



Earnings quality (EQ) and applied regulatory framework; The case of companies in the colombian real sector that report to the superintendence of companies

Calidad del resultado contable y marco normativo aplicado; caso de las empresas del sector real colombiano que reportan a la superintendencia de sociedades

Mateo Toro-Sañudo*, Lina Maria Muñoz Osorio,
Víctor Daniel Velásquez Echavarria

Universidad de Antioquia, Colombia

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Abstract

There is limited empirical evidence of earnings quality for SMEs and private firms in Colombia, this research aims to measure earnings quality for this type of entities according to the applied regulatory framework. A sample of 77,732 observations was taken during the period 2015 – 2020. The measure used to determine earnings quality is earnings smoothing, determined with the measures $V[\Delta UN]$, $V[\Delta UN]/V[\Delta EAO]$ and $\rho[DEV; EAO]$. Results allow to interpret a lower quality of the accounting results for companies reporting under Full IFRS, which is consistent with similar research in other countries, evidencing incentives for earnings manipulation in this type of companies. This article contributes to the Colombian accounting literature by contrasting theoretical inferences with empirical results that invite us to rethink the concept of public interest. Future research can focus on the identification of the determinants of accounting quality in private firms in Colombia and how they contrast with the context of entities that are considered of public interest.

* Corresponding author.

E-mail address: mateo.toros@udea.edu.co (M. Toro Sañudo).

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Resumen

Existe una escasa evidencia empírica sobre la calidad de la información para pymes y empresas no cotizadas en Colombia, esta investigación tiene como objetivo la medición de la calidad del resultado contable de este tipo de entidades según el marco normativo aplicado. Para esto se tomó una muestra de 77.732 observaciones durante el periodo 2015 – 2020. La medida utilizada para determinar la calidad del resultado contable es el alisamiento del resultado, determinada con las medidas $V[\Delta UN]$, $V[\Delta UN]/V[\Delta EAO]$ y $\rho [DEV; EAO]$. Los resultados permiten interpretar una menor calidad del resultado contable para las empresas que informan bajo NIIF Plenas lo cual es consistente con investigaciones similares en otros países, evidenciando los incentivos para la manipulación del resultado contable en este tipo de compañías. Este artículo contribuye a la literatura contable colombiana al contrastar inferencias teóricas con resultados empíricos que invitan a repensar el concepto de interés público. Futuras investigaciones pueden enfocarse en la identificación de los determinantes de la calidad contable en las empresas privadas en Colombia y como contrastan con el contexto de las entidades que son consideradas de interés público.

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Palabras clave: calidad del resultado contable; alisamiento del resultado; empresas privadas; pymes; NIIF

Introduction

Understanding accounting information as a true reflection of the reality of a corporation reveals a realistic ontological position where access to the company's knowledge is given through experience. This is useful to determine if the information produced by accounting is of good quality to the extent that the representation corresponds to reality and if a causal relation can be established between such information and the decision-making process by previously defined agents or users, i.e., those to whom the information is addressed.

The utility paradigm and the neopositive economic theory have led to a boom in accounting regulation for those corporations considered to be of public interest (Tua Pereda, 1991), which are regularly listed on a public stock exchange or raise funds from the public (Licerán-Gutiérrez & Cano-Rodríguez, 2019). Likewise, there has been a constant interest in defining and determining the accounting quality of the information they present. This interest arises from the need to understand users' decisions about the information to which they have access. This model, typical of developed countries with consolidated securities markets, has migrated to developing countries with incipient securities markets. These principles have been transferred to small and medium-sized companies, together with the needs of the users of large corporations, even when these do not meet these conditions.

Nevertheless, the need to determine the quality of the accounting information they generate in terms of the decisions to be made by their different users has not been transferred to them. Although they do not generate major financial crises worldwide, they are important for the region in which they are located. Usually, the audit institutions for public interest entities carry out more rigorous controls than those for other companies, i.e., those not listed on local stock exchanges. This is mainly due to the limitation of what is understood by public interest and the scarcity of academic studies that develop the quality of information of non-listed companies to provide the necessary elements for adequate regulation and control.

On the other hand, by applying the concepts and paradigms of large corporations, non-listed companies have adopted their practices. These can translate into inadequate practices given their characteristics and lead to the inappropriate application of accounting policies and the creation of incentives to show untrue results. The application of inappropriate accounting policies is also due to the possibilities offered by the regulations designed for large companies and the interests of their users.

According to this view of public interest, the principles under which the reality captured by accounting is represented are conceived to meet the needs of the users it affects: those interested in the stock exchanges and the administrators of public funds. Additionally, it limits the type of decisions that can be made with the information provided. By conditioning these two concepts, the public interest as a perspective also limits what is understood as the quality of accounting information.

