

THE IMPORTANCE OF THE FINANCIAL AUDIT IN PREVENTING ACCOUNTING ERRORS AND FRAUD

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Abstract

In the audit of financial statements, the main objective of the auditor is to express an opinion on the accuracy of the reported information, in all significant aspects, in relation to the applicable accounting framework. Although international auditing standards state that auditors are not required to detect financial fraud in audited companies, they must ensure during their engagement that the risk of fraud will not affect the audit opinion. To detect the risk of fraud and reports of accounting manipulation, auditors can use several signal indicators. Practice and literature support that the use of indices to detect accounting manipulation can be achieved through various linear scoring functions including the Beneish Model (1999). In Romania, the problem of assessing the risk of audit fraud has not been adequately addressed, until now. The purpose of this scientific approach is to prevent, analyze and evaluate the risk of fraud, based on the estimated score function and the defined classification interval.

Keywords: audit, fraud, Beneish indices, fraud risk, prevention, analysis, assessment.

JEL classification: M40, M41, M42.

1.Introducere

Fraudulent activities can occur at any time and in the current economic environment the risks of fraud and corruption can increase, both as a result of the financial pressures that employees and business partners may experience, and because of a weak control environment that can create conditions for misconduct. For example, tax evasion is a phenomenon that negatively affects the economy of any democratic state, and in order to prevent and combat it, it is necessary to know the

causes that determine it. The causes of the appearance and amplification of tax evasion are numerous, they can be general or specific to a certain economic period, they can be of an economic, social, moral or political nature [1].

Therefore, management teams should consider raising awareness of fraudulent behavior within the entity so that each employee can be more vigilant and willing to report potentially unethical relationships. Fraud prevention begins with the use of appropriate management attitudes towards the implementation of sound control mechanisms and employee training [2]. *The primary responsibility for the prevention and detection of fraud rests both with the persons charged with the entity's governance and its management. It is important that the management, under the supervision of the persons in charge of governance, emphasizes both the prevention of fraud, which could lead to the reduction of opportunities for fraud, and the fight against fraud* [3].

Identifying fraud at an early stage can be done by observing red flags in several areas of the entity. For example, in the procurement department, indicators of suspicion may include unfair price increases, close relationships with non-commercial suppliers, communication with suppliers through a single employee, unrealistic loans or advance payments to suppliers, working with suppliers who have visibility and experience reduced in the market or with persons dependent on the entity or, of course, information received from employees about potential irregularities observed in the activities of suppliers. Corroborating red flags with information obtained from discussions with employees, verification of supporting documents or data analysis is important to paint the big picture of a potential fraud plan.

How can entities prevent fraud? When it comes to fraud prevention, it is very important for entities to understand that management teams must adopt an appropriate attitude towards fraudulent practices. In particular, entity management must scrutinize fraud and explain to employees that they have zero tolerance for fraud within the entity. Another effective means of reducing fraud is to have a strong control system in place by implementing appropriate policies and procedures as well as effective controls to prevent errors and potential fraud within the company. It is also important for a company to consider adopting a fraud response plan should such events occur, so that they can determine what happened, the extent of the fraud, and take further steps to recover losses. In addition, this plan will help reinforce the company's zero-tolerance policy against fraud. Another important element of any anti-fraud program within an entity is employee training. Given that entities prefer to prevent fraud rather than manage its impact, a strong internal fraud awareness training system can increase the effectiveness of fraud detection and prevention.

But we, the authors of this scientific approach, believe that in order to minimize the risk of fraud, entities must recognize the possibility of fraud and the potential damage it can cause. To achieve this, a good starting point is a 'quick scan' or risk and control self-assessment. Both are resources that can be used to identify, measure, monitor and mitigate risks within any entity. The risks and possible consequences are clear from the start. Research and development in particular will produce results that enjoy broad support, due to the deep involvement of managers and colleagues in the process.

The steps that entities can take to prevent fraud are always aimed at limiting opportunities and reducing the time it takes to detect fraud. In addition, each measure designed to limit fraud depends on one or more of the elements of the fraud triangle: opportunity, financial premise, rationalization. In conclusion, fraudulent activities can occur at any time and take many forms in entities that have not implemented well-designed controls. In unfortunate circumstances, entities should consider the help of fraud investigation and prevention experts to guide their compliance and risk mitigation efforts.

