different South African audit offices and can also be expected to apply to the non-Big 4 audit firms. It is therefore expected that firms that are audited by the same audit office will be more comparable than those audited by different audit offices. Therefore, the third hypothesis is:

**H3.** Firms audited by the same audit office will have greater financial statement comparability compared with firms audited by different audit offices.

Lastly, the study will focus on audit style at an individual auditor level. Chen et al. (2020) and Jiu et al. (2020) argued that because individual audit characteristics matter and that auditors have their own individual audit styles, firms audited by the same individual auditor would likely be more comparable than those audited by different individual auditors. Both studies by Chen et al. (2020) and Jiu et al. (2020) found consistent with their predictions that firms that have the same individual auditor have significantly greater comparability. However, both these studies were conducted in a Chinese setting where the Big 4 audit firms do not dominate the audit market and investor protection is weak (Jiu et al., 2020). Although Chinese Accounting Standards are substantially converged with IFRS, China has not formally adopted IFRS (IFRS Foundation, 2020). The unique characteristics of the Chinese accounting environment limit the generalizability of these findings to other settings.

Chen et al. (2020) and Shi et al. (2021) argue that the increased technical guidance, audit methodologies and controls in place in Big 4 audit firms can lessen the effect of the individual auditor's style. More stringent internal controls leave less room for the individual auditor to exercise judgement and influence the audit outcome. That could mean that individual auditor style effects might not be present in countries dominated by the Big 4, where these internal controls are in place. Jiu et al. (2020) found that regulations by the Ministry of Finance, where individual auditors could face greater litigation risk, resulted in improved internal working rules and as a result reduced the effect of individual auditor style and audit firm style played a greater role. These findings highlight the effect of the institutional environment and enforcement on audit style. Therefore, in countries where internal (within the audit firm) and external (country regulations) control mechanisms are strong, the audit style of the individual auditor could be reduced. This is particularly relevant when considering the results of the studies conducted in a Chinese setting (Chen et al., 2020; Jiu et al., 2020; Shi et al., 2021) as this setting is not dominated by Big 4 audit firms and the institutional environment is weak. Ke et al. (2015) found that the audit quality of Big 4 audit firms is lower in China where the institutional environment is weak. Therefore, the individual auditor style effect could be more pronounced in a

Chinese setting. However, Shi et al. (2021) also found that the individual auditor style effect on comparability was greater for Big 4 audit firms compared with non-Big 4 audit firms. They concluded that bigger incentives for such auditors encourage them to develop their knowledge and skills and apply it in their individual audits. Their findings could be influenced by the fact that only 6% of listed firms in China were audited by the Big 4 audit firms in 2005 to 2014 (Jiu et al., 2020), which could result in very different incentives for individual auditors compared with countries where the Big 4 audit firms dominate.

The audit quality literature could provide some guidance as to individual auditor style effects in countries with stronger institutional environment and better internal and external controls in the audit environment. Although the empirical evidence in this regard is limited (Porumb et al., 2021), there are some empirical evidence outside China of individual auditor effects in Sweden (Knechel et al., 2015) and Germany (Porumb et al., 2021) on audit quality. Both of these countries also have their own unique features with the German audit market having relatively strong enforcement although weaker than other countries (Porumb et al., 2021). The question then remains if the effect of individual auditor style on financial statement comparability will be present in a setting dominated by the Big 4 audit firms and where there is a strong institutional environment. This study explores this matter further in a South African setting. The fourth hypothesis is stated in the null form:

**H4.** Firms audited by the same individual auditor will not have greater financial statement comparability compared with those audited by different individual auditors.

#### 3 | RESEARCH DESIGN

#### 3.1 | Firm-pair comparability measure

The firm-pair comparability measure used in this study follows current auditor style research by using an output-based comparability measure (Chen et al., 2020; Francis et al., 2014; Jiu et al., 2020). The comparability measure used in this study is based on the measure initially developed by De Franco et al. (2011). They defined an accounting system as 'a mapping from economic events to financial statements' (De Franco et al., 2011, p. 899) and argued that firms would be considered comparable when their accounting systems produce similar financial statements when faced with the same economic events.

Stock return is used as a proxy for economic events and earnings as a proxy for a firm's financial statements (Barth et al., 2012; De Franco et al., 2011; Jiu et al., 2020). Consistent with prior studies using international data (Barth et al., 2012; Cascino & Gassen, 2015; Neel, 2017), annual data<sup>2</sup> (the current and previous 3 years) are used to estimate the accounting function for each firm-year as follows: where *Earnings* is the annual net income before extraordinary items, scaled by the market value of common shareholders' equity 9 months before the financial year-end and *Return* is the change in the share price for the year measured from 9 months before the financial year-end to 3 months after, adjusted for dividends, share splits and consolidations.<sup>3</sup>

Firm *i*'s accounting function is represented by  $\alpha^{i}$  and  $\beta^{i}$ , and similarly, that of firm *j* is represented by  $\alpha^{j}$  and  $\beta^{j}$ . To determine how similar the accounting functions and thus the comparability of firms *i* and *j* are, each firm's *Earnings* is estimated by applying the accounting functions of both firm *i* and firm *j* to the same economic events (*Return*) of both firm *i* and firm *j* (Smith et al., 2021; Yip & Young, 2012):

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$$(Earnings_{iit}) = \alpha^{i} + \beta^{i} Return_{it}$$
(2)

