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The Role of Financial Reporting in Identifying Earnings Management in Internal Audit Approach

Abstract. In the current economic environment, it is important that the financial reporting of economic entities is as transparent as possible. To this end, corporate governance has become increasingly important on the agenda of company management, with internal audit occupying a central place in verifying the effectiveness of this system. At the same time, internal audit is also a value consultant for management, focused on identifying risk factors that may impact business processes. The purpose of the study is to identify accounting distortions by internal audit caused by earnings management based on financial reporting, the empirical research being based on a fixed effects statistical modelling of 459 small and medium sized companies in South-Eastern Europe over a five-year period, operating in different industries. The results of the research highlight the different signals that the internal auditor can draw in relation to the risk of fraudulent financial reporting, which are useful both for the management to streamline its activity and for the financial auditor to support the audit opinion.

Keywords: *earnings management, fraudulent financial reporting, discretionary accruals, corporate governance, internal audit, financial audit.*

JEL Classification: B23, C01, M42, M48.

1. Introduction

Over time, increasing emphasis has been placed on improving the quality of financial reporting and the transparency that should characterise the information reported by companies in their financial statement, as this information underpins the decision-making of stakeholders. Transparent and quality financial reporting is a

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basic requirement for listed and other non-public interest entities that want to attract investors and lack the guarantees that financial creditors may require.

In order to ensure transparent financial reporting, corporate governance, as a system to promote fairness, transparency and accountability at the company level, has started to be increasingly important on the agenda of company management. A central place in verifying the effectiveness of the corporate governance system is occupied by internal audit. In addition to the role of assessing the compliance of company processes with legal regulations, it should become a value consultant for management, focused on identifying risk factors that may impact business processes. One of the main requirements for an internal audit function is the prioritisation of risks within the firm's universe (Goicoechea et al., 2021). Being a managerial support function, internal audit contributes to the achievement of the entity's objectives by assessing internal control, provides recommendations to remedy negative situations. identifies, and assesses risks specific to internal control, thus serving also financial auditors (Al Zobi and Jarah, 2023). The International Standards on Auditing divide the factors for the emergence of risks that can distort the financial statements of companies according to two characteristics: error and fraud, the latter including fraudulent financial reporting and asset misappropriation. When deliberate management intervention in the financial reporting process to achieve the desired level of earnings is identified, we are dealing with real or accrual-based earnings management. Research shows that real earnings management tends to be replaced by accrual-based earnings management as it is harder to detect.

Under these circumstances, the role of audit (both internal and external) becomes increasingly important in identifying significant distortions, measured through discretionary accruals (Dechow and Dichev, 2002). In the case of firms audited by a financial auditor, an audit risk assessment is carried out which encompasses three other risks (inherent risk, control risk, and undetected risk) and will underpin the audit opinion issued. A low audit risk is supported either by a favourable assessment of the component risks or by an extension of the work, but is certain to involve additional costs (Roman et al., 2022). In other words, the internal auditor identifies internal control risk factors, advises management, corporate governance becomes more accountable, the assessed control risk is lower, and the audit risk becomes lower, the extent of audit work will be reduced, which will entail lower costs. Of course, causality can be circular in the sense that transparent financial reporting facilitates the identification of discretionary accruals by the financial auditor, who can signal to the internal auditor high control risk.

Based on the theoretical framework identified, this study aims to identify by the internal audit, based on financial reporting, the sensitive areas of companies, constituted as risk factors, measured by discretionary accruals, in the existence of different areas of activity of the companies. The signals identified by the internal auditor can serve both the management to streamline the activity and the financial auditor to substantiate the audit opinion, thus contributing to the reduction of companies' costs. This is also the research gap that we believe that we have identified in the literature consulted and that we are trying to fill through this study. The study

is further structured as follows: Section 2 is dedicated to the literature review, focusing on the factors and effects of outcome management; Section 3 describes the research methodology, starting with the study population, the sample analysed, the variables identified, the data source and ending with the models proposed for testing; Section 4 deals with the results obtained from the processing carried out and their interpretation, and the final part of the study is devoted to the conclusions, which highlight the most important aspects found and highlight the relevant tools for internal auditors to identify accounting distortions, but also emphasise the limitations of this study, both from a theoretical and empirical point of view.

