

# CREATIVE ACCOUNTING IN TIMES OF TURBULENCE: EMPIRICAL EVIDENCE IN GREEK SMES GOVERNANCE

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## Abstract

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This paper's objective is to critically assess issues related to creative accounting in times of turbulence, presenting the findings of an empirical study carried out in Greek small and medium-sized enterprises (SMEs). Greece was chosen because the financial crisis that the country has been facing since 2010 has created a highly prolonged uncertainty in its businesses and according to Goel (2017), this leads to an extension of the application of creative accounting. As this is Greece's first empirical study published surveying professional corporate accountants and auditors, its findings are particularly noteworthy for regulation and corporate governance policy implications. As in Mindak et al. (2016), earnings manipulation is considered the most popular method of creative accounting in Greece after the Memorandums. The majority of this study's findings are in line with those of Bhasin (2016) and Karim et al. (2016). Almost half of the respondents considered creative accounting to be legitimate, as Bhasin (2016), leading to the conclusion that strengthening the institutional/corporate governance framework is a key method of limiting the use of creative accounting.

**Keywords:** Creative Accounting, SMEs, Financial Reporting, Earnings Management, Corporate Governance, Greece

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## 1. INTRODUCTION

Creative accounting, according to Abed et al. (2022), is a practice that influences financial indicators by using accounting knowledge and rules that do not explicitly violate accounting policies, rules, and laws to show the financial position desired by the company management; stakeholders are informed of what the management wants them to perceive. According to them, creative accounting is the 21st century corporate governance phenomenon that has received increased attention following the global economic crisis and budget deficits,

particularly the prevention and detection of accounting manipulation. Creative accounting is at the heart of many accounting scandals as well as many accounting reforms, which is why questions about the transparency and honesty of financial reporting are frequently raised. It is evidenced that in the short term, creative accounting can benefit a company, but in the long run, it can lead to a drop in share price, insolvency, and even bankruptcy.

This paper's objective is to critically assess issues related to creative accounting for small and medium-sized enterprises (SMEs) in times of uncertainty. To do this, a comprehensive

presentation of creative accounting is given (along with a theoretical background of the concept, i.e., definitions and key issues/dimensions), after which the results of an associated empirical study conducted in Greece are presented. This study presents for the first time the prevailing perceptions of professionals in the field, i.e., corporate accountants and auditors, on various issues/dimensions of creative accounting, and thus may have practical implications for adopting relative measures and/or legislative initiatives. As high levels of turbulence lead to increased use of creative accounting (Goel, 2017), Greece was chosen due to the prolonged period of uncertainty caused by the 2010 financial crisis, which was followed by the COVID-19 pandemic crisis. As a result, the results of the current study can be used to further investigate the impact of turbulence on the perception of the use of creative accounting in comparison to other eras and/or countries, adding value to future academic and research knowledge.

The structure of the paper is as follows. Section 2 reviews the relevant literature. Initially, the most common definitions and the main concepts and issues/dimensions of creative accounting are presented, followed by a survey of the main empirical studies. Section 3 analyses the methodology used to conduct the present study's research. Section 4 presents the main results of the empirical study. A critical discussion of the main findings of the empirical research conducted for Greece against previous studies follows in Section 5. Finally, in Section 6 the main conclusions together with recommendations for preventing and/or mitigating creative accounting challenges for SMEs are discussed, accompanied by suggestions for future research on the subject and conclusions.

## 2. LITERATURE REVIEW

### 2.1. Theoretical background

As creative accounting is of paramount importance in corporate governance, since the introduction of the concept by Pacioli (1494), many different definitions were offered. According to Merchant and Rockness (1994), creative accounting can be defined as a series of actions initiated by the company's management that affect business results but do not actually bring financial benefits to the company and can result in long-term losses. Shah (1998) defined creative accounting as a process in which managers use so-called gaps and ambiguities in accounting standards to demonstrate financial success in a biased manner.

Since creative accounting does not normally violate legal rules, there is frequently debate about its use, which is usually attributed to the primary purpose for which it is used and the way it is applied. According to Bhasin (2016), creative accounting is a two-edged sword that can be used positively or negatively by management. As a result, presenting the business in an idealized manner has the potential to destroy the company's image.

