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Auditor’s Contribution to Non Quantitative Information

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Auditor's Contribution to Non-Quantitative Information

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Abstract

The purpose of this research is to determine, whether an auditor, by conducting the statutory audit of the companies' financial statements, improves the non-quantitative information, which should be reported by companies. The companies' financial statements, i.e. Balance Sheet, Profit and Loss Statement, Notes, are focused on quantitative (financial) information, while Management Report is focused non-quantitative information. In the context of this study we have examined to what extent a sample of 84 companies of the agricultural supplies sector, in Greece, complies with the requirements of Greek legislation, as determined mainly by laws 4548/2028, 4309/2024, 4336/2015 and circular 62784/2017, regarding non-quantitative information reporting, about the entity's performance, business risks management, environmental and labor issues and if, ultimately, the auditor has succeeded in improving the non-quantitative information. We have evaluated the compliance of each company for the period 2019-2022, comparing the information reported by Management Reports with the information required by Greek legislation. Regardless the auditor involvement, the presentation of non-quantitative information has been improved. The overall average reporting rating of all companies, subject, or not subject to audit, shows a continuous improvement. The auditor involvement has improved significantly the non-quantitative information. The average reporting ratings of audited companies are higher than the corresponding ratings of non-audited companies and this trend is observed in all four reporting pillars.

JEL Classifications: Q56, M10, M14, M41, M42, M48.
Keywords: Audit, Compliance, Management Report, Non-Quantitative Information.

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1 Introduction

The key indicators arising from the company's non-quantitative information play an important role in aligning the incentives of the company’s management with the creation of long-term value for the shareholders and ultimately, the society (Del Giudice and Rigamonti 2020).

Despite the growing interest in non-quantitative information, of which the main part concerns ESG issues, the relevant studies show that non-quantitative information reporting, which is the main accountability mechanism of the company’s management to all stakeholders, is poor, not only in developing countries (Tauringana 2021), but also in developed countries (Soras 2023). Non-quantitative information reporting presents inconsistency (Bradford et al. 2017), because it is typically voluntary and not ruled by mandatory reporting guidelines and standards (Pinnuck et al. 2021). The lack of mandatory reporting guidelines and standards, the existence of many and various data, the complexity of KPIs create the need for a higher level of assurance and accountability and ultimately lead to a holistic oversight of non-quantitative information (Kotsantonis and Serafeim 2019).

Greek legal framework, which governs quantitative and non-quantitative information reporting, has incorporated both EU directives and Greek commercial laws (Soras and Christopoulos 2023). Contrary to European directives, Greek legislation, which consists mainly of laws 4308/2014, 4336/2015, 4548/2018 and circular 62784/2017, has already imposed since January 1, 2019 that the Management Report should contain non-quantitative information. The Management Report is prepared annually by the Directors’ Board for the Shareholders’ General Meeting and must include a comprehensive analysis of the company's development and performance, non - financial key performance indicators, relating to the size and complexity of the company’s activities, with particular emphasis on performance, management risk, environmental as well as labor issues (Soras and Christopoulos 2023).

The objective of this paper is to determine, whether the auditor’s involvement influences the quality of non - quantitative information. We have examined step by step, the extent to which the companies of the sample comply with the requirements of Greek legislation for non - quantitative information and whether the auditor’s involvement improves companies' reporting rating and thus the quality of non - quantitative information. We have examined the financial statements of 84 companies, operating in Greek agricultural supplies sector, for the period from 2019 to 2022, which are published in Greek General Chamber Register (G.E.MI), and have also reviewed the relevant audit opinions on non-quantitative information.

This study contributes to the literature regarding the implications of statutory audit on non – quantitative information reporting. To our knowledge this is the first study that examines the impact of the auditor on non – quantitative information reporting, as required by Greek legislation. Binary logistic regression (BLR) analysis showed that the companies, which are subject to audit, have achieved higher average reporting ratings than the non-audited companies in all four reporting pillars.