 $E(Earnings_{ijt}) = \alpha^{j} + \beta^{j}Return_{it}$ (3)

$$E(\text{Earnings}_{jjt}) = \alpha^{j} + \beta^{j} \text{Return}_{jt}$$
(4)

$$E(Earnings_{jit}) = \alpha^{i} + \beta^{i}Return_{jt}$$
(5)

where  $E(Earnings_{iit})$  is the estimated earnings of firm *i* based on firm *i*'s accounting function and *Return* in period *t*, whereas  $E(Earnings_{ijt})$  is the estimated earnings of firm *j* based on firm *j*'s accounting function and firm *i*'s *Return* in period *t*. The difference between the two estimated earnings is an indication of the difference between the two firms' accounting functions. The *Earnings* using firm *j*'s *Return* is also estimated. The firm-pair comparability is calculated as follows:

$$\begin{aligned} \mathsf{CompAcct}_{ijt} &= -\frac{1}{4} \times \Sigma^{t}_{t-3} \Big( \big| \mathsf{E}(\mathsf{Earnings}_{iit}) - \mathsf{E}\big( \mathsf{Earnings}_{ijt} \big) \big| & (6) \\ &+ \big| \mathsf{E}\big( \mathsf{Earnings}_{ijt} \big) - \mathsf{E}\big( \mathsf{Earnings}_{jit} \big) \big| \Big) / 2 \end{aligned}$$

The closer  $CompAcct_{it}$  is to zero, the more comparable are the financial statements of firms *i* and *j*. The average absolute difference calculated in Equation 6 is multiplied by negative one in order for greater values to represent greater comparability.

#### 3.2 | Estimation equations

To evaluate the first two hypotheses relating to financial statement comparability and audit style at a firm level, the following two equations are estimated:

$$CompAcct_{ijt} = \beta_0 + \beta_1 SameF_{ijt} + \beta_2 Controls_{ijt} + \varepsilon_{ijt}$$
(7)

$$CompAcct_{iit} = \beta_0 + \beta_1 SameBig4_{iit} + \beta_2 Controls_{iit} + \varepsilon_{iit}$$
(8)

where *CompAcct* is a firm-pair measure of financial statement comparability between firms i and j (refer Section 3.1 previously). To

 $Earnings_{it} = \alpha_i + \beta_i Return_{it} + \varepsilon_{it}$ (1)

evaluate H1, Equation 7 is estimated using a sample of firm-pairs audited by the same audit firm versus firm-pairs audited by two different audit firms. SameF takes a value of 1 if firms i and j are audited by the same audit firm, and 0 if audited by two different audit firms. It is expected that firms audited by the same audit firm would be more comparable and as a result the coefficient for SameF is predicted to be positive because a greater value for CompAcct represents greater financial statement comparability. To evaluate H2, Equation 8 is estimated using a sample of firm-pairs audited by the same Big 4 audit firm versus firm-pairs audited by the same non-Big 4 audit firm. Same-Big4 takes a value of 1 if firms i and j are audited by the same Big 4 audit firm, and 0 if audited by the same non-Big 4 audit firm. The coefficient for SameBig4 is expected to be positive because firms that are audited by the same Big 4 audit firm are predicted to have greater financial statement comparability compared with firms audited by the same non-Big 4 audit firm.

To evaluate H3 relating to financial statement comparability and audit style at an office level, the following equation is estimated:

$$CompAcct_{ijt} = \beta_0 + \beta_1 SameF\_SameO_{ijt} + \beta_2 SameF\_DiffO_{ijt} + \beta_3 Controls_{ijt} + \varepsilon_{ijt}$$

$$(9)$$

where *Same\_F* is split into two variables, namely, *SameF\_SameO* and *SameF\_DiffO*, in order to separately assess audit style at an office level and at a firm level (Kawada, 2014). *SameF\_SameO* takes a value of 1 if firms *i* and *j* are audited by the same audit firm and audit office and 0 otherwise; *SameF\_DiffO* takes a value of 1 if firms *i* and *j* are audited by the same audit offices and 0 otherwise. The coefficient for *SameF\_SameO* is expected to be positive because firms that are audited by the same audit office are predicted to have greater financial statement comparability. For a firm-pair to be included in Equation 9, there should be no change in the audit office for either firm in the current and preceding 3 years (the period that *CompAcct* is measured).

To evaluate H4 relating to financial statement comparability and audit style at an individual auditor level, the following equation is estimated:

$$\begin{aligned} \mathsf{CompAcct}_{ijt} = & \beta_0 + \beta_1 \mathsf{SameF}_{\mathsf{SameO}} \mathsf{SameP}_{ijt} \\ & + \beta_2 \mathsf{SameF}_{\mathsf{SameO}}_{\mathsf{DiffP}_{ijt}} + \beta_4 \mathsf{Controls}_{ijt} + \varepsilon_{ijt} \end{aligned} \tag{10}$$

where *SameF\_SameO* is split into two variables, namely, *SameF\_SameO\_SameP* and *SameF\_SameO\_DiffP*, in order to separately assess audit style at an office level and at an individual auditor level.<sup>4</sup> *SameF\_SameO\_SameP* takes a value of 1 if firms *i* and *j* are audited by the same audit firm, audit office and individual auditor and 0 otherwise; *SameF\_SameO\_DiffP* takes a value of 1 if firms *i* and *j* are audited by the same audit firm and audit office but different individual auditors and 0 otherwise. The coefficient for *SameF\_SameO\_SameP* is expected to be positive because firms that are audited by the same audit office are predicted to have greater financial statement comparability. For a firm-pair to be included in Equation 10, there should be

no change in the individual auditor for either firm in the current and preceding 3 years (the period that *CompAcct* is measured).

To control for other factors that could influence financial statement comparability between two firm-pairs, a number of control variables are included. Based on prior studies that have used firm-pairs, controls for both the difference (absolute value of the difference between a firm-pair) and the level (minimum value in a firm-pair) of a particular variable are included (De Franco et al., 2011; Francis et al., 2014; Jiu et al., 2020; Kawada, 2014). Variables for size (Size\_Diff and Size\_Min) as well as the market-to-book ratio (MB\_Diff and MB\_Min) to control for differences in firm characteristics are included (De Franco et al., 2011; Francis et al., 2014). Variables for leverage (Lev\_Diff and Lev\_Min) are included to control for both the difference and the level of leverage in firm-pairs (Francis et al., 2014; Jiu et al., 2020; Kawada, 2014). Lastly, controls are included for cash flow from operations (CFO\_Diff and CFO\_Min) to control for firm fundamentals (Francis et al., 2014; Kawada, 2014). All variables are defined in Appendix A.