Cressey (1950) to describe creative accounting developed the "fraud triangle" as incentive/pressure-opportunity-rationalization. Later, Wolfe et al. (2004) evolved the "fraud triangle" into a "fraud diamond" adding the fourth dimension of

capability, while later on, the "fraud pentagon" was developed adding to Cressey's triangle two more dimensions: 1) competence and 2) arrogance. Furthermore, Rezaee (2005) developed the cooks, recipes, incentives, monitoring, end-results (CRIME) model, where:

"*Cooks*" are individuals who commit creative accounting. According to Wells (2017), the main categories of individuals who commit financial statements manipulation are executive directors i.e., chief executive officer (CEO), chief financial officer (CFO), senior management, and mid and low-level employees in the sector usually to cover up poor performance or to receive bonuses).

"*Recipes*" are the techniques used (the main ones are presented below), and "*incentives*" are the same as above.

"*Monitoring*" is the extent and quality of the internal and external audit system used.

"*End-results*" are the impact on reputation in its relationships with investors, creditors, and financial institutions, as well as the set of civil and criminal liabilities/penalties.

Abed et al. (2022) reviewed 473 publications on creative accounting between 2015 and 2020, and by applying a set of predetermined criteria, they ended up critically appraising 98 publications, concluding that creative accounting determinants can be classified into four major categories, as follows:

*Ethical issues*, including the agency issue, information asymmetry and moral laws (De Jesus et al., 2020; Akpanuko & Umoren, 2018; Engelseth & Kritchanchai, 2018; Hentati-Klila et al., 2017; Rozidi et al., 2015; Tassadaq & Malik, 2015).

*Internal control*, including validity, dependency, and audit size (Alzeban, 2019; Buallay, 2018; Lim et al., 2017; Foster et al., 2013).

*Disclosure quality*, including information relevance, organizational willingness and social disclosure (De Luca et al., 2020; Maama et al., 2020; Yao et al., 2020; Roszkowska-Menkes, 2018; Nobanee & Ellili, 2017).

*Ownership structure*, including monitoring, controlling shareholders and agency benefits (Sahasranamam et al., 2020; Mousavi Shiri et al., 2018; Nagata & Nguyen, 2017; Neal et al., 2019; Yasser et al., 2017; Alzoubi, 2016; Mudel, 2015).

To present their business in the best possible way when applying creative accounting, companies manipulate financial information by accruals management, handling off-balance sheet financing items, receivables other income and expense items, overstating revenues by recording fictitious sales receipts, changes in the value of money and in accounting policies and depreciation methods. In contemporary literature as analyzed by Abed et al. (2022), creative accounting techniques can be grouped into the following categories:

*Provision for liabilities*, including levelling, increased leads and depreciation expenses (Remenaric et al., 2018; Suer, 2014; Susmus & Demirhan, 2013).

*Tangible assets*, including an increase in assets, tangible asset valuation and amortization schedule (Abed et al., 2020; Aureli et al., 2019; Akpanuko & Umoren, 2018; Anderson et al., 2014).

*Inventories*, including polishing, moral waste, and interest expenses (Lucchese & Carlo, 2020, Li et al., 2017; Batiz-Lazo & Billings, 2012).

*Goodwill*, including economic value, asset profitability and mergers & acquisitions.

*Construction contracts*, including contact fulfilment, tangible results and capital raising (Szymanski, 2017; Iatridis & Alexakis, 2012).

*Depreciation*, including expenditure increase, residual value and asset depreciation (Palazzi et al., 2020; Repousis, 2016; Batiz-Lazo & Billings, 2012).

In practice, the most widely used creative accounting techniques, include:

*Earnings management/smoothing.* When a company's earnings fluctuate significantly, an adjustment is made, either upwards or downwards, to keep the percentage of profits distributed as dividends relatively stable, reducing volatility and avoiding a decrease in the company's market value. It retains and/or attracts new shareholders in this manner. During periods of increased profits, a portion of them is saved in the reserve (creating "earnings banks") to appear during periods of decreased profits. This is the most used method of earnings management, and many researchers have studied it. According to early studies in this field, managers were induced to reduce earnings variance to reduce their companies' perceived market risk. However, later studies have shown that investors are not misled if the efficient market hypothesis holds. Earnings management is one of the most fundamental manifestations of creative accounting, as one of the most important elements in a financial statement is the size of earnings. It is a tool for evaluating the company and its management, as well as a measure for assessing the company's performance and comparing it to the performance of other companies. The level of the firm's earnings plays a regulatory role in the formation of the share price for listed companies and any change (increase/decrease) in the level of earnings implies a corresponding change (increase/decrease) in the corporate valuation. Company managements undoubtedly attach great importance to the formation of the level of earnings. Graham et al. (2005) in a survey of 400 United States (US) company managers found that it is so important for them to disclose 'desirable' earnings that they would go so far as to sacrifice the long-term well-being of their business to achieve it. Research has shown that companies engage in earnings management to post lower profits in times of increased political exposure (Jones, 1991), such as Han and Wang (1998) who report that oil companies during the Gulf War used earnings management to reduce their profits and avoid the political consequences of higher profits due to increased retail oil prices. Also, other studies have shown that adopting practices of reducing reported earnings on a temporary basis is adopted by companies to increase their bargaining power *vis-à-vis* labour unions. Stalebrink and Sacco (2006) noted that earnings management can be found not only in the private sector but also in the public, semi-public, and non-profit sectors.