For the Colombian case, there is no evidence or studies aiming at evaluating the quality of accounting information of large companies not listed on the stock exchange, i.e., medium-sized and small companies. Cardona, Gómez, and Cano (2019) included Colombia in their study of companies listed on the stock exchange. Other studies on the accounting information quality of companies worldwide exclude Colombia due to the lack of information in international databases (Enomoto, Kimura, & Yamaguchi, 2018). Some works, such as Liu and Skerratt (2018), study the quality of accounting information for all types of companies and the different regulatory frameworks that apply according to their characteristics. Liu and Skerratt (2018) found that the highest accounting quality is found in listed companies, followed by small and micro companies, while large and medium-sized private companies obtained the lowest results regarding the quality of their accounting information.

Theoretical framework

Background and previous literature

First, it is important to state that research related to the quality of accounting information is framed in the accounting paradigm that relates to providing useful information to users, in which empirical research is prevalent (Tua Pereda, 1991). Authors such as Licerán-Gutiérrez and Cano-Rodríguez (2019) have confirmed this statement with an extensive literature review. These authors state that accounting researchers agree that accounting quality depends on a series of characteristics that improve the usefulness of the information for decision making.

The study by Licerán-Gutiérrez and Cano-Rodríguez (2019) implies that quality in accounting information is not an aspect that can be measured directly. Consequently, the research conducted in this field aims to determine observable characteristics of accounting information that, if fulfilled, will give rise to quality. Three general characteristics are proposed to determine quality: the market's reactions, the properties of the profit for the fiscal year, and other external factors.

Accounting research, especially research on the quality of the information produced by accounting, has been strongly influenced by the positive school of thought. Therefore, the prevailing methodologies in the studies related to the subject are those of empirical research, including regression, econometric, and panel data models. These models seek to predict the behavior of accounting practices in terms of quality (Molina & Feres, 2017).

Molina and Feres' study "identified some effects with a greater or lesser influence of what the hypotheses of the positive accounting theory predict on the metrics of the quality of accounting information" (2017, p. 66). Generally, empirical research methodologies involve collecting data that will subsequently be subjected to a mathematical model that attempts to explain the explained behavior—in this case, the quality of accounting information—through the variables that determine it.

Several empirical studies have been conducted that relate the quality of accounting information from the perspective of the properties of the profit or loss for the period to the application of International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (IASB) by the companies under study (Ferentinou & Anagnostopoulou, 2016; Dayanandan, Donker, Ivanof, & Karahan, 2016; Fuad, Juliarto, & Harto, 2019; Cardona, Gómez, & Cano, 2019). Overall, these papers measure the quality of accounting information with the properties of earnings management, earnings smoothing, or timely recognition of losses. In turn, they focus their attention on how the application of the IFRS influences the outcome of the quality of information. Additionally, the study by Rhee, Choi, and Ryu (2018) suggests a relation between IFRS fair value systems and the quality of accounting information.

Other authors have devoted their literature reviews to the relation between the quality of accounting information and other factors. This is the case of the work developed by Muchina (2019), which focuses on solving the problem of the interaction of the quality of accounting information and the manipulation of earnings management in companies in emerging financial markets. In this regard, Muchina states that although net cash flows and earnings should be identical, in practice, they are not, and through earnings management, management has discretion under accounting standards to determine what and how to report (Muchina, 2019). Similarly, Li (2019) raises the impact of external factors on the companies' directors to influence the accounting figures, affecting their quality for investors' decision making.

The relation between the use of international reporting standards and accounting information quality has also been the subject of literature reviews (Houqe, 2018; Cantillo & Rivero, 2019). Houqe's study focused on companies worldwide required to report under international financial reporting standards. In this regard, it concludes that applying these standards has succeeded in reducing information asymmetry, improving the quality of information for users, increasing transparency and comparability, and positively influencing capital markets and investor confidence (Houqe, 2018).

The number of studies targeting private and small and medium-sized companies is smaller. Papers such as Huguet and Gandía's (2019) for Spanish SMEs and Bisogno and De Luca's (2016) for Italian SMEs examined the quality of accounting information of small and medium-sized companies and its relation with external audit on a mandatory or voluntary basis. Both studies conclude that auditing in SMEs positively relates to the quality of accounting information. Kim and Yasuda's (2017) study focused on evaluating the quality of accounting information of SMEs in Japan compared to the quality of information of companies listed on a stock exchange, finding evidence of lower quality for SMEs.

For private companies, i.e., those that being large companies are not listed on a stock exchange, there is also evidence of few studies concerning the quality of accounting information. Nonetheless, research by Ole-Kristian, Wayne, and Dushyantkumar (2017) suggests that studying accounting information quality for private companies in the United States is useful, has economic consequences, and varies predictably with certain company characteristics. They state that the results of their research contribute to an active debate on the form and content of accounting requirements for private companies around the world.

Other studies have shown that the quality of accounting information of private companies tends to be low due to market information demands and aspects in the local regulation of each country. These studies conclude that foreign investment in this type of company increases the quality of accounting information (Ben-Nasr, Boubakri, & Cosset, 2015; Ball & Shivakumar, 2005).