The remainder of this article consists of the section 2, which presents the conceptual approaches of the literature review and development of hypotheses, section 3,which presents the sample and the methodology, the results and discussion of this study are described in Section 4 and Section 5 presents the conclusions of this research.

2 Literature review and Development of Hypotheses

We have employed the agency theory, the stakeholders' theory and the legitimacy theory to justify the importance of reporting and highlight the auditor's contribution in information quality, either quantitative, or non-quantitative information.

The agency theory (Jensen and Meckling 1976) assumes that the existence of different stakeholders' groups, in combination with the information asymmetry problem, results in conflicts among stakeholders. The shareholders, who are the resource owners, appoint Directors' Board to control and monitor the actions of their company's managers, who have much more information than any other stakeholder. The board of directors tries to minimize the information asymmetry problem, by establishing monitoring procedures within the company. The first monitoring procedure is to establish effective reporting practices, because reporting is the main accountability mechanism of the company's management to all stakeholders (Soras and Christopoulos 2023). The second monitoring procedure is the appointment of an auditor, who, by conducting the statutory audit of the financial statements at year ending, will review the company's reports and finally will contribute to the overall improvement of company's reporting quality, including non-quantitative information, which are not treated the same as quantitative information by the company's management, the stakeholders and the auditors.

Greek legal framework requires the company's management to be honest, when is presenting non-quantitative information to stakeholders, who are going to invest on the basis of such non-quantitative information, especially during the crisis period (Katsampoxakis et al. 2024). The company's management should treat stakeholders ethically and equitably, in accordance with the principles of societies. This is consistent with the stakeholder theory that argues that corporate management should pay equal attention to all stakeholders, rather than serving the interests of shareholders (Hasnas 1998). Non-quantitative information disclosure is the way to achieve this social goal, because companies' compliance with legal requirements, or ethical standards will achieve to limit harm to society or to stakeholders (Branco and Rodrigues 2006).

The basic assumption of legitimacy theory (Suchman 1995) is that the company's activities must be well-accepted by stakeholders, namely shareholders, suppliers, clients, borrowers, employees, neighbors etc. The only way to ensure that the company's activities are acceptable is to provide sufficient, relevant and meaningful, quantitative or non-quantitative information to all stakeholders, who will then more readily accept the proposed changes the company should make to its processes, technology, accounting, information and internal control systems (Alexopoulou et al. 2024). If the activities do not meet the society's expectations, there is a legitimacy gap (Guthrie et al. 2007), which must be filled not only by the legislators, who draft the relevant laws and regulations, but also by the regulatory authorities, such as the auditors, who will audit whether the companies are complying with the relevant legal framework.

In Greece, Soras and Christopoulos found that there was a clear positive relationship between the ISO certificates possession and the auditor's involvement with the companies' compliance regarding non-quantitative information, as required by Greek legislation. The above qualitative characteristics indicate effective governance (Soras and Christopoulos 2023). In Turkey, Aslan and Sendogdu found that reporting, which is the main accountability mechanism of companies, demonstrates a social responsibility that positively affects corporate ethical values and behaviors (Aslan and Sendogdu 2012).In addition, Hichri approved the existence of a positive relationship between audit quality and integrated reporting (Hichri 2023).

Following the above, we believe that the auditor's involvement influences the quality of non - quantitative information. Thus, we set the hypothesis as follows:

H_1. Companies, subject to statutory audit, achieve higher reporting score regarding non-quantitative information.

3 Sample and Methodology

Greek companies should publish their financial statements, namely balance sheet, profit and loss statement, notes and management report, within 20 days after their approval from the Annual General Meeting of Shareholders, in the Register of Greek General Chamber (G.E.MI. https://www.businessportal.gr). The balance sheet and profit - loss statement include mainly quantitative information; the notes include both quantitative information and non - quantitative information and the management report includes mainly non - quantitative information.