*Big bath accounting.* Many businesses discover that some of their activities are losing money. As a result, the aforementioned items are written off. The above process results in significantly reduced profits or losses for the specific fiscal year to show profits in subsequent fiscal years. When the company's profits are expected to be low,

the Big Bath technique is used, whereas when high profits are expected, profit smoothing is used.

*Cookie jar reserve.* This method is based on a firm's accrued expenses. Accordingly, the liabilities of the current year must be anticipated and recorded. However, this process creates uncertainty as to the smoothness of the results. In case the enterprise wants to show increased expenses in the given financial year, it will probably show less expenses in the following years. Thus, a "cookie jar reserve" has been created, which can be used in the future to smooth out possible instability. Such a reserve is created in cases of pension coverage, inventory obsolescence, reduced sales, etc.

*Big bet on the future.* In the case of an acquisition, the merger of one company by another means that of the acquiring company increases its profits. To achieve this, "big bet" techniques are carried out which involve writing off the research and development costs of the acquired company. In this way, the acquisition price is reduced to increase future revenues, since they will not be burdened by the costs of the normal acquisition price.

*Investment portfolio enrichment.* In addition to its core activities, a company often has investment activities. Under Generally Accepted Accounting Principles (GAAP), investments involving the acquisition of up to 20% of the stock of another business do not require that net income be reported in the financial statements. Thus, if a company wants to increase earnings, sells an asset and vice versa.

*Asset swap.* In cases where a company owns a large volume of assets, many of which are costly and do not offer profits, they undertake an outright sale technique of such an asset to gain immediate profits. Another solution is the technique of selling and simultaneously leasing back a fixed asset (e.g., equipment) to increase capital and reduce short-term liabilities.

*Early repayment of debts.* When debts are repaid early, the value of the instalment is different from the book value. Thus, corresponding profits or losses are shown depending on the benefit to the business.

*Shrink the ship.* This technique involves the repurchase of the shares already held by the company to increase earnings per share. In this way, the share price increases as the earnings are spread over fewer shares.

*Accruals accounting.* This technique allows the company's income and expenses to be added to the statements at the time they occur to affect profits. The sale of a good or service, for example, may not be fully paid for in advance. However, if the enterprise providing the good or service wishes to show a profit, it considers the buyer to have paid for it.

According to Abed et al. (2022), creative accounting motivations can be summarized as follows:

*Agency problems*, including external interference, official examination, and personal benefits (Vladu et al., 2017; Saleem, 2019; Skoda et al., 2017).

*Income smoothing*, including earnings fluctuations, big bath accounting, and level of provisions (Abed et al., 2020; Baik et al., 2020;

Ghorbani et al., 2020; Remenaric et al., 2018; Trisanti, 2016).

*Share ownership scheme*, including management remuneration, share repurchases and company boards (Rashid, 2020; Makhael & Sherer, 2018; Eiler et al., 2015; Mudel, 2015).

*Executive reward*, including shareholder earnings, financial incentives, and debt covenants (Skoda et al., 2017).

Financial reporting is focused on providing stakeholders with the reliable, accurate, and timely financial data analysis that they require in order to make decisions about bank operations (Chang et al., 2019). Because it is frequently practised disclosing financial information in a way that makes it appear better than it would have if stated honestly, creative accounting is associated with information engineering and financial reporting. In financial reporting, creative accounting is defined as the intentional manipulation of financial statement data. This can result in overestimation of asset value, high levels of inventory, expense reduction, changes in depreciation methods, showing provisions as assets, and so on (Shahid, 2016). According to Abed et al. (2022), qualitative financial reporting is characterized by balanced:

*Content of the financial information*, including relevance (Elsiddig Ahmed, 2020; Akpanuko & Umoren, 2018; Cohen & Karatzimas, 2017; Kewo, 2017) and understandability (Rashid, 2020; Habib et al., 2019; Bini et al., 2016; Kardan et al., 2016).