Earnings quality and application of international standards

The literature generally attributes a higher quality of information to that prepared under international standards. The study by Barth, Landsman, and Lang (2008) evaluated the quality of information presented by companies reporting under local US standards and those reporting under the IASB standards. The findings showed an improvement in the quality of information in the post-adoption period of international accounting standards.

For the case of Greece, the findings of the study by Ferentinou and Anagnostopoulou (2016) confirmed that the application of the international standards issued by the IASB significantly reduced the practices of earnings management through abnormal accruals (AEM), which means a positive relation between the application of these standards and the quality of the information. However, after the mandatory application, the research revealed the existence of earnings management using real earnings manipulation (REM). In conclusion, this study indicates that applying international standards in Greece meant a change from one form of earnings management to another, specifically from AEM to REM.

Other studies referring to the quality of information and the application of international standards—Garza, Cortez, Méndez, and Rodríguez (2017) for the case of Mexican companies, Cardona, Gómez, and Cano (2019) for the case of companies in Latin America and the Caribbean, and Dayanandan, Donker, Ivanof, and Karahan (2016) for the case of companies in Europe and other countries—demonstrate improvements in the quality of information when changing local standards for international standards.

Regarding private companies, authors such as Ball and Shivakumar (2005) associate lower levels of accounting information quality with public companies. Nonetheless, they do not relate this difference to the type of standard applied by the companies (local or international) but to the information demands of their users and the strictness of the regulations to which they are exposed. These results are consistent with what was evidenced in the study by Liu and Skerratt (2018), where it was found that public companies and SMEs showed higher quality levels than private companies.

Measurement of earnings quality

The literature on the quality of accounting information identifies three main streams for its determination: market reactions, properties of the profit for the fiscal year, and other external factors (Licerán-Gutiérrez & Cano-Rodríguez, 2019). For this research project, models based on market reactions and those related to other external factors are not applicable since the companies analyzed are not listed on stock exchange markets, so there is no observable market value of the shares. Therefore, the basis for measuring the

quality of accounting information will be based on models related to the properties of the profit for the fiscal year.

The properties associated with the quality of accounting information are diverse and include conditional and unconditional conservatism, properties related to time series, and earnings management, the latter being the most used by accounting researchers (Licerán-Gutiérrez & Cano-Rodríguez, 2019). For this research, it is understood that the manifestation of earnings management indicates low quality of accounting information because it influences the company's management of the accounting figures to obtain its own profits (Dechow & Skinner, 2000).

Based on Dechow et al. (2010), the earnings management measures in the literature are the following: earnings persistence, abnormal accruals, earnings smoothing, asymmetric timelines, timely loss recognition, and target beating. Consistent with the studies conducted for private and small and medium-sized companies, this study considers the measures of abnormal accruals and earnings smoothing as indicators of earnings management and, therefore, of the quality of accounting information.

Methodology

Measurement of earnings smoothing indicators

Three indicators were used to measure earnings smoothing, following the work of Barth, Landsman, and Lang (2008) and Liu and Skerratt (2018): variance of changes in net income, denoted as $V[\Delta NI]$; ratio of variance of changes in net income and variance of changes in operating cash flow denoted as $V[\Delta NI]/V[\Delta OCF]$; and the correlation between accruals and operating cash flow denoted as $\rho[ACC;OCF]$.

The measurement of changes in net income is denoted by the independent variable $\Delta [NI]_{it}$, where NI refers to the change in net income for a company i in a period t scaled by total assets in period $t-1$. The variance $V[\Delta NI]$ is measured as the variance of the residuals from the linear regression in Equation 1. Companies with less earnings smoothing show higher variance of net income, so a lower value of $V[\Delta NI]$ indicates lower quality of accounting information (Barth, Landsman, & Lang, 2008).

$$\Delta NI_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha_3 LEV_{it} + \alpha_4 VTLC_{it} + \alpha_5 TTA_{it} + \alpha_6 OCF_{it} + \varepsilon_{it} \quad (1)$$

The following is the operationalization of the variables defined for the model for measuring changes in net income:

Table 1
Definition of the model control variables

Variable	Symbol	Expression for calculation
Company size	SIZE	$\ln(\text{TACT}_{it})$, where TACT: Total Assets for a Company i in a period t
Sales growth	GROWTH	$(\text{TR}_{it} - \text{TR}_{it-1})/\text{TR}_{it-1}$, where TR: Total Revenue for a company i in a period t
Leverage	LEV	$\text{TLC}_{it}/\text{TEC}_{it}$, where TLC: Total Liabilities for a Company i in period t; TEC: Total Equity for a Company i in period t
Variation in total liabilities	VTLC	$(\text{TLC}_{it} - \text{TLC}_{it-1})/\text{TLC}_{it-1}$, where TLC: Total Liabilities for a Company i in a period t
Turnover of total assets	TTA	$\text{TR}_{it}/\text{TACT}_{it}$, where TR: Total Revenues for a Company i in a period t; TACT: Total Assets for a Company i in a period t
Net operating cash flow	OCF	$\text{OCF}_{it}/\text{TACT}_{it}$, where OCF: Operating Cash Flow for a Company i in period t; TACT: Total Assets for a Company i in period t