Furthermore, industry fixed effects at the SIC divisional classification level and also year fixed effects are included. Continuous variables are winsorized at the top and bottom 1% to mitigate the potential effect of outliers. To reduce the serial dependence in the error term from having the same firm included more than once in the sample, standard errors are clustered at a firm *i* level.<sup>5</sup> To determine whether multicollinearity exists, the VIFs (variable inflation factors) are calculated (not reported) for all test and control variables in Equations 7 to 10. None of these VIFs are greater than 2.2 (highest value of 2.11), suggesting that the results do not suffer from multicollinearity problems.

# 4 | SAMPLE AND DESCRIPTIVE STATISTICS

#### 4.1 | Sample selection

The sample includes the top 200 firms listed on the JSE based on market capitalization on 31 December 2019. The sample selection process is presented in Table 1, Panel A. Financial statement and stock data are obtained from the Refinitiv Datastream database (including Worldscope) for the period from 2005 to 2019.<sup>6</sup> Firms were included in the sample from the date that they were listed on the JSE. Data relating to the auditors were hand collected from the annual financial reports for the same period. This process generated 2234 unique firm-years. Because the comparability measure is calculated over 4 years, a firm is required to be audited by the same audit firm for the current and preceding 3 years and had to report under the same accounting standards.<sup>7</sup> This process reduces the number of firm-years (unique firms) to 1381 (168). This is further reduced to 1293 (158) firm-years (unique firms) for which data are available to compute the variables.

The comparability sample is created, by exhaustively matching all firms in the same industry-year. Only unique firm-pairs are retained;

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thus, if there are three firms, *i*, *j* and *k*, the three unique firm-pairs are *i*-*j*, *i*-*k* and *j*-*k*. This process generates 3333 firm-pairs for testing the hypotheses. The industry composition based on the SIC divisional classifications is presented in Table 1, Panel B. The largest number of firm-pair observations is from the Finance, Insurance and Real Estate (43.80%) and Mining (28.26%) sectors.<sup>8</sup>

### 4.2 | Descriptive statistics

Table 2, Panel A presents the descriptive statistics for all variables based on the full sample. The mean (median) value of *CompAcct* is -0.095 (-0.064), which is comparable with the mean (median) value of -0.142 (-0.04) for the sample of similar firms from the same country in the study by Yip and Young (2012). The test variable, *SameF*, indicates that 22.9% of the firm-pairs are audited by the same firm, whereas *SameBig4* shows that 22.6% of the firm-pairs are audited by the same Big 4 audit firm. This is similar to the US sample in the study by Francis et al. (2014) where 22.2% of the sample firms were audited by the same Big 4 audit firm. The closeness of the means of *SameF* (22.9) and *SameBig4* (22.6) further suggests that very few firms are audited by the same non-Big 4 audit firm in the sample.<sup>9</sup>

TABLE 1 Sample

Panel A: Sample selection		
	Firms	Firm-years
Top 200 firms listed on the JSE betwee 2005 and 2019	en 200	2234
Less:		
Firms not audited by the same audit for 4 years	firm —30	-778
Firms not reporting under the same accounting standards for 4 years	-2	-75
Firms with missing data to calculate variables	-10	-88
Total firms and firm-year observations	158	1293
Total unique firm-pairs in the same inde and year	ustry	3333
Panel B: Industry composition		
SIC divisional classification	Firm-pairs	%
Construction	6	0.18
Finance, Insurance and Real Estate	1460	43.80
Manufacturing	557	16.71
Mining	942	28.26
Retail Trade	100	3.00
Services	189	5.67
Transportation and Public Utilities	67	2.01
Wholesale Trade	12	0.36
	3333	100.00

Abbreviation: JSE, Johannesburg Stock Exchange.

SameF\_SameO indicates that 11.1% of the firm-pairs are audited in the same audit office. This is notably more than the 1.5% in the study by Kawada (2014) using US data. A further review of the data shows that 788 (60.9%) of the firm-years were audited in the respective audit firms' Johannesburg office. SameF\_DiffO indicates that 11.8% of the firm-pairs are audited in the same audit firm but different audit offices. SameF\_SameO\_SameP with a mean of 0.003 suggests that only 0.3% of firm-pairs are audited by the same individual auditor. This is not unlike the studies conducted in China by Chen et al. (2020) and Shi et al. (2021) where the percentages of firm-pairs audited by the same individual auditor were 0.5% and 0.31%, respectively. These low percentages are not surprising given the limited time that individual auditors have (Shi et al., 2021). In addition, this study required the firms to be audited by the same individual auditor for 4 years and only include the top 200 firms listed on the JSE. These are all large firms and it is unlikely that individual auditors will have a large number of such engagements. Lastly, SameF\_SameO\_DiffP indicates that 10.8% of the firm-pairs are audited in the same audit firm and audit office but by different individual auditors.

Table 2, Panel B reports the Spearman and Pearson correlations between the dependent variable, *CompAcct*, and the test variables. Consistent with the predictions, all the test variables, except *SameF\_SameO\_SameP*, are positively and significantly correlated with *CompAcct* at a 1% level. *SameF\_SameO\_SameP* is positively and significantly correlated with *CompAcct* at a 5% level. Regardless of these univariate correlations, the inferences will be based on the multivariate tests in the section that follows.

## 5 | RESULTS

Table 3 reports the multivariate regression results for H1 and H2 relating to financial statement comparability and audit firm style. The results for H1 that includes the full sample are reported in column (1). The coefficient for *SameF* is positive and significant ( $\beta_1 = 0.012$ , t = 2.00). This suggests that a firm-pair audited by the same audit firm will have greater financial statement comparability compared with a firm-pair audited by different audit firms. This finding in an IFRS setting is consistent with the findings that financial statement comparability is greater for US firms when audited by the same Big 4 audit firm (Francis et al., 2014; Kawada, 2014) and also for Chinese firms audited by the same audit firm (Chen et al., 2020; Jiu et al., 2020). This result suggests that in a principles-based IFRS accounting environment, audit firms develop in-house working rules that enhance financial statement comparability.