And *presentation of the financial information*, including comparability (Rashid, 2020; Kardan et al., 2016) and faithful representation (Atabay & Dinc, 2020; Muraina & Dandago, 2020; Bimo et al., 2019; Cernusca et al., 2016; Bean & Irvine, 2015; Tassadaq & Malik, 2015).

Forensic accounting, although known and used since the 1800s, it was the beginning of the 2000s, especially after the Enron and WorldCom scandals that became more popular. Ernst Young (2018) showed an unprecedented rise in fraud, noting that US and United Kingdom (UK) authorities imposed financial penalties of USD11 billion to firms and the use of forensic accounting as a solution (among others). Forensic accounting is generally perceived as a type of accounting that "follows the money" and analyzes financial information to look for evidence of potential financial misconduct. Forensic accountants investigate companies' and people's financial records and use accounting and legal skills to interpret and communicate their findings to others. As Silverstone et al. (2012) specifically pointed out, although forensic accounting definitions commonly refer to fraud, fraud prevention and fraud investigations as the role of forensic accounting, is not the only context in which it can be helpful. According to Crumbley et al. (2021), forensic accounting can be defined as the action of identifying, recording, settling, extracting, sorting, reporting, and verifying past financial data or other accounting activities for protecting future financial data to settle legal disputes. Lakshmi and Menon (2016) noted that forensic accounting bridges the gap between statutory, conventional accounting and auditing, and financial fraud prevention. Implementing forensic accounting services protects companies from potential long-term reputational damage caused by

publicity related to fraudulent activities and determines the success level of good corporate governance. It helps to enhance and even restore investors' confidence and credibility in corporate governance and increases the company's market value. Special designed credentials on forensic accounting, being used in a constantly expanding number of countries, provide holistic knowledge on the topic incorporating further to the basic knowledge, many specialized practical applications, indicatively: 1) bankruptcy, insolvency, and reorganization; 2) computer forensic analysis; 3) economic damages calculations; 4) family law; 5) financial statement misrepresentation; 6) fraud prevention, detections, and response; 7) business valuation (Silverstone et al., 2012).

## 2.2. Bibliography survey

Below is a summary of the most important recent empirical studies on the perceptions of various aspects of creative accounting that have been conducted in different countries.

According to Bhasin (2016), while previous research has examined many aspects of creative accounting, no one has really investigated what people who prepare financial statements using creative accounting think, nor what the average reader of financial statements thinks. An Indian survey found that most respondents believe creative accounting has a negative impact on financial reporting and is difficult to detect. However, experts disagree on whether the practice of creative accounting is legal. The individuals responsible for handling financial information and applying creative accounting are mainly managers and accountants, and the main motivations for these practices are benefits to the company, increasing competition and attracting foreign investment. There are many methods of manipulating financial statements, and they often include adding off-balance sheet financing items, changes in accounting policies and depreciation methods, and other changes in the value of money. Research has shown that an established accounting framework plays a key role in limiting creative accounting, and accounting standards should therefore be adjusted accordingly in a way that limits the scope for managers to decide between many accounting methods. Abuse of forward-looking estimates in accounting can be reduced by a simple rule, namely that an initially defined accounting policy should be used in all forward-looking estimates. It is also important to emphasize the role of internal and external auditors in identifying improper estimates and to stress the responsibility of identifying and preventing accounting manipulations. Audit bodies should be changed on a regular basis and should not be subject to management pressure. It is also necessary to recruit independent auditors and audit committee members who are chosen by shareholders. Companies should implement and promote proper rules and regulations that prevent individuals from exploiting loopholes and reaping benefits. Finally, businesses should have a whistleblower policy in place to protect individuals.

Karim et al. (2016) conducted a survey in Bangladesh to determine the existence of a gap between accounting and auditing perceptions of

creative accounting. According to the study, there is no need to penalize either auditors or accountants for using creative accounting. Accountants are simply company employees who follow orders. As a result, if management requires financial statements to be prepared in a specific manner, accountants will comply. Therefore, management must be held criminally and morally responsible for the abuse of creative accounting. Accountants and auditors believe that national accounting authorities should pay more attention to the code of conduct for accountants, which would have a positive impact on reducing the use of accounting manipulations. Based on this research, it appears that the solution to the abuse of creative accounting lies in the imposition of sanctions by national authorities, the exercise of auditing to monitor such practices and increased promotion of the code of conduct for accountants.