2. Literature review

One dimension of the quality of accounting information is earnings management (EM), which shows the extent to which managers of entities can use techniques to modify earnings to their advantage (Dechow, 1994; Beneish, 2001; Roychowdhury, 2006). Earnings management was first studied in 1953 by Hepworth (Hepworth, 1953), but under the name of earnings smoothing. Later, Schipper defined earnings management as a deliberate intervention by management in the financial reporting process that aims to achieve the desired level of earnings by increasing, decreasing, or smoothing earnings, depending on the goals set by management (Schipper, 1989). The subject of earnings management has been much debated in the literature, with models for assessing discretionary accruals based on accounting information reported by companies being proposed (Jones, 1991; Dechow et al., 1995; Kothari et al., 2005).

Earnings management has two strands, depending on the nature of the activities handled: accruals earnings management (AEM) and real earnings management (REM) (Beneish, 2001). In the case of accrual-based earnings management, the timing of expense and revenue recognition is shifted from period to period in order to achieve certain objectives. This can be done either by delaying expense recognition or by accelerating revenue recognition. In manipulating actual activities, more often than not, certain expenses are decreased to increase profit (Roychowdhury, 2006).

Studies have shown that real earnings management (REM) has received increasing attention in recent years as an alternative method to accrual-based earnings management, with earnings management considered as the key indicator of financial reporting quality assurance, and earnings management techniques may be suspected as fraudulent practices depending on how managers use these techniques. Investigating the relationship between accrual-based earnings management (AEM), real earnings management (REM), and cash holdings in firms has led to findings suggesting that management of real activities has a positive impact on cash holdings, while accrual-based earnings management has a negative impact on this measure. Studies show that the lack of board independence does not have a significant effect on accrual-based earnings management, but it has a significant negative effect on real earnings manipulation (Hastuti et al., 2020).

On the other hand, research shows that there is usually earnings management when a firm's operating and investment activities differ from industry norms. However, it should be kept in mind that there are also situations where firms can change their operating and investment decisions for strategic business reasons and not just for the purpose of misleading stakeholders (Christensen et al., 2016). Applying principal component analysis, the authors cited above show that when managers engage in multiple abnormal revenue-growing activities, we are nevertheless dealing with a high risk of manipulation of reported accounting information. This is where the internal auditor can intervene to moderate or even stop the propagation of accounting misstatements before they reach the financial auditor's desk. This is also the aim of our paper, as stated above, and in order to formulate the research hypotheses as thoroughly as possible, we now review, based on the literature, the most important factors that determine companies' involvement in earnings management techniques and the effects they may have on companies' earnings.

2.1 Factors that favour or detract from earnings management techniques

In recent years, research has focused on analysing the factors that favor earnings management techniques, on the one hand, but also on identifying factors that could reduce the use of such techniques. Thus, studies carried out at the level of listed companies, focused on the analysis of earnings management (EM), have shown that, following the transition to IFRS, a decrease in the level of discretionary commitments and an improvement in the temptation of company management to opportunistically increase their profits have been reported. However, entities applying IFRS and using the indirect method to prepare the cash flow statement have a higher level of discretionary accruals (DA) and are more likely to increase their profit for self-interest compared to entities applying the direct method to report cash flows from operating activities. Furthermore, the quality of financial reporting is positively associated with the additional fees paid to financial auditors, which induce them to work harder to identify accounting manipulations; auditors, on the other hand, have to test the reasonableness of managerial misrepresentations (Jackson, 2018).

Zhang et al. (2020) show that the lack of clear sales regulation leads to earnings manipulation, especially for firms that are not subject to shareholder control or weak internal control monitoring. Although companies' involvement in socially responsible actions is seen as a positive aspect (Macovei et al., 2024), in an analysis of the link between earnings management and CSR, more socially responsible firms are found to have higher levels of accounting manipulations than those that engage less in such actions. In contrast, depending on the ownership structure of the entity, foreign ownership is found to be positively associated with earnings management, compared to managerial ownership, which leads to a limitation of this practice (Anwar and Buvanendra, 2019). It is known that corporate governance is the system for promoting fairness, transparency, and accountability at the firm level, and there

is evidence to support that corporate governance is more effective in mitigating earnings management in unconcentrated markets. Conversely, in concentrated markets, it leads managers to replace actual earnings management with accrualsbased earnings management because it is harder to detect and its negative long-term consequences on firm value are somewhat mitigated by the greater competitive strength of entities in concentrated markets (El Diri et al., 2020).