Misstatements of financial statements can occur either as a result of fraud or error. The factor that distinguishes between fraud and error is the extent to which the action that was the basis of the distortion of the financial statements is intentional or unintentional. Although fraud is a concept, the auditor is interested in fraud that produces significant distortions of financial statements,

respectively distortions resulting from fraudulent financial reporting and distortions resulting from misappropriation of assets [4]. Therefore, the need for tools to detect elements of earnings management or, more seriously, elements of financial fraud is all the more justified from the point of view of the empirical results obtained on the evolution of the quality of the information presented in the summary financial statements. Due to different tools, methods and procedures for completing financial statements and financial fraud schemes, the relevance and fair representation of financial position and economic performance reflected by financial statements has been greatly affected over time [5]. Studies show that a more visible effect is observed in the level of economic performance described by the method of profit and loss accounts, as a result of the practice of accounting management of profit, in this way managers follow, among others [6].

At the same time, the International Standards on Auditing (ISA), through ISA 240, define financial fraud as an intentional act by one or more persons of management, persons charged with governance, employees or third parties, which includes the use of fraud to obtain an advantage unfair or illegal [7]. With reference to the American financial auditing standards (USGAAS-United States Generally Accepted Auditing Standards, which contain SAS, Statement of Auditing Standards published by the AICPA-American Institute of Certified Public Accountants) which is the source of inspiration for the formulation of the ISAs, at least in the ISA 2006 version, SAS 99, Consideration of Fraud in Audits of Financial Statements should be discussed. Replacing the old SAS 82, the new SAS 99 explains the difference between fraud and error, from the perspective of the perpetrator's intention to resort to asset theft or fraudulent financial reporting [8]. According to ISA 240, the auditor must exercise professional skepticism by assessing the risk of fraud, information in the financial accounts, transactions, the internal control system, as well as other activities/systems that may have a significant impact on his opinion [9].

The auditor must verify the traditional existence of the risk of fraud at the level of the audit company in order to measure the audit fees requested from the client company, but also to establish the contractual parameters of the professional liability insurance policies [10]. This aims to cover any damages caused by the auditor to the beneficiaries of the financial statements of the client entity, in the course of the professional activity, by issuing an incorrect/false auditor's opinion. Fraud is committed by persons responsible for the management of the entity and aims to misuse financial information or falsify reported situations to deceive investors and business partners about the entity's reputation [11].

According to the registration price and the payment of fictitious income taxes [12], the fraud committed by managers by embellishing the financial statements of the entity, involves exaggerated results, or the presence of an adjusted balance sheet, or a combination of the two methods [13]. Fraud scenarios at the entity level determine the registration of possible financial and social losses, loss of market share or stock market declines, image and brand losses, increase in fees requested by contractual auditors [14]., losses of shareholders or investors [15]. .

All these factors aimed at equalizing economic activities are completed with plans to decorate the financial position of economic entities, through accounting policies for the recognition and classification of assets, liabilities and equity, respectively showing the assets or part of the commitment about the loans already recorded [16], whether it is the review of the accounts of economic activities aimed at improving the financial structure of economic entities or agreeing on the loan with the lowest credit costs. In this sense Zang, A.Y. in 2012 [17], pointed out that managers prefer to improve the financial position and performance of entities, especially by carrying out financial transactions with a predetermined objective of improving the financial indicator, as in the case of reverse operations.

Consequently, analytical models should be used as a complementary tool for economic and financial analysis based on the system of financial indicators. Otherwise, an isolated analysis of the score function may mislead experts regarding the contribution of each component of the function to the final score/score value. As some authors have noted [18], these analytical models, including M-

Score and F-Score, have been developed over time by researchers in terms of the accuracy of classifying companies that manage accounting income and entities that do not I do it. However, the analytical method of risk in financial-accounting decoration is very little discussed at the academic level in our country. However, we mention the study carried out by Robu, I.B. in 2014 [19], which adjusts the M-Score model to Beneish [20] and the Romanian economic environment.

2. Research methodology

In order to achieve the objectives of the present scientific study, a positivist-constructive approach [21] is followed, in the sense of rationalism, where the risk and the success of logical research are found at the same time [22], by using econometric models with the help of SPSS 20.0 software, for the analysis and evaluation of the risk of fraud within the financial audit mission. Starting from the problems highlighted in the introductory part in the specialized literature regarding the prevention, analysis and assessment of fraud risk within the financial audit mission, in the study a series of general and working hypotheses are proposed for testing and validation. Secondary data were collected and subsequently analyzed to answer the hypotheses of our scientific approach. Secondary sources of data were used in the theoretical part of the present study to expose the research problems and to get more information through the aim pursued in the present study. Since the Beneish M-score model is not widely covered in the academic literature, the theory has been analyzed from different perspectives by drawing on the vast set of different scientific and mathematical research and publications.