Lau and Ooi (2016) conducted a study on financial reporting in Malaysia, focusing on the creative accounting methods used and the incentives that led to such actions. The results of the study showed that the most used creative accounting method was the overstatement of revenue through the recognition of revenue from sales of products to fake customers. The main motivation for this is to increase the company's capital, not to settle debts and to maintain the same capital levels. One of the key findings of the research is that auditors should review the effectiveness of their procedures as there are a significant number of cases of creative or fraudulent accounting that remain undetected by the audit process. Accounting standard setters should also consider whether managers have too much latitude in applying accounting standards. In other words, the question is whether they use their discretion to provide useful information to decision-makers or to benefit themselves. It has been demonstrated that unethical decisions by managers have resulted in significant negative consequences for decision-makers and society as a whole in the majority of accounting scandals. As a result, managers must reconsider their own responsibilities as well as their role in financial disclosures.

Moreover, Alzoubi (2016) concluded that ownership structure significantly affects earnings management. Therefore, institutional ownership, stockholders, and family and foreign ownership affect the quality of financial reporting because they significantly reduce the ability to manage earnings. The write-off of receivables is one of the creative accounting tools that are frequently used.

Based on a study conducted in South Korea, Lee and Choi (2016) concluded that accounts receivable write-off is the ideal item for accounting information handling because it is based on management's estimates. Companies typically use accounts receivable write-offs to avoid reporting losses, maintain the same level of earnings over the years, and meet future projections.

Mindak et al. (2016) investigated whether firms use creative accounting techniques to exceed analysts' earnings forecasts and whether the market rewards or punishes such manipulations. According to the findings of the study, all companies that have exceeded their targets have used creative accounting

techniques to artificially increase profits and have been rewarded by the market for doing so. Companies that did not use creative accounting to meet the set targets, on the other hand, were not rewarded. The reason is that most of the targeted earnings are determined by analysts' forecasts — so, the most important goal of management is to beat forecasts because companies that do so are seen as successful companies. Thus, companies that try to maintain the same level of earnings over the years are not considered "successful" as they do not exceed expectations.

Inaam and Khamoussi (2016) explained the relationship between corporate governance, audit quality and earnings management practice. The key function of corporate governance in financial reporting is to ensure compliance with accounting standards and provide reliable financial information in financial statements. Therefore, good corporate governance should ensure effective controls and prevent improper management behaviour. Although it must be assumed that quality corporate governance, audit committees and the implementation of quality control influence the limited use of various earnings management techniques, this study showed a negative relationship with the practice of earnings management.

Research conducted by Shahid (2016) showed that creative accounting has a significant impact on fair and objective financial reporting in Pakistan. To avoid the manipulation of financial information, it is necessary to emphasize corporate governance and the strengthening of ethical values. Limited or minimal use of creative accounting in a positive sense should not actually affect the quality of financial reporting.

Ismael (2017) conducted a survey of 65 auditors and accounting lecturers at Saudi universities and concluded that the statutory auditor plays an important role in promoting creative accounting practice, which improves the reliability of financial reporting.

De Jesus et al. (2020) surveyed 168 accountants from 37 Euronext Lisbon-listed companies to investigate the relationship between creative accounting and ethics. They found that accountants distinguish between manipulation practices that are closer to fraud and violate accounting and financial reporting standards and less creative practices that include less fraud and are considered more ethical creative accounting practices.

Since most of the research in the field of creative accounting tried to explain how it affected firms, Goel (2017) conducted a study on the impact of creative accounting on stock prices in the market. The results showed that companies use financial information manipulation, most often in periods when financial markets are uncertain about the prospects of these companies' operations in the future.

Georgantopoulos and Filos (2017) noted that during the period of economic crisis in Greece, firms were faced with several financial problems related mainly to the lack of liquidity. Therefore, they used all possible means (including creative accounting) to face the new challenges that arose at the lowest possible cost and to survive in this unstable environment.

Pazarskis et al. (2017) reported that during the period of the financial crisis and Memorandums (2008–2015) in Greece, creative accounting techniques were applied by companies listed in the Athens Stock Exchange.

### 3. RESEARCH METHODOLOGY

Goel (2017) showed that high levels of uncertainty lead to increased use of creative accounting. To further explore this finding, this research focused on Greece, where:

- in 2010 due to the extensive financial crisis, the country was placed under surveillance by Memorandums;

- and by the time recovery started in 2019, the COVID-19 pandemic broke out, leading firms to prolonged financial turbulence.