Source: created by the authors

The measurement of the variance of changes in operating cash flow is denoted by the independent variable ΔOCF_{it} where OCF refers to the change in operating cash flow for a company i in period t scaled by total assets in period t-1. The variance $V[\Delta\text{OCF}]$ is measured as the variance of the residuals from the linear regression of Equation 2. The control variables are defined as indicated in Equation 1. The ratio $V[\Delta\text{NI}]/V[\Delta\text{OCF}]$ is obtained from the variance of the residuals from the linear regressions of Equations 1 and 2. Companies with higher volatility in operating cash flow tend to have higher volatility in net income, so a lower value of the ratio $V[\Delta\text{NI}]/V[\Delta\text{OCF}]$ indicates the existence of earnings smoothing (Liu & Skerratt, 2018).

$$\Delta\text{OCF}_{it} = \alpha_0 + \alpha_1\text{SIZE}_{it} + \alpha_2\text{GROWTH}_{it} + \alpha_3\text{LEV}_{it} + \alpha_4\text{VTLC}_{it} + \alpha_5\text{TTA}_{it} + \alpha_6\text{OCF}_{it} + \varepsilon_{it} \quad (2)$$

The third measure, $\rho[\text{ACC};\text{OCF}]$, corresponds to the correlation between the residuals of the linear regressions of Equations 3 and 4 and the independent variables defined as $[\text{OCF}]_{it}$ and $[\text{ACC}]_{it}$, where OCF refers to the operating cash flow for a company i in period t and ACC refers to the difference between net income for the fiscal year and the operating cash flow for a company i in period t. The control variables are defined as indicated in Equation 1. Companies with more earnings smoothing show a negative correlation between accruals and cash flows. This is because net incomes are presumed to smooth because managers respond to poor cash flow performance by increasing accruals (Barth, Landsman, & Lang, 2008).

$$OCF_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha_3 LEV_{it} + \alpha_4 VTLC_{it} + \alpha_5 TTA_{it} + \varepsilon_{it} \quad (3)$$

$$ACC_{it} = \alpha_0 + \alpha_1 SIZE_{it} + \alpha_2 GROWTH_{it} + \alpha_3 LEV_{it} + \alpha_4 VTLC_{it} + \alpha_5 TTA_{it} + \varepsilon_{it} \quad (4)$$

Aiming to establish the relation between the quality of accounting information through the manifestation of earnings smoothing and the applied regulatory framework, the observations are grouped according to the companies that apply Full IFRS and IFRS for SMEs so that the results of the measurements are compared to determine the quality level of accounting information according to the regulatory framework. Similar results are expected with the three earnings smoothing measures.

Data and sample selection

The financial information of the companies was obtained from the database of the Integrated Corporate Information System (SIIS, Spanish: Sistema Integrado de Información Societaria) of the Superintendence of Companies of Colombia, which contains the data of the corporations that apply Full IFRS and IFRS for SMEs. The sample period is from 2015 to 2020 for companies applying Full IFRS and from 2016 to 2020 for companies applying IFRS for SMEs. The database information for the analyzed period contains a total of 37 010 companies. Following the research of Barth et al. (2008), all variables were cleaned following a winsorized process at a level of 3% to prevent outliers from influencing the inferences made in the results, giving a final sample of 33 731 companies.

Panel A of Table 2 shows the filtering carried out for the sample selection. From the total number of active companies in the database of the SIIS, those observations that in any of the years of analysis had missing data necessary for the implementation of the model were excluded, among which are the data on total assets, cash flow, total liabilities, and total equity. Moreover, since the scope of the research is companies in the real sector, companies related to the financial sector—companies dedicated to support services for the financial sector, insurance, and activities related to the stock market—were excluded.

Panel B of Table 2 shows the distribution by department of the companies in the sample. 49.42% and 43.79% of the Full and SME companies, respectively, have their main domicile in Bogota, followed by Antioquia, Valle del Cauca, and Cundinamarca. Panel C shows how the companies are distributed according to their corporate form, where for both, most are classified as simplified joint-stock companies, with 61.46% for Full companies and 67.31% for SMEs. Among other aspects, this is relevant due to the flexibility of this corporate form, which ultimately results in a decrease in the incentives for presenting

quality financial information. Finally, Panel D shows the distribution by industrial classification where the companies dedicated to manufacturing, wholesale, retail trade, and real estate activities stand out.