For H2, the sample only includes firm-pairs that are audited by the same audit firm. The results show a negative and insignificant coefficient for *SameBig4*, rejecting H2 that a firm-pair audited by the same Big 4 audit firm has greater financial statement comparability compared with a firm-pair audited by the same non-Big 4 audit firm. However, the results for H2 should be interpreted with caution because only 10 of the firm-pair observations in the sample were audited by the same non-Big 4 audit firm.<sup>10</sup> In addition, these 10 firm-

#### TABLE 2 Descriptive statistics

Panel A: Descript	ive statistics for	the full sample
-------------------	--------------------	-----------------

Variable (n = 3333)	Me	an	Standard	deviation	Lower quarti	le Median	Upper quartile
Dependent variable							
CompAcct	-0.	.095	0.092		-0.134	-0.064	-0.029
Test variables							
SameF	0.	229	0.420		0.000	0.000	0.000
SameBig4	0.	226	0.418		0.000	0.000	0.000
SameF_SameO	0.	111	0.314		0.000	0.000	0.000
SameF_DiffO	0.	118	0.323		0.000	0.000	0.000
SameF_SameO_SameP	0.	.003	0.057		0.000	0.000	0.000
SameF_SameO_DiffP	0.	108	0.310		0.000	0.000	0.000
Control variables							
Size_Diff	1.	792	1.368		0.656	1.470	2.758
Size_Min	13.	890	1.524		12.822	13.895	14.731
MB_Diff	2.	085	5.205		0.295	0.781	1.970
MB_Min	1.	329	0.959		0.737	1.055	1.587
Lev_Diff	0.	220	0.182		0.077	0.171	0.314
Lev_Min	0.	190	0.167		0.045	0.152	0.303
CFO_Diff	0.	079	0.103		0.020	0.048	0.098
CFO_Min	0.	051	0.054		0.013	0.043	0.083
Panel B: Correlations							
Variable (n = 3333)	CompAcct	SameF	SameBig4	SameF_SameO	SameF_DiffO	SameF_SameO_SameP	SameF_SameO_DiffP
CompAcct	1	0.133	0.135	0.099	0.078	0.043	0.092
SameF	0.117	1	0.992	0.649	0.671	0.106	0.638
SameBig4	0.116	0.992	1	0.638	0.670	0.107	0.627
SameF_SameO	0.081	0.649	0.638	1	- <b>0.129</b>	0.163	0.983
SameF_DiffO	0.074	0.671	0.670	-0.129	1	-0.021	-0.127
SameF_SameO_SameP	0.034	0.106	0.107	0.163	-0.021	1	-0.020
SameF_SameO_DiffP	0.076	0.638	0.627	0.983	-0.127	-0.020	1

Note: Table 2 reports the descriptive statistics for the *CompAcct* dependent variable, the test variables and a number of control variables. Panel A reports the descriptive statistics for the 3333 firm-pairs. Panel B reports the Spearman (Pearson) correlations above (below) the diagonal for the dependent and test variables. Significant correlations at the 1% level appear in bold. *CompAcct* is a firm-pair comparability measure based on De Franco et al.'s (2011) comparability measure using returns as the economic event and earnings as the proxy for the financial statements; *SameF* is an indicator variable that equals 1 if firms *i* and *j* are audited by the same audit firm and 0 otherwise; *SameBig4* is an indicator variable that equals 1 if firms *i* and *j* are audited by the same audit firm and a otherwise; *SameFig4* is an indicator variable that equals 1 office and 0 otherwise; *SameF\_SameO* is an indicator variable that equals 1 if firms *i* and *j* are audited by the same audit firm and audit office and 0 otherwise; *SameF\_SameO\_SameP* is an indicator variable that equals 1 if firms *i* and *j* are audited office and the same individual auditor and 0 otherwise; *SameF\_SameO\_DiffP* is an indicator variable that equals 1 if firms *i* and *j* are audited by the same audit firm and audit office but different individual auditors and 0 otherwise. All control variables are defined in Appendix A. All continuous variables are winsorized at the top and bottom 1%.

pairs were audited by mid-tier audit firms (BDO, Grant Thornton and Mazars), which one can argue to have more in-house investment in developing working rules compared with smaller audit firms (Francis et al., 2014). This finding is contrary to Francis et al. (2014) who found some evidence that firms audited by the same Big 4 audit firm were more comparable than those audited by the same non-Big 4 audit firm, although their results were mixed across the different measures used. They did, however, find some evidence that firm-pairs audited by the same mid-tier audit firm are more comparable than those

audited by different mid-tier audit firms, suggesting some investment in in-house working rules by these mid-tier audit firms. That could also explain the results from this study that there are no significant differences between the same Big 4 and the same non-Big 4 audit firms.

H3 considers the effect of audit office style on financial statement comparability, where the sample is limited to firm-pairs where there was no change in the audit office for either firm in the current and preceding 3 years. The results for H3 are presented in column (1) of Table 4, Panel A. *SameF* is split into *SameF\_SameO* and 0991123, 2022, 4, Downloaded from

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		Equation 7 CompAcct (1)		Equation <mark>8</mark> CompAcct (2)	
	Pred. sign	Coeff.	(t-stat)	Coeff.	(t-stat)
SameF	+	0.012**	(2.00)		
SameBig4	+			-0.031	(–1.36)
Size_Diff		0.000	(0.10)	0.005	(1.14)
Size_Min		0.006***	(2.62)	0.013***	(3.48)
MB_Diff		-0.000	(-0.58)	-0.002	(-1.32)
MB_Min		0.034***	(6.05)	0.038***	(3.41)
Lev_Diff		-0.023	(-1.35)	-0.022	(-0.92)
Lev_Min		-0.039*	(-1.82)	-0.057	(-1.65)
CFO_Diff		-0.081***	(-2.71)	0.000	(0.01)
CFO_Min		-0.008	(-0.12)	-0.051	(-0.57)
Intercept		-0.422***	(-11.42)	-0.264***	(-4.08)
Year fixed effects		Yes	Yes		
Industry fixed effects		Yes	Yes		
n		3333	763		
R <sup>2</sup>		0.2413	0.2853		