The financial difficulties faced by entities is a factor that drives both listed and unlisted entities to resort to earnings manipulation in order to increase earnings, as they are interested in the risk of detection rather than the cost of earnings management tools (Campa, 2019). Muljono and Suk (2018) conduct a study on a sample of publicly traded companies in different industries and find that financial distress leads to a significant increase in real earnings management and a significant decrease in accruals earnings management. In contrast, when the market position of companies is high or there is market concentration, they find a lower involvement of companies in earnings management techniques.

The quality of internal control exerts a moderating effect on the relationship between financial distress and the choice of earnings management methods, with financially distressed firms tending to engage in more accruals-based earnings management than real earnings management. For Taiwanese listed firms, the effects of top management team knowledge and average tenure are found to be negatively associated with discretionary accruals (Hsieh et al., 2018). Investigating the relationship between corporate life-cycle stages and firms' propensity to engage in earnings management practices indicates that in the start-up and decline stages, firms are more prone to AEM, while in the growth and maturity stages, they are more REM-oriented (Huian et al., 2024).

From the perspective of using XBRL - eXtensible Business Reporting Language for financial reporting, absolute discretionary accruals are found to decrease significantly from the period before mandatory XBRL filing to the post-XBRL period (Kim et al., 2019).

2.2 The impact of earnings management techniques on future company earnings

Over the years, studies have focused on identifying and measuring accounting distortions through various models to assess discretionary accruals based on self-reported information and have highlighted different influences that these earnings management techniques might have on other variables. In the following, these influences identified after reviewing the literature are presented in concrete terms. Thus, a consequence of earnings management through discretionary accruals is shown to negatively influence the relevance of reported accounting values, with the quality of financial reporting being questioned (Al-Shattarat, 2021).

Studies that investigated the behaviour of earnings management and firm value have shown that there is a positive relationship between total accruals management and firm value (Nobakht and Acar, 2021). However, in an analysis of the influence of total earnings management (AEM and REM) on the stock returns of entities listed

on the Pakistan Stock Exchange, it is shown that earnings management practices lead to low stock returns of firms, and shareholders may often not be aware of such practices (Bhutto et al., 2021).

Mughal et al. (2020) provide a further analysis of the relationship between earnings management of U.S. listed firms that were targets of successful acquisitions between 1987-2017, before and after the implementation of the Sarbanes-Oxley Act of 2002 (SOX), and short-term shareholder returns and show that in the pre-SOX period, the relationship between earnings management and short-term returns is negative, while in the post-SOX period, only the manipulation of actual activities has a negative influence on short-term returns, thereby reducing shareholder earnings.

After consulting the literature relevant to our research, Table 1 presents, in the first part, a summary of the factors that may influence earnings management, and in the second part, the effects that this technique may lead to, which are, in fact, risks that could be related to fraudulent reporting and that internal audit could identify.

Authors and Year	Factors	EM(+/-)		
(Cohen et al., 2019)	politically connected firms/local governments			
(Anwar and Buvanendra, 2019)	foreign ownership	EM(+)		
(Campa, 2019)	financial difficulties; start-up and declining companies			
(Hribar and Collins, 2002)	mergers and acquisitions			
(Kim et al., 2019)	XBRL	EM(-)		
(Hastuti et al., 2020)	the number of audit committee members			
Author and Year		Impact		
(Nobakht and Acar, 2021)	EM(+)	short-term firm value (+)		
(Al-Shattarat, 2021)		value relevance (-)		
(Bhutto et al., 2021)		stock return (-)		

Table 1. Studies on the determinants and effects of earnings management

Source: Own processing.