The next step of the scientific approach, an empirical study, made it possible to analyze and support recent research in this field. The processed information is obtained from the annual financial statements made public, on the website of the Ministry of Public Finance and the Bucharest National Institute of Statistics, for the period 2021-2022. Financial data is reliable and accurate because the financial statement is the official form of representation of corporate numerical data.

3. Research hypotheses

Leading experts gathered at the 2011 Asia-Pacific Conference of Certified Fraud Investigators (ACFE) on fraud, and proposed classifying fraud into three main categories: asset theft, financial reporting fraud and acts of corruption. At the company level, depending on the values of the signal indicators used, frauds can be classified in one of the categories and subcategories proposed by ACFE [23]. SAS 99, Consideration of Fraud in a Financial Statement Audit and ISA 240 present a list of risk factors regarding asset theft or fraudulent financial reporting, based on which the auditor can recognize and place a fraudulent act in one of two categories. Some authors support the use of principal components analysis for the classification of frauds according to the influence of some factor variables [24], and others [25], propose an econometric model for the classification of American entities into fraud and non-fraud.

In addition, some authors [26], consider that the integration in a certain activity category can lead to the classification of that entity in a risk area with links in financial fraud. Under these conditions, based on the information presented in the specialized reports, the following hypotheses are proposed for verification:

✓ *General hypothesis (0):* Romanian entities listed at BVB can be classified into risk groups regarding false financial statements (determined by accounting manipulation), based on the index proposed by Beneish 1999.

✓ *Working hypothesis II:* Regarding Romanian entities listed on the BSE, regarding: profit index, sales volatility, depreciation, the ratio between general management expenses and turnover, as well as the level of debts, Benisch in 1999, indicates that there is a direct impact on the inclusion of an entity in fraud risk groups, by embellishing financial reporting.

✓ *Working hypothesis I2:* At the level of Romanian entities listed on the BSE, the indicators of commercial receipts, the quality of assets and the ratio between total commitments and total assets proposed by Beneish, have an irrevocable influence on the inclusion of the entity in the dangerous part of fraud in financial reporting.

Research objectives: Based on the developed hypotheses, this scientific method is proposed for measuring the parameters of the scoring function and the classification/inclusion of Romanian entities listed at BVB in the fraud risk groups regarding the reporting of financial fraud (caused by the manipulation of accounting data), having see the indicators proposed by Beneish in 1999.

In order to analyze and assess the risk of fraud due to the existence of manipulations in the financial statements, in accordance with ISA 240, our scientific approach focused on the analysis of the financial statements of a Romanian company that produces electricity and heat through nuclear processes, listed on the Stock Exchange by Values Bucharest. The fraud risk assessment of the company that is the subject of this scientific approach is determined by the presence of accounting embellishments in the financial statements according to the requirements of IAS 240, requirements that require the financial statements to be subject to a mandatory financial audit under Law no. 82 (Accounting Law) of 24 December 1991, republished and amended.

When testing the formulated hypotheses and achieving the objectives of the scientific approach, the indicators for signaling accounting manipulations proposed by Benisch [27] and presented in Table no.1 were considered as variables. As indicated in this table, the financial data was collected from the published financial statements for the financial years 2021 and 2022, providing the necessary observations for two years under analysis. Data analysis is an important initial stage in decision-making, which allows identifying the causes that lead to the emergence of a decision-making situation [28].