The basis of this research is the management report, which is prepared annually by Directors' Board for the General Meeting of Shareholders, in accordance with the article 150 of law 4548/2018 and presents the company's performance, including financial and non-financial key performance indicators, the risk management, as well as environmental and labor issues. It should be noted that the Greek Commercial Law 4548/2018 stipulated that from January 1, 2019, companies must submit non-quantitative information. Finally, according to law 4336/2015 the auditors will have to review the management report and issue an audit opinion, whether the non-quantitative information is provided, as required by Greek legislation.

The sample concerns the published financial statements of 84 companies from year 2019, when started the mandatory reporting of non - quantitative information, as required by the article 150 of law 4548/2018, to year 2022, when we have the last published financial statements, namely there is a population of 336 financial statements for this research. We retrieved the data from the Register of Greek General Chamber in January 2024, to examine to what extent the management reports of these companies, which are operating in agricultural supplies sector and covering 80% of the total market share, are following the requirements of circular 62784/2017 regarding non - quantitative information reporting.

We have examined to what extent the management report complies with the minimum requirements of Greek legislation for non - quantitative information reporting, concerning the four pillars (performance, risk, environment, labor). The company, by using the management report, should present information about its performance, namely the description of the business model (score 6,250%), its objectives, values and key strategies (score 6,250%), the management principles and the internal audit system (score 6,250%), the ratios analysis including comparison with previous year (score 2,083%), its contribution to the total value chain (score 2,083%) and the description of its tangible and intangible assets (score 2,083%). The maximum reporting rating, which can be achieved for performance information, is 25,000%. In addition, the company must present information about its business risks management (score 8,333%), the supply chain and other relevant risks (score 8,333%) and its prospects (score 8,333%). The maximum reporting rating, which can be achieved for risk management information, is 25,000%. Finally, the company should inform about the following environmental issues, i.e. its actual and potential impact on the environment (score8,333%), the disclosure on its procedures to prevent and control environmental impacts (score8,333%), the development of green products (score8,333%), and about the following labor issues, i.e. the diversity and equal opportunities policy (score 8,333%), the respect of workers' rights and labor associations (score 8,333%), the health and safety at work (score 2,778%), the employees’ training (score 2,778%) and promotion (score 2,778%). The maximum reporting rating, which can be achieved for environmental and labor information, is 25,000%, respectively.

Having completed the scoring of all companies of the sample for the years from 2019 to 2022, depending on non - quantitative information provided by their management reports, as required by Greek legislation, we have found the average reporting rating of each company per year. Each company was given a score rating, according to its compliance with regulations regarding non - quantitative information reporting, e.g. if the management report presents all non - quantitative information, the company will receive a 100% reporting rating. The given ratings do not have the same weighting for all topics and depend on their classification in categories from the circular 62784/2017.

We have selected to review this sector, because it uses a lot of chemical materials for the production of the fertilizers and the plant protection products, has a strong environmental footprint, is the cornerstone of the food chain and employs a large number of workers and employees, who are classified as heavy and unhealthy professionals, due to their exposure to the chemicals.

We have used the stratified analysis (Saunders et al. 2016), i.e. we have selected some criteria to define various categories and then we have classified the whole sample into these categories (groups). The stratification method is used to evaluate and control some common factors, i.e. the performance, risk, environmental and labor average reporting rating, as well as the overall (total) average reporting rating and divides the sample into subgroups or strata, i.e. the group of non-audited companies and the group of audited companies. Each stratum becomes homogeneous with respect to the selected criterion (audit), so we can assess the correlation of the data with the selected criterion.

We have used univariate analyses for 336 observations, namely the financial statements of a sample of 84 companies for four years (2019 – 2022) published in GE.MI, using binary logistic regression models (BLR). A dummy variable assigned 1 for companies, subject to audit, and 0 for non-audited companies.

We have used the following logistic regression to test our hypothesis:

$NQI_{it} = b_1 + b_2(AUDIT_{it})$

Where:

NQI_{it} = Average Reporting Rating for Non-Quantitative Information.

b_1= Average Reporting Rating for Non-Quantitative Information of Non – Audited Companies.