As a managerial support function that checks the effectiveness of accounting and internal control systems, internal auditing identifies and assesses specific internal control risks and provides recommendations to remedy negative situations, while also helping to reduce the costs of external audit by providing direct assistance to financial auditors. Therefore, finding a balance between an effective internal control system and its cost is a key issue, which leads to improved ability to manage risks or even crisis situations (Zhu and Song, 2021). An adequate internal control system prevents the build-up of off-accountable funds that may lead to corruption of key individuals in the entity. Therefore, the proper design and implementation of internal control mechanisms can prove highly effective in preventing or detecting fraud (Lari Dashtbayaz et al., 2021). Some studies have focused on the detection of accounting misstatements measured by discretionary engagements by the financial auditor that best substantiate the opinion issued (Sharf and Abu Nassar, 2024) and less on the detection of signals that the internal auditor can draw regarding the risk of fraudulent financial reporting before the financial auditor. The research gap that we seek to fill through this study lies in the fact that we aim to provide the internal auditor with a recommendation for the use of tools to detect accounting anomalies reported by companies operating in different business domains, in order to moderate or even stop the propagation of accounting misrepresentations before they reach the financial auditor's desk.

In order to achieve the purpose of the study, the following research hypotheses are formulated below:

H1: Distorted financial reporting is significantly influenced by the company's industry.

H2: By identifying the risk factors (accounting misstatements), internal auditing contributes to making the corporate governance system more efficient and reducing the costs of financial auditing.

3. Research methodology

3.1 Population, sample, variables, data source and models used

In order to test the hypotheses, the starting population consisted of unquoted, small, and medium - sized firms from four developing countries (Romania, Hungary, Slovenia, Croatia), and the final sample of 459 companies included the following sectors: Manufacturing, HoReCa, Construction and Pharma for a five-year period (2016-2020: 2295 total observations). We mention from the outset that these were the available data, according to the Amadeus database to which we had access, which somewhat limits the present research until the sample is extended in a subsequent research.

The subject of earnings management has been much debated in the literature, with different models being proposed to evaluate discretionary accruals based on accounting information reported by companies (Jones, 1991; Dechow et al., 1995; Dechow and Dichev, 2002; Kothari et al., 2005). According to the research objectives, in our study, we chose to apply three established models among the listed ones, namely the Jones model (Jones, 1991), Dechow model (Dechow et al., 1995) and the Khotari model (Kothari et al., 2005).

The variables identified, according to the models used, have in mind important structures of the financial statements, but also economic-financial indicators, such as: total assets (a), current assets (cass), property, plant and equipment (ppe), loans (std), current liabilities (cliab), cash and cash equivalent (cash), depreciation & amortization expenses (dae), operating revenue (r), accounts receivables (arec), ROA using Net income (roani), and the methods of analysis used refer to statistical modeling with fixed effects. All variables are numeric and the continuous, and

logarithmization of total assets was used to homogenise the data. The description of the variables used in the models below is presented in Table 2.

rable 2. Variable description					
Variable Symbol	Description				
a	total assets				
cass	current assets				
рре	property, plant and equipment				
std	loans				
cliab	current liabilities				
cash	cash and cash equivalent				
dae	depreciation & amortization expenses				
r	operating revenue				
arec	accounts receivables				
roani	ROA using Net income				
Source: Own processing.					

Table 2. Variable description

Considering the initial *Jones model* (Jones, 1991), the definition of total accruals, is presented in equation 1.

$$TA_{it} = \Delta cass_{it} - \Delta cash_{it} - \Delta cliab_{it} - dae_{it}$$
(1)

As (Costa and Soares, 2022) specifies, in the Jones model, the total accruals are calculated without considering the exclusion of long-term debt and income tax portion due to the lack of data in the database used. To estimate the regressions by group, the variables in the data are "clustered" by years and industry sectors/field (El Diri et al., 2020) shows this is another limitation, as, within the same sector, there is often no homogeneity. Therefore, the solution is not perfect, but minimises the problem. The estimation is based on equation 2, by the Jones model.

$$TA_{it}/A_{it-l} = \alpha + \beta_1(1/a_{it-l}) + \beta_2 \Delta r_{it}/a_{it-1} + \beta_3 ppe_{it}/a_{it-1} + \varepsilon_{it}$$
(2)