*Note*: Table 3 reports the multivariate regression results relating to the association between financial statement comparability and audit firm style. The results for Equation 7 relating to H1 are presented in column (1) and those for Equation 8 relating to H2 in column (2). For Equation 7, the full sample as presented in Table 1 is used. For Equation 8, only firm-pairs where both firms are audited by the same audit firm are included. The dependent variable, *CompAcct*, is a firm-pair comparability measure based on De Franco et al.'s (2011) comparability measure using returns as the economic event and earnings as the proxy for the financial statements; *SameF* is an indicator variable that equals 1 if firms *i* and *j* are audited by the same Big 4 audit firm and 0 otherwise. All control variables are defined in Appendix A. The *t*-statistics are reported in parentheses for the coefficient estimates. Standard errors are clustered by firm *i*. All continuous variables are winsorized at the top and bottom 1%.

\*Denotes significance at the 10% level, two-tailed.

\*\*Denotes significance at the 5% level, two-tailed.

\*\*\*Denotes significance at the 1% level, two-tailed.

SameF\_DiffO to consider the effect of audit office style. The coefficient for SameF\_SameO is positive and significant at the 5% level  $(\beta_1 = 0.019, t = 2.19)$ , and the coefficient for SameF\_DiffO is insignificant. This result supports H3 that firms audited by the same audit office will have greater financial statement comparability compared with firms audited by different audit offices. This result is similar to that by Kawada (2014) who found that US firms audited by the same Big 4 audit office had more comparable earnings with no significant association for those audited by the same Big 4 audit firm but different audit offices. Chen et al. (2020) also found in a Chinese setting that audit office style dominates audit firm style. A test for coefficient differences presented in Table 4, Panel B, column (1) finds that the coefficient for SameF\_SameO is larger than SameF\_DiffO (significant at the 10% level, one-tailed), providing some evidence that that audit office style dominates audit firm style.

For H4, SameF\_SameO is split into SameF\_SameO\_SameP and SameF\_SameO\_DiffP to consider the effect of individual auditor style on financial statement comparability. For this test, the sample is limited to firm-pairs where there was no change in the individual auditor for either firm in the current and preceding 3 years.<sup>11</sup> For this

significantly reduced sample, the coefficient for SameF\_SameO\_SameP ( $\beta_1 = 0.058$ , t = 2.17) is positive and significant whereas the positive coefficient for SameF\_SameO\_DiffP is insignificant ( $\beta_2 = 0.013$ , t = 1.00). This result suggests that individual auditor style (represented by SameF\_SameO\_SameP) is significantly associated with greater financial statement comparability.

To consider whether individual auditor style dominates audit office style, the coefficient differences between individual auditor style (*SameF\_SameO\_SameP*) and audit office style (*SameF\_SameO\_DiffP*) for Equation 10 are presented in Table 4, Panel B, column (2). The coefficient for *SameF\_SameO\_SameP* is 0.045 (t = 2.28) greater than that of *SameF\_SameO\_DiffP* and significant at the 10% level, one-tailed, providing some evidence that that individual auditor style dominates audit office style.<sup>12</sup> This is similar to the findings by Chen et al. (2020) that the individual auditor style had the greatest impact on financial statement comparability compared with audit office and audit firm styles. This result provides evidence that individual attement comparability in a setting where firms report under principles-based accounting standards, where the institutional environment is

**TABLE 4** Financial statement comparability and audit office and individual auditor styles

		Equation 9 CompAcct (	1)		Equation 10 CompAcct (2	) 2)	
	Pred. sign	Coeff.	(t-stat)	_	Coeff.	(t-sta	at)
SameF_SameO	+	0.019**	(2.19)				
SameF_DiffO	+	0.004	(0.50)				
SameF_SameO_SameP	+				0.058**	(2.:	17)
SameF_SameO_DiffP	+				0.013	(0.1	75)
Size_Diff		0.001	(0.48)		0.013***	(3.2	24)
Size_Min		0.006***	(2.63)		0.018***	(4.3	39)
MB_Diff		-0.000	(-0.89)		-0.001***	(-2.8	82)
MB_Min		0.033***	(6.12)		0.024***	(4.8	89)
Lev_Diff		-0.023	(-1.40)		-0.059*	(-1.9	96)
Lev_Min		-0.041*	(-1.92)		-0.038	(-1.:	17)
CFO_Diff		-0.084**	(-2.35)		-0.215***	(-2.8	89)
CFO_Min		0.013	(0.22)		0.184	(1.2	29)
Intercept		-0.422***	(-10.38)		-0.382***	(-6.8	87)
Year fixed effects		Yes	Yes				
Industry fixed effects		Yes	Yes				
n		3073	408				
R <sup>2</sup>		0.2515	0.38	34			
Panel B: Test of coefficier	nt differences						
			Equation 9		Equa	tion <mark>10</mark>	
			CompAcct (1	)	Comp	Acct (2)	
			Value	t-stat	Value	e t-s	tat
SameF_SameO-SameF_Dif	fO = 0		0.015	2.17			

SameF\_SameO\_SameP-SameF\_SameO\_DiffP = 0 0.045 2.28

Note: Table 4 reports the multivariate regression results relating to the association between financial statement comparability and audit office and individual auditor styles. The results for Equation 9 relating to H3 are presented in column (1) and those for Equation 10 relating to H4 in column (2). For Equation 9, only firm-pairs where there was no change in the audit office for either firm in the current and preceding 3 years are included. For Equation 10, only firm-pairs where there was no change in the individual auditor for either firm in the current and preceding 3 years are included. The dependent variable, CompAcct, is a firm-pair comparability measure based on De Franco et al.'s (2011) comparability measure using returns as the economic event and earnings as the proxy for the financial statements; SameF\_SameO is an indicator variable that equals 1 if firms i and j are audited by the same audit firm and the same audit office and 0 otherwise; SameF\_DiffO is an indicator variable that equals 1 if firms i and j are audited by the same audit firm but different audit offices and 0 otherwise; SameF\_SameO\_SameP is an indicator variable that equals 1 if firms i and j are audited by the same audit firm, the same audit office and the same individual auditor and 0 otherwise; SameF\_SameO\_DiffP is an indicator variable that equals 1 if firms i and j are audited by the same audit firm, the same audit office but different individual auditors and 0 otherwise. All control variables are defined in Appendix A. The t-statistics are reported in parentheses for the coefficient estimates. Standard errors are clustered by firm i. All continuous variables are winsorized at the top and bottom 1%.