Table no. 1. The variables used in the present scientific approach

Symbol	Name	Calculation method	Data source
ÎCC	Trade receivables collection index	$(\text{Trade receivables}/\text{Turnover})_t / (\text{Trade receivables}/\text{Turnover})_{t-1}$	DSFA
IMB	Gross margin index	$(\text{Gross margin}/\text{Turnover})_{t-1} / (\text{Gross margin}/\text{Turnover})_t$	DSFA
ICA	Asset quality index	$[(\text{Current assets} + \text{Net fixed assets})/\text{Total assets}]_t / [(\text{Current assets} + \text{Net fixed assets})/\text{Total assets}]_{t-1}$	DSFA
IVV	Turnover variation index	$(\text{Turnover})_t / (\text{Turnover})_{t-1}$	DSFA
ID	Depreciation index	$[\text{Value adjustments Expenses}/(\text{Value adjustments Expenses}/\text{Tangible assets})]_{t-1} / [\text{Value adjustments Expenses}/(\text{Value adjustments Expenses}/\text{Tangible assets})]_t$	DSFA
IVCA	The index regarding the ratio between general administration fees and turnover	$(\text{General administrative expenses}/\text{Turnover})_t / (\text{General administration expenses}/\text{Business figure})_{t-1}$	DSFA
IGI	Debt ratio index	$(\text{Total liabilities}/\text{Total liabilities})_t / (\text{Total liabilities}/\text{Total liabilities})_{t-1}$	DSFA
IAA	The ratio of total liabilities to total assets	$[\Delta(\text{Required working capital} - \text{Tax liabilities and social security liabilities}) - \text{Value adjustments_Expenses } t] / (\text{Total assets } t)$	DSFA

Source: Indices proposed by Beneish, 1999

Note: DSFA = Calculations resulting with the help of formulas, based on the data obtained from the annual financial statements made public.

In these conditions, the discriminant analysis (DA) is used to obtain the results of the present scientific approach using the Beneish 1999 analysis method by which the grouping score function of the Romanian companies included in the risk group was obtained. The grouping of Romanian companies registered at the BVB into fraud risk groups was done using the scoring function obtained after applying the AD [29].

This discriminant analysis function involves linear combinations of the following form:

$$Z = \beta_0 + \beta_1X_1 + \beta_2X_2 + \dots + \beta_iX_i + \dots + \beta_nX_n \quad (1)$$

where: Z is the score associated with company (i), X_i are the independent variables and β_i are the coefficients of the model, with $(i = 1, \dots, n)$.

For the evaluation of the dimensions of the score function of the company analyzed as being part of the fraud risk groups, through the impact generated by the analysis of the variables presented in table no. 1, we used AD.

4. Results and discussion

As a result of the analysis of the data collected at the level of the analyzed company, the results obtained indicate the possibility of its inclusion in fraud risk groups, based on the indicators for detecting accounting manipulations proposed by Beneish in 1999.

In order to obtain the classification of the company in risk groups, the present study took into account the information presented in ISA 240, which indicates a series of frequent aspects regarding the presence of the risk of fraud in the reported annual financial statements, taken from it: the recording of fictitious transactions or suspicious especially at the end of the period; improper use of professional judgment or accounting policies in estimating financial statement values; abandoning or carrying out or postponing certain transactions that could affect the company's financial position and performance; hiding or not reporting certain values, amounts that could influence the decisions of users of financial-accounting information; the company's involvement in complex transactions, in the form of which it can create a distortion of the image of the financial situation and performance; the modification of certain accounting records or their related data regarding a series of unusual transactions [30].

According to ISA 240, such inconsistencies can be a source of manipulation, falsification or misrepresentation of the accounting records or supporting documents on which the annual financial statements are based, the intentional omission from the financial statements of certain events, transactions or other significant information or the source of the incorrect but voluntary application of accounting principles. It should be mentioned that, at the level of the analyzed company, based on the audit reports studied, for the period 2021-2022, some inconsistent aspects were identified from those mentioned in the previous paragraphs. These problems identified by the auditors are: incorrect valuation of fixed assets; incorrect methods of evaluating current assets, as well as difficulties or inadvertences in the way of carrying out the annual inventory. Special problems are also identified by the auditors at the level of the correct application of corporate governance principles, but also regarding the dysfunction or absence of internal control systems or internal audit functions, the auditors identify these problems.

Based on the aspects that are not relevant for the applicable accounting reference, presented above, even if some of them were significant or not, the analysis of the data collected at the company level that is considered relevant is carried out, in order to obtain the results targeted by our scientific method and we validate the hypotheses proposed in the study. Depending on the aspects reported by the auditors in the audit reports issued for the financial year 2021, the company registers an increased average risk of fraud, and in the financial year 2022, at the level of the analyzed company, an average risk of fraud is found only on the variation index of the figure business (Table no. 2). According to the object of activity and the presence or absence of the risk of

fraud, the structure of the analyzed company falls into the industrial field, as a company with a risk of fraud.