Table 2
Sample selection and purging

Panel A. Sample purging	Full	SMEs
Companies active in the SIIS	4 622	33 288
Minus Companies with missing data	117	2 447
Minus companies related to the financial sector	268	1 347
Total companies in the sample	4 237	29 494

Panel B. Companies by department	Full	%	SMEs	%
Amazonas	0	0.00%	9	0.03%
Antioquia	743	17.54%	4 935	16.73%
Arauca	1	0.02%	24	0.08%
Atlántico	162	3.82%	1 774	6.01%
Bogotá D.C.	2 094	49.42%	12 916	43.79%
Bolívar	81	1.91%	632	2.14%
Boyacá	3	0.07%	211	0.72%
Caldas	35	0.83%	385	1.31%
Caquetá	0	0.00%	36	0.12%
Casanare	3	0.07%	103	0.35%
Cauca	51	1.20%	121	0.41%
Cesar	11	0.26%	144	0.49%
Choco	0	0.00%	16	0.05%
Córdoba	11	0.26%	225	0.76%
Cundinamarca	297	7.01%	1 508	5.11%
Guainía	0	0.00%	2	0.01%
Guaviare	0	0.00%	5	0.02%
Huila	5	0.12%	204	0.69%
La Guajira	0	0.00%	37	0.13%
Magdalena	62	1.46%	272	0.92%
Meta	13	0.31%	353	1.20%
Nariño	3	0.07%	210	0.71%
Norte de Santander	15	0.35%	366	1.24%
Putumayo	1	0.02%	20	0.07%
Quindío	12	0.28%	203	0.69%

Risaralda	71	1.68%	515	1.75%
San Andrés y Providencia	4	0.09%	84	0.28%
Santander	95	2.24%	1 177	3.99%
Sucre	0	0.00%	99	0.34%
Tolima	10	0.24%	281	0.95%
Valle	453	10.69%	2 623	8.89%
Vichada	1	0.02%	4	0.01%
Total	4 237	100.00%	29 494	100.00%
Panel C. Companies by company type	Full	%	SMEs	%
Stock corporation	1 079	25.47%	4 421	14.99%
Foreign subsidiary	284	6.70%	473	1.60%
Joint-stock company	217	5.12%	3 249	11.02%
Limited partnership	9	0.21%	662	2.24%
Limited partnership by shares	36	0.85%	677	2.30%
General partnership	2	0.05%	9	0.03%
Sole proprietorship	6	0.14%	151	0.51%
Simplified joint-stock company	2 604	61.46%	19 852	67.31%
Total	4 237	100.0%	29 494	100.0%
Panel D. Companies by industrial classification	Full	%	SMEs	%
Artistic, entertainment, and recreational activities	12	0.28%	167	0.57%
Human health care and social assistance activities	5	0.12%	169	0.57%
Activities of individual households as employers; undifferentiated activities of individual households as producers of goods and services for own use	0	0.00%	1	0.00%
Activities of extraterritorial organizations and corporations	0	0.00%	5	0.02%
Administrative and support service activities	216	5.10%	1 356	4.60%
Real estate activities	303	7.15%	4 265	14.46%
Professional, scientific, and technical activities	302	7.13%	2 640	8.95%
Public administration and defense; compulsory social security plans	0	0.00%	6	0.02%
Agriculture, livestock, hunting, forestry, and fishing	309	7.29%	1 923	6.52%
Lodging and food services	80	1.89%	613	2.08%
Wholesale and retail trade; repair of motor vehicles and motorcycles	1 015	23.96%	7 741	26.25%
Construction	449	10.60%	4 172	14.15%
Water distribution, sewage disposal and treatment, waste management, and environmental sanitation activities.	5	0.12%	60	0.20%

Education	3	0.07%	167	0.57%
Mining and quarrying	226	5.33%	461	1.56%
Manufacturing	955	22.54%	4 080	13.83%
Information and communications	229	5.40%	862	2.92%
Other service activities	17	0.40%	172	0.58%
Electricity, gas, steam, and air-conditioning supply	17	0.40%	22	0.07%
Transportation and storage	94	2.22%	612	2.07%
Total	4 237	100.0%	²⁹ 494	100.0%

Source: created by the authors

Note: The classification of economic activities is based on the classes defined in the International Standard Industrial Classification as reported by the companies in their basic data to the Superintendence of Companies.

Table 3 shows the distribution of company-year observations according to the regulatory framework applied. Given that the year 2020 saw the beginning of the COVID-19 pandemic, a separation of the results for all years except 2020 will be made to determine the effect of the study's results.

Table 3
Number of company-year observations according to the applied regulatory framework

Year	Full Company-year observations	SMEs Company-year observations
2015	1.446	
2016	2.415	13.610
2017	2.050	10.880
2018	2.306	9.676
2019	2.486	14.564
2020	2.362	15.937
Total	13.065	64.667

Source: created by the authors

Results

Descriptive statistics

Table 4 shows the descriptive statistics of the variables used in the models. Regarding the control variables, size (SIZE) and operating cash flow (OCF) have a higher standard deviation in the Full companies than the SMEs. Regarding the independent variables, the variance of net income presents a higher standard deviation in the Full companies, which suggests that the SMEs have a lower measure of earnings smoothing.