\*Denotes significance at the 10% level, two-tailed.

\*\*Denotes significance at the 5% level, two-tailed.

\*\*\*Denotes significance at the 1% level, two-tailed.

strong and where the audit market is dominated by the Big 4 audit firms. These findings could likely be attributed to the principles-based nature of IFRS and that despite the in-house working rules of the Big 4 audit firms and a strong institutional environment, individual audit tors still impose their own individual audit style on their audit engagements.

## 6 | ADDITIONAL ANALYSES

#### 6.1 | Auditor fixed effects

In the main tests, the effects of audit style were considered on financial statement comparability between two firms. An alternative approach to evaluate audit style effects on financial statement comparability is to consider whether audit style fixed effects can explain financial statement comparability at a firm level (Francis et al., 2014; Jiu et al., 2020). In order to evaluate this, a firm-level measure of financial statement comparability is used. A similar approach to Francis et al. (2014) and Jiu et al. (2020) is followed:

$$\begin{aligned} \textit{MeanCompAcct}_{ijt} = \beta_{0} + \sum_{k} \delta_{t} \textit{Year}_{t} + \sum_{k} \chi_{n} \textit{Industry}_{n} + \sum_{k} \phi_{i} \textit{Firm}_{i} \\ + \sum_{k} \alpha_{k} \textit{Audit\_Firm}_{k} + \sum_{k} \lambda_{l} \textit{Audit\_Office}_{l} \\ + \sum_{k} \gamma_{l} \textit{Individual\_Auditor}_{l} + \beta_{1} \textit{Controls}_{it} + \varepsilon_{ijt} \end{aligned}$$

$$(11)$$

where *MeanCompAcct* is the average of *CompAcct*<sub>ijt</sub> measured for firm *i* with all firms *j* in the same industry and year.  $\sum \delta Year$  is a set of year indicators,  $\sum \chi Industry$  is a set of industry indicators,  $\sum \phi Firm$  is a set of firm indicators,  $\sum \alpha Audit\_Firm$  is a set of audit firm indicators,  $\sum \lambda Audit\_Office$  is a set of audit office indicators and  $\sum \gamma Individual\_Auditor$  is a set of individual auditor indicators. The audit of fixed effects are added to Equation 11 when that specific style is evaluated; thus, for audit firm style, only  $\sum \alpha Audit\_Firm$  is included. For audit office style,  $\sum \lambda Audit\_Office$  is added; therefore, both

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 $\sum \alpha Audit_Firm$  and  $\sum \lambda Audit_Office$  are included. For individual auditor style, all three are included as per Equation 11. Using the fixed effects model and adding these sets of fixed effects, the incremental effect of the audit firm, audit office or individual auditor on financial statement comparability at a firm level can be assessed. Control variables similar to those used in the main tests are included, but at a firm level. These are size, leverage, market-to-book and cash flow from operations. For each of the audit style effects, the sample is adjusted to ensure that the required information is available to test the specific audit style. For example, for the individual auditor effect, a firm is only included in the sample if that firm was audited by the same individual auditor for 4 years.

An *F*-test is used to determine whether the coefficients of the audit style fixed effects (audit firm, audit office and individual auditor) are jointly significant. It is expected that the *F*-test will reject the null hypothesis that these coefficients are the same. In addition, the incremental adjusted  $R^2$  and percentage increase in adjusted  $R^2$  are reported.

The results are presented in Table 5. The *F*-statistics testing the significance of audit office style (3.23) and individual auditor style (2.03) are significant at the 1% level. However, the *F*-statistic for audit firm style is not significant. These results would reject the null hypotheses that audit offices and individual auditors would affect financial statement comparability equally. Looking at the adjusted  $R^2$  reported, there are an increase of 1.34% when the audit office style fixed effects are added and an 8.92% increase when individual auditor style fixed effects are added, suggesting incremental explanatory power of

	Audit firm style	Audit office style	Individual auditor style
	MeanCompAcct (1)	MeanCompAcct (2)	MeanCompAcct (3)
F-statistic (p-value)	0.68 (0.7563)	3.23*** (0.0012)	2.03*** (0.0002)
Adjusted R <sup>2</sup> <sub>Excl AS</sub>	0.5784	0.5818	0.6975
Adjusted R <sup>2</sup> <sub>Full</sub>	0.5768	0.5896	0.7597
$\%\Delta$ adjusted $R^2$	-0.27%	1.34%	8.92%
Year fixed effects	Yes	Yes	Yes
Industry fixed effects	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
Audit firm fixed effects	Yes	Yes	Yes
Audit office fixed effects	No	Yes	Yes
Individual auditor fixed effects	No	No	Yes
n	1151	1106	392

TABLE 5 Additional tests: Auditor fixed effects

*Note*: Table 5 reports the results to determine whether audit style fixed effects can explain financial statement comparability at a firm level. Equation 11 is estimated excluding the relevant fixed effect and including the relevant fixed effect. An *F*-test is used to determine the significance of the audit style fixed effect added. In column (1), audit firm fixed effects are added; in column (2), audit office fixed effects are added; and in column (3), individual auditor fixed effects are added. Adjusted  $R^2_{Excl AS}$  is the adjusted  $R^2$  calculated for the model before the relevant audit style fixed effect was added, and adjusted  $R^2_{Full}$  is the adjusted  $R^2$  after the relevant audit style fixed effect. The dependent variable, *MeanCompAcct*, is the average of *CompAcct* measured for firm *i* with all firms *j* in the same industry and year. *CompAcct* is a firm-pair comparability measure based on De Franco et al.'s (2011) comparability measure using returns as the economic event and earnings as the proxy for the financial statements. All control variables are firm-level variables and are defined in Appendix A. All continuous variables are winsorized at the top and bottom 1%.