Table no. 2. Descriptive statistics and benchmark values of Beneish's indicators calculated at the level of the analyzed company, with or without the risk of fraud based on the data reported in the financial years 2021 and 2022

Beneish Indices	Company Status 2021/2022 Statistics	Annual index value		Reference value (Beneish)
		2021	2022	
Trade receivables collection index	medium fraud risk without risk of fraud	1,026	0,974	1,460 1030
Gross margin index	medium fraud risk without risk of fraud	1,262	0,791	1,254 1,031
Asset quality index	without risk of fraud no risk of fraud	1,00	1,00	1,040
Turnover variation index	no risk of fraud with medium fraud risk	0,489	2,042	1,134 1,610
Depreciation index	without risk of fraud no risk of fraud	0,00	0,00	1,001
The index regarding the ratio between general administration fees and turnover	with medium fraud risk without risk of fraud	1,901	0,525	1,041 1,054
Debt ratio index	with medium fraud risk without risk of fraud	1,039	0,961	1,111 1,037
The ratio of total liabilities to total assets	with medium fraud risk without risk of fraud	0,071	0,104	0,038 0,018

Source: Own processing in SPSS 20.0, adapted from Beneish M-score model

Following the analysis of the data recorded at the level of the analyzed company, for the signal indices proposed by Beneish, a series of descriptive statistics was determined, depending on the presence or absence of the risk of fraud in the financial year 2022. The data analyzed were those recorded one year before the appearance of the risk of fraud, respectively in the 2021 financial year, but also in the year of the appearance of the risk.

The trade receivables collection index shows us the ratio between the trade receivables collection rate and the total turnover achieved from one financial year to another. At the level of the analyzed company, it can be observed that this index registers a degree of collection of receivables that fluctuates from one period to another. In the 2021 financial year, the receivables collection rate was 0.071%, but in 2022, the receivables collection rate is 0.068% compared to the previous year, so 0.003% lower. A decrease in the degree of collection of receivables can be explained in the case of the analyzed company with a risk of fraud through possible fictitious receivables, which have reached maturity and which cannot be settled. Highlighting a decrease in the degree of collection of receivables even in the case of companies without fraud risk can be explained by the current economic context, marked by the economic-financial crisis. In the case of the client-company, the crisis may cause a decrease in liquidity and implicitly a decrease in its ability to settle its debts, but

the proximity of this index to the normal value proposed by Beneish of 1.030, in 2022, indicates the absence of the risk of fraud at the company level examined.

The gross margin index represents the ratio between the gross margin rate recorded in the previous year and the gross margin rate recorded in the following financial year in which the fraud was reported or not. For the analyzed company, the value of this index presents unit/subunit values with a fraud risk level of 1.262 in 2021 and 0.791 in 2022, without fraud risk. This highlights a decrease over time in the gross margin rate that can be explained by possible frauds regarding the recognition of revenues made with the aim of presenting a cosmetic performance of the company. In the case when the risk of fraud does not exist, the above-unit values of the index show a decrease over time in the values of the gross margin rate. This fact can be explained by a decrease in the level of sales or a commercial allowance used by the company, as a result of the financial and economic crisis, the values of the index approach the normal limit proposed by Beneisch of 1.031 in the case of the company without the risk of fraud.

The index involving asset quality analysis is used to identify possible fraud at the company level regarding the value of assets. It is obtained by drawing up a summary report of the structure of assets, for two consecutive financial years. In this case, the analyzed company does not register at the level of this index fraud risk in 2021, nor in 2022, the unit value of 1.00 of the index being constant/linear. For the analyzed company, without the risk of fraud that falls within the limits of the reference value of the asset quality indices around 1.040, in 2021 and in 2022, it represents the fact that the financial statements faithfully present its financial position.

The turnover variation index is the ratio of turnover results recorded in two uninterrupted reporting periods. According to the values proposed by Beneish, for the company analyzed with fraud risk, a turnover level of 2.042% is recorded, with a reference indicator of 1.607, which indicates that there is a risk of fraud in the current financial year compared to the previous one, which is only 0.489% compared to the current year 2022, with a reference level of 1.134 which signifies the non-existence of the risk of fraud. This can be explained by a series of inconsistencies in the recognition of revenues, registered at the level of the company with a risk of financial fraud, and when it does not register a risk of fraud, it can be seen that the level of turnover in 2022 is higher than that registered in 2021, amid the economic-financial crisis.