Table 4
Descriptive statistics for the variables used in the models

	Full		SMEs	
	Mean	Standard deviation	Mean	Standard deviation
ΔNI	0.04	0.22	0.01	0.25
ΔOCF	0.02	0.14	0.01	0.13
SIZE	17.88	1.27	16.09	0.94
GROWTH	0.08	0.39	0.06	0.49
LEV	1.98	2.83	1.60	2.26
VTLC	1.58	6.18	2.40	8.55
TTA	0.94	0.69	0.93	0.88
OCF	0.04	0.11	0.04	0.10

Source: created by the authors

Table 5 presents the results of the earnings smoothing measures corresponding to the variance of net income and the ratio of variance of net income over the variance of operating cash flow. Considering the results for all the years of the analysis, it can be observed that SME companies have higher values of $V[Ni]$ and $V[Ni]/V[OCF]$ measures than Full companies. It is shown that when excluding 2020, the results remain consistent with the above. Furthermore, the results for each analysis year are consistent with this conclusion, except for 2017, where the result is higher for the SME companies than for the Full companies.

Understanding that the $V[Ni]$ and $V[Ni]/V[OCF]$ measures are an indicator of the incentives for corporations to manipulate their accounting performance (Barth et al. 2008), these results indicate that Full companies have more incentives to manipulate their accounting performance, resulting in a lower measure of their quality than SME companies. This result is consistent with research on the quality of private companies' information in countries such as the United Kingdom (Liu & Skerratt, 2018) and Indonesia (Fuad et al., 2019) and with the theoretical approaches of Ole-Kristian et al.'s (2017) research on the quality of earnings in private companies.

Table 5
Earnings smoothing measures according to the applied regulatory framework

Panel A. Variance of changes in net income				
Year	Measurement	Full	SMEs	
All years	Number of companies-year	13 065	64 667	
	$V[\Delta NI]$	0.17	0.21	
	$V[\Delta NI]/V[\Delta OCF]$	1.62	2.17	
2015	Number of companies-year	1 446		
	$V[\Delta NI]$	0.17		
	$V[\Delta NI]/V[\Delta OCF]$	1.89		
2016	Number of companies-year	2 415	13 610	
	$V[\Delta NI]$	0.17	0.21	
	$V[\Delta NI]/V[\Delta OCF]$	2.27	3.46	
2017	Number of companies-year	2 050	10 880	

	V[Δ NI]	0.16	0.08
	V[Δ NI]/V[Δ OCF]	1.40	0.71
2018	Number of companies-year	2 306	9 676
	V[Δ NI]	0.16	0.19
	V[Δ NI]/V[Δ OCF]	1.43	1.82
2019	Number of companies-year	2 486	14 564
	V[Δ NI]	0.16	0.20
	V[Δ NI]/V[Δ OCF]	1.38	2.25
2020	Number of companies-year	2 362	15 937
	V[Δ NI]	0.17	0.23
	V[Δ NI]/V[Δ OCF]	1.63	2.41
Panel B. Correlation between accruals and operating cash flows			
Year	Measurement	Full	SMEs
All years	Number of companies-year	13 065	64 667
	ρ [ACC;OCF]	-.704**	-.684**

Source: created by the authors

**Correlation is significant at the 0.01 level

Panel B of Table 5 shows the correlation results of the variables ρ [ACC; OCF]. The results show a more negative correlation of these variables for the Full companies, with a level of statistical significance at the 0.01 bilateral level. This reinforces the results obtained with the abovementioned measures and is consistent with the idea that Full companies tend to smooth their results because of the poor results obtained in their operating cash flows (Barth et al. 2008).

Effect of the COVID-19 pandemic on earnings management

There is no consensus on the effects of the COVID-19 pandemic on the quality of earnings, as empirical evidence from different research does not suggest a common conclusion. Some research indicates that companies have to manipulate earnings management less during the pandemic period (Ali, H., Amin, H.M.G., Mostafa, D. & Mohamed, E.K.A., 2022; Xiao, H., & Xi, J., 2021; Liu, G. & Sun, J., 2022), while others, such as the case of European companies, show an increase in earnings management measures (Lassoued, N., & Khanchel, I., 2021).

Table 6 shows the effect of including the year 2020 in the analysis, corresponding to the period in which the pandemic occurred. It is evident for the Full companies that there is no variation in the measure of V[Δ NI], while for the measures V[Δ NI]/V[Δ OCF] and ρ [ACC;OCF], there is evidence of an improvement in the quality of earnings. For the SME companies, there is evidence of a slight decrease in quality in all three measures, which suggests that during the pandemic period, they tended to smooth their results slightly compared to the Full companies.