A unique feature of this study, characterizing it and enhancing the results' importance, relies on the fact that the survey sample consisted of accountants and auditors, therefore reflecting the viewpoint of the field experts (for the first time in Greece).

The present study was conducted by quantitative method through questionnaires. Since this is a systematic methodology of collecting information from a sample of the population whose results are representative of the selected population leaving a small margin of error, it was preferred in this study. The use of the questionnaire is characterized, among others, by the advantages of being a more economical method than interviews, it can be sent to a large number of people, it is easy to construct and use, and the respondents can express themselves freely (lack of direct communication), there is no influence of the researcher, the modes of analysis are standardized, and it is a less time-consuming method. The questionnaire was sent in electronic form via Google Forms, the use of which is an easy encouragement for the recipients to take some of their time to answer the questions and then compiling the results in a spreadsheet allows them to use them later. Of course, written information was given to the participants regarding the nature and purpose of the survey. Regarding ethical issues, the questionnaire ensured the anonymity of the respondents, who were fully informed about the ethical issues and how to carry out the procedure by the introductory note before completing the questionnaire. The creation of the questions was based on literature references and previous research, to capture the ways, practices and views developed by accountants on profit manipulation and creative accounting. The questionnaire consisted of ten closed-ended questions with answer options on a five-point Likert scale, specially designed to secure reliability and consistency. Corporate accountants and auditors who had been working in the field for the previous three years received the questionnaires electronically. This study, which involved 60 valid responses, is the first of its kind to examine how professionals in Greece currently perceive various aspects of creative accounting. The study's sample was evenly split between male and female participants.

### 4. RESULTS

The vast majority (88%) of the sampled accountants/auditors agreed that creative accounting has a significant impact on financial statements (60% strongly agreed and 28% simply agreed).

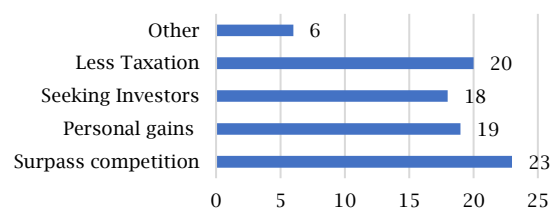
A total of 51% responded that the information in the financial statements is not reliable, while 39% felt that it is reliable, with 10% of them being neutral.

Profit manipulation is estimated to be the most common method of creative accounting and in particular off-balance sheet profits (38%), followed by the the introduction of profits from the sale of assets (25%), manipulation of receivables (20%) and changes in depreciation policy (15%). These findings are in line with those of Mindak et al. (2016), while other studies such as Alzoubi (2016), Lee and Choi (2016), and Lau and Ooi (2016) highlight the use of other creative accounting methods.

The identification of earnings manipulation (estimated as the most applied creative accounting method) is estimated to be a very difficult process by 47% of the respondents, while it is considered difficult by 27% of the respondents. These findings are in line with those of Bhasin (2016).

Regarding the reasons for applying manipulating earnings (estimated as the most common creative accounting method), although responses are evenly distributed across alternative methods (21–27%), the most prevalent reason, as illustrated in Figure 1 below, is to surpass competition. This finding is in line with Bhasin (2016), where competition is also ranked among the main reasons for using creative accounting. This finding is well justified by the conditions prevailing in Greece during the period studied, given the importance of competition for the survival of firms in Greece over the years with the shrink of demand because of the restriction of disposable income due to the economic recession and subsequently due to the COVID-19 pandemic.

**Figure 1.** Main reason for profit manipulation (the selection of more than one reason was feasible)



Respondents (40%) considered that the company manager (CEO) was responsible for creative accounting applications in a company, while 32% considered the accountant to be responsible for it. These findings are in line with those of Bhasin (2016) while according to Karim et al. (2016), only the company manager was responsible, exempting accountants who were perceived to merely executing orders.