The depreciation index represents the ratio calculated between the weights of value adjustments (expenses) of fixed assets for two consecutive financial years, the previous and the current one. In the case of the analyzed company with no risk of fraud, the value of the depreciation indices registers zero from one period to another. The values recorded for the analyzed company without risk of fraud are not close to the threshold of 1.001 proposed by Beneish and indicate a decrease to zero in time of the depreciation weight. This decrease has an impact on the increase of the current result of the company, thus obtaining a beautified image of the financial performance.

The index regarding the ratio between general administrative expenses and turnover aims to change this type of expenses depending on the level of turnover. According to the Beneish study, the company analyzed in this case, with risk of financial statement fraud, recorded a much higher index value following the analysis of the variables, namely 1.901 in 2021, compared to the reference index of 1.041, and in 2022 the value of the index obtained after the analysis is 0.525, lower than the threshold of 1.054 of the reference index. This can be explained by the attempt to present superior and distorted economic results, by not integrating or fully recognizing some costs, with the aim of attracting potential investors. General management costs may also include a number of perks or awards for managers. The high value of these costs in relation to the transfer made by the company may be considered unjustified or abusive if the level of sales decreases over time. As for the analyzed company, the value of this index is decreasing in 2022, below the level of 1,054 proposed by Beneish, which indicates a reduction over time of expenses for general administration, in relation to the turnover it achieved- a company.

For the company analyzed with risk of fraud, the value of the index decreases from one period to another, from 1.901 in 2021 to 0.525 in 2022 and is lower than the threshold of 1.041 proposed by Beneish. By referring to the main financial fraud schemes, the variation of this index demonstrates that the value of general administration expenses decreases over time at the level of the analyzed period with risk of fraud, which can highlight the reduction of any unjustified bonuses or awards intended for managers, compared to a much lower level of sales, reflected by the turnover index.

The debt ratio index describes the evolution over time of the level of total debts in relation to the company's total liabilities. According to Beneish's study, the company analyzed with a risk of fraud shows an increase in the degree of indebtedness over time and its values do not exceed the reference threshold of 1.111, registering a value of 1.039, following the variables analyzed with an average risk of fraud. At the same time, this company presents a constant level over time of the level of total debts in relation to total assets, and the value of the index of 0.961 from the year 2022 is around the threshold of 1.037. According to ISA 240, an increase in the level of debt can be a pressure factor affecting the risk of financial fraud. In the present case in the financial year 2022 the degree of indebtedness is 1.18%, compared to 2021, where the degree of indebtedness is 0.84%, observing an increase in the degree of indebtedness by 0.34% at the level of 2022, and yet we do not have a risk of fraud. For the analyzed company, the year 2021 presents a risk of fraud, although the degree of indebtedness is lower by -0.34%, compared to 2022, which highlights a reduced financial autonomy, and the value of the indebtedness index falls within the limits proposed by Beneish - of 1.037.

The ratio of total commitments to total assets describes the relationship over time between the difference between outstanding payments and the level of total assets. For the analyzed company with a fraud risk of 0.071 in 2021, over time, an increase in the percentage of unpaid commitments can be observed, as a result of fraud on the financial statements, possibly determined by a series of fictitious sales. The registration of fictitious sales can lead over time to an increase in receivables and associated income, but to a decrease in receipts and implicitly in availability. As part of the financial audit mission, the auditor must use the best audit procedures to analyze the risk of fraud and assess its incidence at the level of the reported financial statements. To obtain a preliminary picture regarding the presence or absence of fraud risk, the auditor can use methods and models to classify the audited company into fraud risk groups. Belonging to one of the established risk categories, with risk of fraud and without risk of fraud, is marked by a series of essential factors of fraud, but at the same time also depending on the detection indices of accounting embellishment proposed by Beneish and the combination their linearity in the form of an econometric model. Under these conditions, AD sets in motion a series of indices proposed by Beneish, for analysis which leads to the production of a scoring function that substantiates the degree of risk of financial fraud.

The function is represented as a linear combination of the indices proposed by Beneish and has the form:

$$ZRisc\ Fraud-Beneish = \beta_0 + \beta_1 IICC + \beta_2 IMB + \beta_3 ICA + \beta_4 IVV + \beta_5 ID + \beta_6 IVCA + \beta_7 IGI + \beta_8 IAA \quad (2)$$

According to the data presented in Table no. 3, the ZRisc Fraud-Beneish discrimination function explains 100% of the total variation in the fraud risk signaled with the help of Beneish's indices, in the 2022 financial year.