Table 6
 Effect of the COVID-19 pandemic on earnings smoothing measures according to the applied regulatory framework

Measurement	Full		SMEs	
	All years	All years except 2020	All years	All years except 2020
Number of companies-year	13.065	10.703	64.667	48.730
V[Δ NI]	0.17	0.17	0.21	0.20
V[Δ NI]/V[Δ OCF]	1.62	1.65	2.17	2.15
ρ [ACC;OCF]	-.704**	-.695**	-.684**	-.687**

Source: created by the authors

**Correlation is significant at the 0.01 level

Discussion and conclusions

This research aimed to determine the earnings quality of private companies and SMEs in the Colombian real sector. The premise was that it is important to know the earnings quality for this type of company. The previous literature shows that there is scarce empirical evidence on this issue for the Colombian case. Therefore, this research contributes to the accounting literature on the issue.

Based on the results obtained, it can be concluded that private companies, denoted during the research as Full, tend to smooth their results more than SMEs, which is interpreted as a lower quality of earnings. These results are in line with the international literature. Although higher quality is attributed to financial information presented according to international financial reporting standards, this is not reflected in private companies, which, as well as companies considered to be of public interest, in the Colombian case, are required to apply Full IFRS.

To understand the results, it is important to note that the type of audit of the companies was not considered (i.e., whether they are audited by Big 4 firms or not), nor was the result of the audit opinions. Moreover, the possibility of changing the regulatory framework, either from Full to SMEs or vice versa, was not considered. Both aspects are proposed as possible extensions to this research to reinforce the conclusions obtained and widen the possibilities to study the determinants of the earnings quality in the Colombian case. The conclusions of this research could also be expanded with other measures of manipulation of earnings management, such as abnormal accruals and the measure of time loss recognition.

The results of this research are consistent with the idea that private companies tend to have lower quality earnings than other types of corporations. This is due to the external pressures they are exposed to since they are usually family companies where the partners act as administrators. Additionally, since they are not listed on a public stock market, their results are not presented publicly, except for the information that must be reported to control entities. In this regard, it is pertinent to suggest that future research should

determine the role of government oversight in the levels of manipulation of the results of private companies and SMEs.

As possible lines of future research, it is suggested that, given that private companies and SMEs are not exposed to the same context as those of public interest, it is pertinent to undertake new research to understand the determinants of the earnings quality for these types of corporations. In this way, it could become more important to know the reality of incentives and the impact of private companies in the Colombian context, which is necessary for a new understanding of the public interest.

References

- Ali, H., Amin, H.M.G., Mostafa, D. and Mohamed, E.K.A. (2022), "Earnings management and investor protection during the COVID-19 pandemic: evidence from G-12 countries", *Managerial Auditing Journal*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/MAJ-07-2021-3232>
- Ball, R., & Shivakumar, L. (2005). Earnings quality in UK private firms: comparative loss recognition timeliness. *Journal of Accounting and Economics* 39, 83-128. <https://doi.org/10.1016/j.jacceco.2004.04.001>
- Barth, M. E., Landsman, W. R., & Lang, M. H. (2008). International Accounting Standards and Accounting Quality. *Journal of Accounting Research*, 46(3), 467-498. <https://doi.org/10.1111/j.1475-679x.2008.00287.x>
- Ben-Nasr, H., Boubakri, N., & Cosset, J.-C. (2015). Earnings quality in privatized firms: The role of state and foreign owners. *Journal of Accounting and Public Policy*, 392-416. <https://doi.org/10.2139/ssrn.2161478>
- Bisogno, M., & De Luca, R. (2016). Voluntary Joint Audit and Earnings Quality. Evidence from Italian SMEs. *International Journal of Business Research and Development*, Vol. 5, No. 1, 1-22. <https://doi.org/10.24102/ijbrd.v5i1.594>
- Cantillo, J. C., & Rivero, L. (2019). Esquema de análisis de la Calidad de la información Contable. *Económicas CUC* vol. 40 no. 1, 76-90. <https://doi.org/10.17981/econcuc.40.1.2019.05>
- Cardona, J. C., Gómez, A. F., & Cano, A. M. (2019). Impact of international financial reporting standards on accounting quality: Evidence from Latin America and the Caribbean. *Contaduría y Administración*, 64(4), 1-34. <https://doi.org/10.22201/fca.24488410e.2018.1669>
- Dayanandan, A., Donker, H., Ivanof, M., & Karahan, G. (2016). IFRS and accounting quality: legal origin, regional, and disclosure impacts. *International Journal of Accounting and Information Management*, 296-316. <https://doi.org/10.1108/ijaim-11-2015-0075>