The *Modified Jones model* (Dechow et al., 1995) is described by the authors as a modified version of the (Jones, 1991) model (see equation 3).

$$TA_{it} = (\Delta cass_{it} - \Delta cash_{it}) - (\Delta cliab_{it} - \Delta std_{it}) - dae_{it}$$
(3)

The estimation is based on equation 4, by Modified Jones model (Dechow et al., 1995).

$$TA_{it} = \alpha + \beta_1(l/a_{it-1}) + \beta_2(\Delta r_{it} - \Delta \operatorname{arec}_{it})/a_{it-l} + \beta_3 ppe_{it}/a_{it-l} + \varepsilon_{it}$$
(4)

Total accruals by *the Kotari model* (Kothari et al., 2005) in described in equation 5, but the estimation is based on equation 6.

$$TA_{it} = [(\Delta cass_{it} - \Delta cash_{it}) - (\Delta cliab^{-} - \Delta std_{it}) - dae_{it}]/a_{it-1}$$
(5)

$TA_{it}/a_{it-1} = \alpha + \beta_1(1/a_{it-1}) + \beta_2 \Delta r_{it}/a_{it-1} + \beta_3 ppe_{it}/a_{t-l} + \beta_4 \operatorname{roani}_{it-1} + \varepsilon_{it}$ (6)

where, TA_{it} = total accruals in year t for firm i; $\Delta cass_{it}$ = current assets in year t less current assets in year t-1 for firm i; $\Delta cash_{it}$ = cash in year t less cash in year t-1 for firm i; $\Delta cliab_{it}$ = current liabilities in year t less current liabilities in year t-1 for firm i; $\Delta cliab_{it}$ = depreciation and amortization expense in year t for firm i; a_{it-1} = total assets in year t-1; Δr_{it} = revenues in year t less revenues in year t-1 for firm i; a_{it-1} = total assets in year t-1; Δr_{it} = revenues in year t less revenues in year t-1 for firm i; ppe_{it} = property, plant and equipment in year t for firm i; Δstd_{it} = debt included in current liabilities in year t-1 for firm i; $\Delta arec_{it}$ = accounts receivables in year t less revenues in year t-1 for firm i; $roani_{it-1}$ = ROA using Net income in year t-1, and ϵ_{it} = error term in year t for firm i.

After presenting the models that will be applied to test the hypotheses, it can be observed that each new model introduces one more variable (the modified Jones model introduces accounts receivables, the Kotari model introduces asset performance, measured by ROA), and the results obtained after applying them on the chosen sample will be interpreted taking these aspects into account.

3.2 Descriptive statistics

Table 3 presents the descriptive statistics resulting from the pre-shortcuts for the variables identified above. We note that out of the 459 companies, 35% are manufacturing companies, 15% are construction companies, 41% of the companies are active in the HoReCa sector and 9% are active in the pharmaceutical sector.

Variable	Obs	Mean	Std. Dev.	Min	Max	
year	2295	2018	-	2016	2020	
а	2222	30310	45230	6.85	640033	
l.a	1791	29826	44304	6.85	640033	
cass	2096	10472	14522	0.24	192335	
ppe	2181	18920	28866	0.55	230552	
std	1123	2242	4160	0.00	47026	
cliab	2217	6722	10262	0.05	153795	
cash	2199	1944	4949	-745.86	95276	
dae	2174	1388	2069	-230.26	26695	
r	2208	18735	22431	0.00	446171	
arec	2106	2987	5537	0.00	111102	
roani	2199	5.40	1.25	-84.75	92.32	
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 Table 3. Descriptive statistics

Source: Own processing.

Note: l.variable - first lag of the variable named after fullstop (e.g. l.a = first lag of the variable a - total assets in year*t*-*l*); the currency in which the values are expressed is the euro.