$b_2(AUDIT_{it})$= Average Reporting Rating for Non-Quantitative Information of Audited Companies.

Having performing series of stratified analyses and then binary logistic regression on the averages, resulting from stratified analyses, we combine the results to reach the conclusion, that the auditors achieve to improve the non- quantitative information quality.

4 Results

Finding the reporting rating per each pillar, namely performance, risk management, environment as well as labor pillar, of the sample's companies for the years 2019 - 2022, depending on the non – quantitative information, provided by the companies using their management reports, as required by Greek legislation, we have prepared the table 1, which presents the average reporting rating of the whole sample, including all companies, subject and not subject to audit, per each pillar for years 2019 – 2022, as well as the overall (total) average reporting rating.

Table 1: Average Reporting Rating of Sample per Year

Year	Average Perfomance Reporting Rating	Average Risk Reporting Rating	Average Environmental Reporting Rating	Average Labour Reporting Rating	Overall Average Reporting Rating
2019	13,184%	16,822%	13,194%	13,073%	56,273%
2020	17,022%	17,262%	13,591%	13,305%	61,180%
2021	17,411%	18,055%	14,484%	14,551%	64,501%
2022	17,758%	18,353%	15,079%	15,112%	66,302%

Sample: 84 companies (subject or not subject to audit) for the period from 2019 to 2022

We observe that, regardless the auditor's involvement, there is a continuous improvement in all average reporting ratings of the sample for the period from 2019 to 2022, i.e. the overall average reporting rating is 56,273% for year 2019, 61,180% for year 2020, 64,501% for year 2021 and 66,302% for year 2022. This can be easily seen in table 2, which shows the fluctuations in the average reporting rating in comparison with the previous year figures. As it can be observed all fluctuations are positive, this indicates the increase in the overall average reporting rating per year.

Table 2: Annual Fluctuation of Sample's Average Reporting Rating

Period	Average Perfomance Reporting Rating	Average Risk Reporting Rating	Average Environment Reporting Rating	Average Labour Reporting Rating	Overall Average Reporting Rating
2019 - 20	29,11%	2,62%	3,01%	1,77%	8,72%
2020 - 21	2,29%	4,59%	6,57%	9,36%	5,43%
2021 - 22	1,99%	1,65%	4,11%	3,86%	2,79%

This research is called to answer the question, whether the involvement of an auditor improves the quality of non - quantitative information. We note that there is an increase in the number of the companies (See table 3), which are subject to audit, from year 2019 (45,24% of the sample) to year 2022 (55,95% of the sample).

Table 3: Classification of Companies in Relation to Audit

Year	Companies *Not* Subject to Audit	Companies Audited by Top 6 Audit Firms	Companies Audited by Other Audit Firms	% of Sample Subject to Audit
2019	46	28	10	45,24%
2020	41	31	12	51,19%
2021	39	30	15	53,57%
2022	37	30	17	55,95%
Total	***163***	***119***	***54***	***51,49%***

We have evaluated and rated the non - quantitative information, provided by 336 management reports of the sample. Out of the total of 336 management reports, which have been evaluated and graded, 173 management reports, i.e. 51.49% of the sample, have been audited by an auditor as part of the statutory audit carried out at year ending.

The table 4 presents the overall average reporting rating of the companies, which have been audited, in comparison with the overall average reporting rating of the companies, which have not been audited.