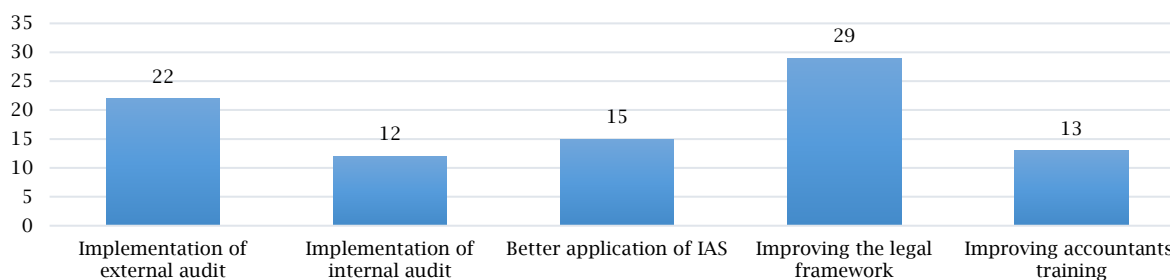
Accountants' ethics were estimated to be a major factor (53%) in reducing profit manipulation and the use of creative accounting in general. Karim et al. (2016) particularly focused on the need to

strengthen/promote the code of ethics for accountants.

Regarding the methods that could contribute to limiting profit manipulation and creative accounting application in general, as shown in Figure 2 below, improvement of the legal framework (29%) is considered the most important method, followed by

that of the implementation of external audit (22%), better application of International Accounting Standards (IAS) (15%), training of accountants (13%) and implementation of internal audit (12%). These findings are in line with those of Bhasin (2016) and Karim et al. (2016).

**Figure 2.** Methods that can contribute to reducing manipulation and the use of creative accounting in general (the selection of more than one reason was feasible)



Only 28% of the respondents considered creative accounting illegal and on the contrary 20% considered it as perfectly legal. In addition, 13% of the sample considered it closer to being illegal, in contrast to 25% of the sample that considered it closer to being legal, while 14% were neutral. These findings are very significant in relation to the findings of the previous question regarding the need of internal control implementation and training of accountants to mitigate creative accounting. These findings are in line with those of Bhasin (2016).

## 5. DISCUSSION

As a result of the rapid growth and expansion of the information and communication technology (ICT) industry, changes in the global economy brought on by globalization, requirements for sustainable development, the evolution of information as a crucial financial resource, and the introduction of corporate governance principles, it is essential to directly communicate corporate information to stakeholders in a transparent and reliable manner and in a format that they can understand.

The evolution of information technology in financial and accounting processes has brought new ethical issues, new forms of fraud, and mechanisms to prevent the disclosure of confidential, sensitive, and personal information. Most business organizations have implemented accounting information systems (AIS) to improve efficiency and optimize the use of their corporate resources. Fraudulent behaviour by those with access to the AIS database can result in changes to payroll, billing, or compensation data for personal gain. Fraudulent behaviour by accounting employees may also include intentional manipulation of the content or structure of financial reports. In the absence of appropriate controls, accountants may also exploit AIS systems to gain access to private or sensitive information about fellow employees and other organizational stakeholders, including suppliers, customers, or other business partners. This may include acts of obtaining, storing, private or

sensitive information for personal gain. According to Boritz and No (2011), the following ETHO (environmental, technological, human, organizational) factors influence the judgment, decision making and actions of those with access to the AIS database.

*Environmental.* These factors include standards, rules and expectations set by governments, professional organizations, industry groups, self-regulatory bodies, and communities. For example, regulatory factors refer to governments enacting laws that affect the design, use and governance of AIS, overseeing the implementation of those laws, enforcing those laws, and informing the public about those laws (Boritz & No, 2011).

*Technological.* These factors refer to the systems, hardware, software and communication tools and their capabilities (Neely & Cook 2011).

*Human.* These factors include people's attitudes, perceptions, culture, social integration, and other characteristics that influence their behaviour (Pavlou, 2011). Human factors influence ethical decisions about privacy, equality, personal responsibility, and identity issues encountered when interacting with AIS (Sipior et al., 2004).

*Organizational.* These factors include organizational strategy, structure and the internal and external business environment, as well as the way organizations interact with their environment (Mauldin & Ruchala, 1999).

The use of information systems that allow for real-time reporting enables businesses to make improvements, respond more easily to changes and further deepen their understanding of issues affecting their operations and can serve as a proactive measure to reduce creative accounting by automating certain reports and providing appropriate information, thereby reducing the risk of human error and interference.