From Table 3, it can be seen that in the analysed sample, total assets record an average of 30310 euro, reaching a maximum of 640033 euro. Therefore, it can be seen that the sample does not include very large firms. The average value of current assets (10472 euro) is higher than the average value of current liabilities (6722 euro), which could be considered favourable if the effects of earnings management are not considered. The average cash flow amounts to 1944 euro, with a maximum of 95276

euro, which, when compared to the turnover (with an average of 18735 euro and a maximum of 446171 euro) indicates rather low values, this discrepancy between low cash flow and high net income makes stakeholders susceptible to earnings management, and is a warning signal for auditors as well. The empirical results are explained in the next section.

4. Results and discussions

This section presents the results of the processing performed using the three models described above. For a synoptic presentation, we summarise the results in Tables 4 and 5.

Sector	Model							
Sector	Jones	Modified Jones	Kotari					
Construction	0.146425	0.029079	0.051626					
HoReCa	0.440268	0.015820	0.087860					
Manufacturing	0.149877	0.012505	0.105097					
Pharma	0.095454	0.009075	0.084519					
Total	0.306242	0.017015	0.090609					

 Table 4. Discretionary accruals according to the models used over the whole period

Source: Own processing.

Note: The decrease in the number of companies from one model to the other is due to the appearance of a new variable for which data are still missing, but also to the use of lags

	Model											
Sector	Jones			Modified Jones			Kotari					
	2017	2018	2019	2020	2017	2018	2019	2020	2017	2018	2019	2020
Construction	0.14	0.20	0.10	0.10	0.003	0.006	0.048	0.004	0.038	0.029	0.048	0.064
HoReCa	0.15	0.75	0.23	0.17	0.000	0.001	0.007	0.029	0.083	0.084	0.077	0.102
Manufacturing	0.12	0.19	0.11	0.13	0.006	0.021	0.006	0.005	0.104	0.103	0.134	0.062
Pharma	0.10	0.10	0.09	0.07	0.011	0.000	0.008	0.009	0.073	0.090	0.112	0.056
Total	0.14	0.52	0.17	0.14	0.005	0.013	0.020	0.020	0.087	0.088	0.101	0.083

Table 5. Discretionary accruals according to the models used by years

Source: Own processing.

The results obtained from the processing and presented in the tables above validate the hypotheses formulated, in the sense that it can be observed that distorted financial reporting is significantly influenced by the company's sector of activity, results similar to other studies (Muljono and Suk, 2018). However, the results should be interpreted in the context of the model used. When the Jones model is used, it is observed that the largest distortions found are found in HoReCa companies; if the modified Jones model is used, the largest distortions are found in the construction sector (all receivables and payables are considered), and in the case of the Kotari model, which also studies economic performance, the largest accounting distortions are found in companies operating in the manufacturing sector. The analysis of the results by year shows that even depending on the period and the model used, the results are different, and periods of crisis (such as the Covid-19 pandemic) do not lead managers to engage in earnings management techniques more than in periods

of normality. Hypothesis two is also validated in that the results show, depending on the model used, what the average per sector of accounting anomalies found. Under these conditions, discretionary accruals can be considered as warning signals for internal auditors, who will first advise management to ensure future performance, contributing to the efficiency of the corporate governance system, but also to reduce the costs of financial auditing, as the scope of its work will be more restricted. A useful tool will, of course, be artificial intelligence (AI), with studies, as well as reality, showing that artificial intelligence (AI) is increasingly making its mark on all activities, thus revolutionising companies' information systems (Întorsureanu et al., 2024).

5. Conclusions

The conclusions drawn from the research can be summarised as follows: there are differences in accounting misrepresentations by sectors of activity, depending on the models used; the results of the study highlight the existence of fraudulent reporting that the internal auditor can report to management and the external auditor; the study is useful, first and foremost, to internal auditors, as the improvement of the risk quantification model remains a permanent priority for them, but also to company management, and financial auditors; and an adequate internal control system prevents the constitution of off-balance sheet funds that can lead to the corruption of key persons in the entity. In other words, the correct design and application of internal control mechanisms can be very effective in preventing or detecting fraud, and the whole research approach was based on the following: internal audit identifies internal control risk factors, advises company management, corporate governance becomes more accountable, control risk is lower, audit risk becomes lower, the scope of the financial auditor's work is reduced, and hence, the costs to the company are lower. Clearly, there are limitations to the study, primarily due to data availability, but also to the selected processing models.

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