\*\*\*Denotes significance at the 1% level, two-tailed.

TABLE V Additional (CStS. Switch to the same addit fin	TA	BLE (	5 Additional	tests: Switch	to the same	audit firm
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		Equation 12 CompAcct	
	Pred. sign	Coeff.	(t-stat)
Switch	+	0.304***	(4.84)
Size_Diff		-0.039***	(-3.64)
Size_Min		-0.088***	(-7.35)
MB_Diff		-0.011***	(-3.72)
MB_Min		0.014	(0.75)
Lev_Diff		0.292**	(2.39)
Lev_Min		0.703***	(3.60)
CFO_Diff		0.397***	(5.78)
CFO_Min		0.784***	(4.55)
Intercept		1.123***	(8.02)
Year fixed effects		Yes	
Industry fixed effects		Yes	
n		24	
Adjusted R <sup>2</sup>		0.8536	

Note: Table 6 reports the multivariate regression for a sample of firm-pairs where one firm changed its audit firm resulting in the firm-pair switching from not having the same audit firm to having the same audit firm. The test variable *Switch* is an indicator variable that equals 1 in the year that both firms are audited by the same audit firm and 0 for the year before the switch when the firms were audited by different audit firms. All other variables are as defined in Appendix A. The *t*-statistics are reported in parentheses for the coefficient estimates. Standard errors are clustered by firm *i*. All continuous variables are winsorized at the top and bottom 1%.

\*\*\*Denotes significance at the 1% level, two-tailed.

the model. Together, these results would suggest that audit offices and individual auditors have their own audit styles that affect financial statement comparability differently.

#### 6.2 | Switch to the same audit firm

In the next additional analysis, a subsample is used to consider the effect on financial statement comparability when two firms switch from having two different audit firms to having the same audit firm.<sup>13</sup> Because the sample selection (refer Section 4.1) and the *CompAcct* measure require a firm to be audited by the same audit firm for 4 years to be included in the sample, a firm will be a switch firm 4 years after the change in audit firm.<sup>14</sup> This allows for the audit firm's style to take effect (Francis et al., 2014) and for the *CompAcct* measure to not be influenced by the prior audit firm's style. This requirement severely limits the size of the sample.<sup>15</sup> The following regression model is estimated for the sample of firm-pairs identified:

$$CompAcct_{ijt} = \beta_0 + \beta_1 Switch_{ijt} + \beta_2 Controls_{ijt} + \varepsilon_{ijt}$$
(12)

where *Switch* is an indicator variable that equals 1 in the year that both firms are audited by the same audit firm and 0 for the year before the switch where the firms were audited by different audit firms. This variable compares the financial statement comparability of the firm-pair before and after the switch to the same audit firm. It is expected that the coefficient for *Switch* should be positive because a change to the same audit firm should be associated with more comparable financial statements. The dependent and control variables are the same as previously used.

The results are reported in Table 6 and as predicted the coefficient for *Switch* is significant and positive ( $\beta_1 = 0.304$ , t = 4.84), suggesting that audit firm style has an effect on financial statement comparability and that changing to the same audit firm is associated with increased financial statement comparability.

## 7 | CONCLUSION

The objective of this study is to consider the role of audit styles at different levels on financial statement comparability using data from South Africa, a country where firms report under IFRS, where the institutional environment is strong and where the audit environment is dominated by the Big 4 audit firms.

This study uses a comparability measure based on the measure developed by De Franco et al. (2011) in order to consider the association between audit styles and financial statement comparability. Data from South Africa are collected between 2005 and 2019, where individual auditor data have been disclosed since 2006.

Evidence of audit style effects on financial statement comparability is found at all three levels—audit firm, audit office and individual auditor. The results indicate greater comparability for firm-pairs audited by the same audit firm, suggesting that audit firms' in-house rules and their interpretation and implementation of accounting and auditing standards can increase financial statement comparability for firms audited by the same audit firm. The study finds significant audit office style effects on financial statement comparability, suggesting that the audit offices have a level of autonomy in applying the inhouse rules and in training staff. Lastly, the results suggest individual auditor style effects on financial statement comparability. There is some evidence that audit office style dominates audit firm style with regard to financial statement comparability and that individual audit style dominates audit firm style.

The results are contrary to the expectation that audit firm style would dominate audit office style and individual auditor style in a country with strong internal controls (Big 4 dominance) and strong external controls (country regulations). Using a setting where firms report under IFRS further suggests that in a principles-based environment, despite strong internal controls and in-house working rules by audit firms, individual auditors continue to have some level of autonomy in the interpretation and application of the accounting principles and in-house working rules.

This study contributes to the growing body of knowledge on the determinants of financial statement comparability and more specifically on the role of audit styles (Chen et al., 2020; Francis et al., 2014; Jiu et al., 2020). The findings relating to individual auditor styles in this study corroborate the findings of studies previously conducted in China that has a very unique institutional environment (Chen et al., 2020; Jiu et al., 2020; Shi et al., 2021) in that individual auditors have their own unique audit styles. The existence of audit style effects at an audit firm, audit office and individual auditor level with regard to financial statement comparability has implications for regulators as it highlights some of the unintended consequences that mandatory audit firm and individual auditor rotations can have even in well-regulated institutional environments.

#### CONFLICT OF INTEREST

I declare that there is no conflict of interest.

#### ETHICS APPROVAL STATEMENT

Ethics approval for this study has been obtained from the Research Ethics Committee in the Faculty of Economic and Management Sciences at the University of Pretoria.

## AUTHOR CONTRIBUTIONS

The author confirms sole responsibility for the following: study conception and design, data collection, analysis and interpretation of results, and manuscript preparation.

## DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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## ENDNOTES

- <sup>1</sup> Based on hand collected data from 2005. For the 2006 year, 66 of the 108 firms included in the sample disclosed the name of the signing auditor.
- <sup>2</sup> De Franco et al. (2011) and Jiu et al. (2020) used quarterly data in a US and China setting where quarterly data are readily available. Because quarterly data are not available in this setting, annual data are used in line with Barth et al. (2012), Cascino and Gassen (2015) and Neel (2017). Both Cascino and Gassen (2015) and Neel (2017) found in additional analysis that the use of semi-annual data for a reduced sample did not affect their results.
- <sup>3</sup> It is a requirement that a firm listed on the JSE publishes annual financial statements within 3 months of its financial year-end (Johannesburg Stock Exchange Limited, 2016). Consistent with Barth et al. (2012) and Neel (2017), this return window is used in order for the share price to reflect the financial statement information and is similar to the return window used by Smith et al. (2021) who also used South African data.
- <sup>4</sup> Including SameF\_DiffO in Equation 10 to control for audit firm style does not alter the results.
- $^{\rm 5}$  These results remain unchanged when clustering errors at a firm-pair level.

- <sup>6</sup> South African firms listed on the JSE were required to report under IFRS as adopted by the IASB for all financial year-ends beginning on or after 1 January 2005 (SAICA, 2003).
- <sup>7</sup> Because JSE firms were required to report under IFRS for year-ends beginning on or after 1 January 2005, firms that only adopted IFRS in 2006 will only be included in the final sample from 2006.
- <sup>8</sup> The Finance, Insurance and Real Estate sector comprises 35% of the firms listed on the JSE, and the Mining sector 16% (Listcorp, 2022). These sectors also account for 20% and 9% of South Africa's gross domestic product in 2020 (Zwane, 2021). The Finance, Insurance and Real Estate sector is often excluded from samples due to its unique features (Chen et al., 2020; Jiu et al., 2020; Shi et al., 2021). However, some of the prior comparability studies have included the Finance, Insurance and Real Estate sector (Barth et al., 2012; Johnston & Zhang, 2021) and because it represents such a significant portion of the South African market, it is not excluded in this study.
- <sup>9</sup> Other data not included in Table 2, Panel A show that for 81.7% of the firm-pairs, both firms are audited by one of the Big 4 audit firms, suggesting the dominance by the Big 4 audit firms in the South African setting.
- <sup>10</sup> This study does not distinguish further between Big 4 and non-Big 4 audit firms in tests relating to audit office and individual auditor styles, due to the small number of firms being audited by the same non-Big 4 audit firm in this setting.
- <sup>11</sup> This requirement reduces the sample significantly from 3073 in the audit office sample to 408 in the individual auditor sample. This is not surprising, because the Companies Act, No. 71 of 2008, which became effective in May 2011, requires that individual auditors in South Africa may not be appointed as the auditor of a firm for more than five consecutive years (Republic of South Africa, 2008). That means that a firm will only qualify in Years 4 and 5 to be included in this sample and a matched firm also has to be in Year 4 or 5 of the individual auditor's engagement.
- <sup>12</sup> Only a small number of firms are audited by the same individual auditor, which could explain the two-tailed insignificance.
- <sup>13</sup> An alternative test is to consider the effect on financial statement comparability when two firms switch from having the same audit firm to having different audit firms (Francis et al., 2014; Jiu et al., 2020). However, the sample in this study only has six such instances, making it difficult to draw inferences from it.
- <sup>14</sup> This will be the first year after the switch that the firm would be included in the original sample.
- <sup>15</sup> There are 12 instances in this sample, giving 24 observations, 12 before the switch and 12 after. This is not surprising, because concerns have been raised regarding the long audit firm tenure of firms listed on the JSE, suggesting few switches to other audit firms (IRBA, 2016; Wesson, 2021).

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## APPENDIX A: VARIABLE DEFINITIONS

Variable	Definition
Dependent variable	
CompAcct	A firm-pair comparability measure based on De Franco et al.'s (2011) comparability measure using returns as the economic event and earnings as the proxy for the financial statements.
Test variables	
SameF	Equals 1 if firms <i>i</i> and <i>j</i> are audited by the same audit firm and 0 otherwise.
SameBig4	Equals 1 if firms <i>i</i> and <i>j</i> are audited by the same Big 4 audit firm and 0 otherwise.
SameF_SameO	Equals 1 if firms <i>i</i> and <i>j</i> are audited by the same audit firm and audit office and 0 otherwise.
SameF_DiffO	Equals 1 if firms <i>i</i> and <i>j</i> are audited by the same audit firm but different audit offices and 0 otherwise.
SameF_SameO_SameP	Equals 1 if firms <i>i</i> and <i>j</i> are audited by the same audit firm, the same audit office and the same individual auditor and 0 otherwise.
SameF_SameO_DiffP	Equals 1 if firms <i>i</i> and <i>j</i> are audited by the same audit firm and audit office but different individual auditors and 0 otherwise.
Control variables	
Size_Diff	The absolute value of the difference in size between firms <i>i</i> and <i>j</i> included in a firm-pair. Size is measured as the natural logarithm of total assets.
Size_Min	Minimum value of size for firms <i>i</i> and <i>j</i> included in a firm-pair.
MB_Diff	The absolute value of the difference in the market-to-book ratio between firms <i>i</i> and <i>j</i> included in a firm-pair. The market-to-book ratio is measured as the market value of equity divided by book value of common shareholders equity.
MB_Min	Minimum value of the market-to-book ratio for firms <i>i</i> and <i>j</i> included in a firm-pair.
Lev_Diff	The absolute value of the difference in leverage between firms <i>i</i> and <i>j</i> included in a firm-pair. Leverage is measured as total debt divided by the sum of total debt and book value of common shareholders equity.
Lev_Min	Minimum value of leverage for firms <i>i</i> and <i>j</i> included in a firm-pair.
CFO_Diff	The absolute value of the difference in cash flow from operations between firms <i>i</i> and <i>j</i> included in a firm-pair.
CFO_Min	Minimum value of cash flow from operations for firms <i>i</i> and <i>j</i> included in a firm-pair.