Accounting standards are being changed to reduce accounting manipulation, necessitating the use of innovative accounting techniques. Well-intended changes in accounting standards, on the other hand, frequently create new opportunities for accounting fraud. Accounting standards are implemented while "loopholes" are exploited to

improve key indicators (Karim et al., 2016). Professional standards have been established in modern accounting to prevent practitioners from engaging in unethical behaviour. Accounting procedures assist management in decision-making processes that affect a wide range of other individuals and the organization, so such standards are important in accounting. Accountants (and auditors) must understand information systems ethically because they have a professional responsibility to safeguard assets and financial information. Ethical standards are either institutionalized or exist as unspoken or expected standards of accountant behaviour. The International Federation of Accountants (IFAC) is a global organization that acts as an umbrella organization for many national accounting organizations. IFAC seeks to synchronize the quality of accountants' work with the elements and ethical standards to be followed in the modern economic environment. IFAC emphasizes to member and potential member organizations that they do not need to develop standards that follow the IFAC codes exactly but suggests that they should not apply less stringent standards than those stated in this code (Clements et al., 2009).

Ethics policies and guidelines should be implemented by firms as a vital component of their corporate governance framework to reinforce the decision to apply them to existing employees and to provide guidance to newly hired employees and accountants. They should serve as guides for their conduct and professional action. The existence of ethics policy training programs for new hires demonstrates that a firm takes ethics seriously. In the company's employee training process, there should be a separate module or program that emphasizes ethics policies and how they should be applied in the day-to-day running of the business.

Bhasin (2016) stresses the importance of auditing to mitigate creative accounting. It can also be said that there is also the possibility of mixed auditing. Internal audit is carried out by the firm itself, i.e., by executives of the firm to check/measure the implementation of its processes that affect its efficiency and effectiveness and aims to assess the adequacy of the operation of the internal control system and to propose improvements where weaknesses are identified. External audits are carried out by external auditors who are not employed by the company, nor have any other relationship or cooperation, and are carried out at the request of the shareholders of the audited company on a periodic or ad hoc basis. The combination of the above two types of audits further limits the possibilities for creative accounting.

Adapting to the changing conditions over time is not a new challenge for the industry. Many previous studies reviewed the historical trends describing the emergence of the "knowledge professional", which inevitably affected the accounting profession and discussed the restructuring that has taken place in the accounting profession over the last 100 years. They debated that what distinguishes current trends is that changes are not only significant in the structural sense but are occurring more frequently and more often than before and at

an increasing rate. The literature has converged on the conclusion that professional accountants and economists to be able to cope with today's multi-dimensional and complex demands need to have upgraded skills and knowledge (Canadian Institute of Chartered Accountants [CICA], 2010).

## 6. CONCLUSION

As creative accounting is increasingly being used in a negative way, resulting in many accounting scandals with huge consequences, it is necessary to establish effective methods to limit or minimize the manipulation of financial information.

This study confirmed Goel (2017) that the use of creative accounting increases in times of crisis and turbulence by studying the perceptions of accountants and auditors in Greece in 2020, i.e., ten years from the beginning of the financial crisis until 2020 when the pandemic of COVID-19 had already occurred. The majority of this study's findings are in line with those of Bhasin (2016) and Karim et al. (2016). It is interesting that almost half of the respondents considered creative accounting to be legitimate, as Bhasin's (2016) study. This finding is directly related to the common view that strengthening the institutional/corporate governance framework is a key method of limiting the use of creative accounting. In the present study, as in Mindak et al. (2016) study, earnings manipulation is considered the most popular method of creative accounting, while other studies report other methods.

Proper corporate governance structure is considered a key factor determining a company's financial performance (Te Riele et al., 2022; Kester et al., 2013). Gupta and Kumar (2020) report alternative methods for preventing creative accounting and strengthening corporate governance: 1) proper maintenance of accounts; 2) following standards and ethics; 3) recognizing the role of internal and external audits; 4) reporting of unfair practice (red flags and whistleblowing) and proper rewards for whistleblowers; 5) consistency in accounting policies; 6) change in audit rules; 7) hiring independent directors and members of the audit committee of the board of directors and proper implementation of forensic accounting. To maximize efficiency, the best combination of corporate governance measures and regulation policies to be applied depends on the unique characteristics of each country and time. The periodical review and introduction of proper governance and regulation reforms based on the results of relevant studies is necessary, as these characteristics change over time.

It should be noted that the main limitation of this study, the bounded sample size imposed by the pandemic outbreak at the time of the research, provides opportunities for future research and practical application. Repeating the study with a larger sample size could confirm the validity of the results and lead to the implementation of appropriate action measures and reforms.

Furthermore, repeating the study in a future period (when other priorities would pertain) in the same country would highlight the changes made and new needs/priorities.



The simultaneous conduct of similar comparative studies in European countries could reveal findings that will lead to the reshaping of an appropriate institutional regulation framework and governance policies at the European level (and in the current period of uncertainty due to the energy crisis).

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