- Dechow, P. M., Sloan, R. G., & Sweeney, A. P. (1995). Detecting Earnings Management. *The Accounting Review*, 70(2), 193-225. <https://doi.org/10.2139/ssrn.1735168>
- Dechow, P. M., & Skinner, D. J. (2000). Earnings Management: Reconciling the Views of Accounting Academics, Practitioners, and Regulators. *Accounting Horizons*, 14(2), 235-250. <https://doi.org/10.2139/ssrn.218959>
- Dechow, P. M., Ge, W., & Schrand, C. (2010). Understanding earnings quality: A review of the proxies, their determinants, and their consequences. *Journal of Accounting and Economics*, 50(1), 344-401. <https://doi.org/10.2139/ssrn.1485858>
- Enomoto, M., Kimura, F., & Yamaguchi, T. (2018). A cross-country study on the relationship between financial development and earnings management. *Journal of International Financial Management & Accounting*, 166-194. <https://doi.org/10.2139/ssrn.2357275>
- Ferentinou, A. C., & Anagnostopoulou, S. C. (2016). Accrual-based and real earnings management before and after IFRS adoption - The case of Greece. *Journal of Applied Accounting Research*, Vol. 17 No. 1, 2-23. <https://doi.org/10.1108/jaar-01-2014-0009>
- Fuad, F., Juliarto, A., & Harto, P. (2019). Does IFRS convergence really increase accounting qualities? Emerging market evidence. *Journal of Economics, Finance and Administrative Science*, Vol. 24 No. 48, 205-220. <https://doi.org/10.1108/jefas-10-2018-0099>
- Garza, H., Cortez, K. A., Méndez, A. B., & Rodríguez, M. P. (2017). Efecto en la calidad de la información ante cambios en la normatividad contable: caso aplicado al sector real mexicano. *Contaduría y Administración*, 67(1), 746-760. <https://doi.org/10.1016/j.cya.2015.11.012>
- Houqe, N. (2018). A review of the current debate on the determinants and consequences of mandatory IFRS adoption. *International Journal of Accounting & Information Management*, Vol. 26 No. 3, 413-442. <https://doi.org/10.1108/ijaim-03-2017-0034>
- Huguet, D., & Gandía, J. L. (2019). Audit and earnings management in Spanish SMEs. *BRQ Business Research Quarterly*, 171-187. <https://doi.org/10.2139/ssrn.2190990>
- Kim, H., & Yasuda, Y. (2017). Empirical Analysis on the Earnings Quality of Japanese SMEs. Discussion Papers (Japanese), Research Institute of Economy, Trade and Industry (RIETI).
- Lassoued, N., & Khanchel, I. (2021). Impact of COVID-19 Pandemic on Earnings Management: An Evidence from Financial Reporting in European Firms. *Global Business Review*. <https://doi.org/10.1177/09721509211053491>
- Li, L. (2019). Is there a trade-off between accrual-based and real earnings management Evidence from equity compensation and market pricing. *Finance Research Letters*, 191-197. <https://doi.org/10.1016/j.frl.2018.04.021>

- Licerán-Gutiérrez, A., & Cano-Rodríguez, M. (2019). A Review on the multidimensional analysis of earnings quality. *Revista de Contabilidad Spanish Accounting Review* 22 (1), 41-60. <https://doi.org/10.2139/ssrn.2998134>
- Liu, G. and Sun, J. (2022), The impact of COVID-19 pandemic on earnings management and the value relevance of earnings: US evidence, *Managerial Auditing Journal*, Vol. ahead-of-print No. ahead-of-print. <https://doi.org/10.1108/MAJ-05-2021-3149>
- Liu, S., & Skerratt, L. (2018). Earnings quality across different reporting regimes. Listed, large private, medium-sized, small and micro companies in the UK. *Journal of Applied Accounting Research*, Vol. 19, No. 1, 2-19. <https://doi.org/10.2139/ssrn.2562904>
- Molina, J., & Feres, J. E. (2017). Efeitos das hipóteses da teoria positiva da contabilidade na qualidade da informação contábil. *Revista Universo Contábil*, 50-69. <https://doi.org/10.4270/ruc.2017318>
- Muchina, S. (2019). Earnings Management and Earnings Quality in Emerging Financial Markets: A Theoretical Discourse. *The Journal of Accounting and Finance*, 233-264. <https://doi.org/10.25095/mufad.625865>
- Ole-Kristian, H., Wayne, B. T., & Dushyantkumar, V. (2017). Stakeholder demand for accounting quality and economic usefulness of accounting in U.S. private firms. *Journal of Accounting and Public Policy*, 1-13. <https://doi.org/10.2139/ssrn.2457956>
- Rhee, C. S., Choi, E. S., & Ryu, J. Y. (2018). The Influence Of Firm's Fair Value System On Earnings Quality Under IFRS. *The Journal of Applied Business Research*, 427-436. <https://doi.org/10.19030/jabr.v34i3.10166>
- Tua Pereda, J. (1991). La investigación empírica en contabilidad. Los enfoques en presencia. *Revista de Economía y Estadística*, Cuarta Época, Vol. 32, No. 1-2, 3-83. <https://doi.org/10.17533/udea.rc.25024>
- Xiao, H., & Xi, J. (2021). The COVID-19 and earnings management: China's evidence. *Journal of Accounting and Taxation*, 13(2), 59-77. <https://doi.org/10.5897/jat2020.0436>