Table 4: *Overall* Average Reporting Rating in Relation to Audit

Year	Rating of Companies Subject to Audit	Rating of Companies *Not* Subject to Audit	Comparison per Year (Audit versus *Not* Audit)
2019	74,586%	41,147%	1,81
2020	76,974%	44,614%	1,73
2021	77,809%	49,145%	1,58
2022	80,614%	48,123%	1,68
Average Increase Rate of Period 2019 - 2022			*1,70*

The overall average reporting rating of the companies, which have been audited, is higher 70% than the overall average reporting rating of the companies, which have not been audited. We have found that the overall average reporting rating is related significantly to the involvement of the auditor at the 5% level (adjusted R^2=0,9672, significance F=0,000007 and P-value<0,005). Where b_1= 0,4576 presents the overall average reporting rating of the non-audited companies, b_2 = 0,3174 presents the increase in the overall average reporting rating of the audited companies, the total of b_1 and b_2 is the overall average reporting rating of the audited companies, i.e. 0,775. Finally, we have the model $NQI_{it} = 0,4576 + 0,3174\ (AUDIT_{it})$.

The same trend of the overall average reporting rating is observed in all four pillars, for example the table 5 presents the average performance reporting rating of the companies, which have been audited, in comparison with the corresponding average reporting rating of the companies, which have not been audited.

Table 5: Average *Performance* Reporting Rating in Relation to Audit

Year	Rating of Companies Subject to Audit	Rating of Companies *Not* Subject to Audit	Comparison per Year (Audit versus *Not* Audit)
2019	17,544%	9,582%	1,83
2020	21,139%	12,704%	1,66
2021	21,204%	13,034%	1,63
2022	21,808%	12,613%	1,73
Average Increase Rate of Period 2019 - 2022			*1,71*

The average performance reporting rating of the companies, which have been audited, is higher 71% than the overall average reporting rating of the companies, which have not been audited for the period 2019 - 2022.

The table 6 presents the average risk reporting rating of the companies, which have been audited, in comparison with the corresponding average reporting rating of the companies, which have not been audited.

Table 6: Average *Risk* Reporting Rating in Relation to Audit

Year	Rating of Companies Subject to Audit	Rating of Companies *Not* Subject to Audit	Comparison per Year (Audit versus *Not* Audit)
2019	21,930%	12,603%	1,74
2020	21,124%	13,211%	1,60
2021	21,481%	14,103%	1,52
2022	21,986%	13,739%	1,60
Average Increase Rate of Period 2019 - 2022			***1,62***

The average risk reporting rating of the audited companies is higher 62% than the overall average reporting rating of the non – audited companies for the period 2019 - 2022.

The table 7 presents the average environmental reporting rating of the companies, which have been audited, in comparison with the corresponding average reporting rating of the companies, which have not been audited.

Table 7: Average *Environmental* Reporting Rating in Relation to Audit

Year	Rating of Companies Subject to Audit	Rating of Companies *Not* Subject to Audit	Comparison per Year (Audit versus Not Audit)
2019	17,763%	9,420%	1,89
2020	17,636%	9,350%	1,89
2021	17,778%	10,684%	1,66
2022	18,616%	10,585%	1,76
Average Increase Rate of Period 2019 - 2022			*1,80*

We note that the average environmental reporting rating of the audited companies is higher 80% than the overall average reporting rating of the non – audited companies for the period 2019 - 2022.

The table 8 presents the average labor reporting rating of the audited companies in comparison with the corresponding average reporting rating of the non - audited companies.

Table 8: Average *Labor* Reporting Rating in Relation to Audit

Year	Rating of Companies Subject to Audit	Rating of Companies *Not* Subject to Audit	Comparison per Year (Audit versus Not Audit)
2019	17,394%	9,541%	1,82
2020	17,076%	9,350%	1,83
2021	17,346%	11,325%	1,53
2022	18,203%	11,186%	1,63
Average Increase Rate of Period 2019 - 2022			*1,70*

We also note that the average labor reporting rating of the audited companies is higher 70% than the overall average reporting rating of the non – audited companies for the period 2019 - 2022.

5 Conclusion

We examine the extent to which a sample of 84 companies, which are active in the agricultural supplies and more specifically in fertilizers for plants, plant protection for crops and propagation materials for crops, complies with the requirements of Greek legislation, as determined mainly by laws 4548/2028, 4309/2024, 4336/2015 and circular 62784/2017 for reporting non - quantitative information within the period 2019 - 2022.

The aim of this research is to determine, first, whether the companies report non – quantitative information in compliance with the requirements of Greek legislation and, second, whether an auditor, by conducting the statutory audit of the financial statements at year ending, contributes to the improvement of the non – quantitative information quality.

Regardless the existence of the statutory audit, we have found that the average reporting ratings (performance, risk, environmental, labor and overall) of all companies (subject, or not subject to audit) covering all pillars (performance, risk, environmental and labor) present a continuous improvement in period from 2019 to 2022, i.e. the overall average reporting rating is 56,273% for year 2019, 61,180% for year 2020, 64,501% for year 2021 and 66,302% for year 2022.

Despite this continued improvement in non-quantitative information reporting from 56.273% (2019) to 66.302% (2022), we note that scores remain low, slightly higher than the baseline of 50%. Considering that Greek legislation does not require complex reporting, or difficult key - performance indicators (Soras and Christopoulos 2023), we conclude that the sector needs improvement in non-quantitative information reporting. The results of this study verify the findings of previous studies for other sectors, for example the paper processing sector, which also has poor results in non-quantitative information reporting (Soras 2023).

Although there is a continuous improvement in the non – quantitative information reporting, it is clear that the involvement of the auditor increases the average reporting ratings and therefore improves the quality of non – quantitative information. We have found that there is a high correlation of the average reporting ratings, i.e. the average performance reporting rating, the average risk reporting rating, the average environmental reporting rating, the average labor reporting rating and finally the overall average reporting rating, with the existence of the statutory audit. We have found that the overall average reporting rating is related significantly to the involvement of the auditor at the 5% level (adjusted R2=0,9672, significance F=0,000007 and P-value<0,005).

We note that the average reporting ratings of the audited companies are higher than the corresponding ratings of non-audited companies, namely the average performance reporting rating is higher by 71%, the average risk reporting rating is higher by 62%, the average environmental reporting rating is higher by 80%, the average labor reporting rating is higher by 70% and finally the overall average reporting rating is higher by 70%, in comparison with the corresponding reporting ratings of the non-audited companies.

The above findings, derived from the positive correlation between the average information reporting rating and the statutory audit, verify the agency theory (Jensen and Meckling 1976), because the shareholders of the companies try to establish effective information practices and monitoring process, such as statutory year-end audit of financial statements, in order to minimize both the problem of information asymmetry and the conflicts among stakeholders.

Reporting is the main accountability mechanism of the company's management to all stakeholders (Soras and Christopoulos 2023), therefore the appointment of an auditor to validate the company's quantitative and non-quantitative information reports is consistent with the stakeholder theory, which requires equal attention to all stakeholders and not only to shareholders (Hasnas 1998).

The statutory audit of the company's financial statements is an element of an effective internal control system and this means effective governance (Soras and Christopoulos 2023).

In terms of legitimacy theory (Suchman 1995) the legislators draft laws and require from the companies to report non-quantitative information on their performance, risk management, environmental and labor issues, believing that they have filled the legitimacy gap in the above four reporting pillars. However, the poor reporting results demonstrate that this is not enough, because regulators, which in this case are the auditors, need to conduct an audit to verify that companies are applying the legal requirements to close the reporting gaps on their performance, risk, environmental and labor management issues (Guthrie et al. 2007).

Like any other study, this study has limitations, because we have focused on the companies of a specified sector, as we have used a companies' sample of the agricultural supplies sector, active in the fertilizers, in the plant protection and in the propagation materials for crops. Therefore, an extension of the research to other sectors is not only desirable, but also necessary. It would be very useful to compare the results of this sector with the results of other sectors.

In addition, we have another limitation, because we have retrieved data for a short-term period of four years (2019 - 2022). We can enrich this study by retrieving management reports and financial statements for year ending December 31, 2023, which should be published in Greek General Chamber Registry (G.E.MI.) up to November 19, 2024.

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