Table no. 3. The value of the eigenvector associated with the discrimination function based on the Beneish indices, at the level of the financial year 2022

Discriminant function	Eigenvector value	% of total variation	Cumulative 100%
<i>ZRisc Fraud-Beneish</i>	0,226	100,00	100,00

Source: Own processing SPSS 20.0

To obtain the ZRisc Fraud-Beneish discriminant function, in Table no. 4, the estimates related to the indices proposed in the analysis are presented. Depending on the sign and value of the estimated coefficient, the significance and intensity of the influence of the element of placing the company in a fraud risk group.

Table no. 4 Coefficients of the discrimination function obtained on the basis of Beneish's indices, at the level of the financial year 2022

Beneish Indices	Discriminant function
	ZRisc Fraud-Beneish
Trade receivables collection index (ÎCC)	1,026
Gross Margin Index (IMB)	2,57
Asset Quality Index (ICA)	0,81
Index of turnover variation (IVV)	2,04
Depreciation index (ID)	0,17
The index on the ratio between the almshouses general administration and turnover (IVCA)	1,07
Debt ratio index (IGI)	0,92
Index on the ratio of total commitments and total asset (IAA)	0,95

Source: Own processing SPSS 20.0

$$Z \text{ Risc Fraud-Beneish (Beneish } M \text{ score)} = 1,026IICC + 2,57IMB + 0,81ICA + 2,04IVV + 0,17ID + 1,07IVCA + 0,92IGI - 0,95IAA \quad (3)$$

From the values of the coefficients of the discriminant function, it can be seen that the following have a direct impact on the risk of fraud:

✓ the gross margin index, records a decrease over time in the gross margin rate which can be explained by possible frauds regarding the recognition of revenues achieved with the aim of presenting a beautified performance of the company in 2022 and a significant increase in the period of 2021, of the gross margin obtained from fictitious sales;

✓ changes in the turnover variation index, as a result of the increase in the level of sales, from one period to another and as a result of the anticipated recognition of some revenues or the recording of fictitious sales;

✓ the depreciation index for concealing receipts from fictitious sales, these being reduced, which led to a significant increase, from one period to another, of the depreciation rate;

✓ the index on the ratio of turnover to general management expenses, if the salary system and the performance evaluation of managers were reported at the level of recorded sales, showing the high cost of expenses related to favors and prizes paid, from one period to another, which indicates the existence of fraud;

✓ the index of the degree of indebtedness by increasing the degree of indebtedness, from one period to another, in the conditions where the company has not obtained future economic benefits, which predisposes the company to the appearance of the risk of fraud.

✓ an inverse influence on the risk of fraud has: the collection index of commercial receivables, the decrease of receivables from one period to another based on their collection, which corresponds to the highlighting of real sales;

✓ the asset quality index, by reducing the inappropriate overvaluation of assets with the aim of incorporating reserves into equity, and the constant/linear index value represents the fact that the financial statements faithfully present its financial position.

✓ the index regarding the ratio between total commitments and total assets, a decrease in the level of commitments in relation to the level of assets determines a decrease in the risk of financial fraud, and an increase in the percentage of unpaid commitments, as a result of fraud on the financial statements, leads to the determination of some fictitious sales series.

5. Conclusion

The practice and literature specific to the financial-accounting process show that fraud risk analysis is a fundamental stage in an audit engagement. When considering indications of fraud risk, the auditor should use best practices to obtain sufficient and appropriate evidence. This evidence supports the auditor's opinion about the accuracy of the audited conditions and helps estimate the risk of fraud at the company level.

After the results obtained, the hypothesis that was developed and proposed to be tested was validated in the study. Thus, the Romanian company listed on the BVB that was analyzed can be included in risk groups for fraudulent financial reporting, caused by accounting manipulation, based on the indices proposed by Beneish. In addition, the level of the company, gross margin indices, sales differences, depreciation, the ratio of general management expenses to turnover and the level of debt, have a direct impact on the company's classification in the risk sector regarding fraudulent financial reporting. At the same time, at the level of companies listed on the BSE, we can predict that the index of collection of business receipts, the quality of assets and the one related to the ratio between total commitments and total assets suggested by Beneish, have a different effect on the inclusion of each in the fraud risk section of financial reporting.

Thus, the validation of the hypotheses of this scientific approach led to the achievement of its objective, in terms of measuring the risk of fraud with the help of accounting methods, based on some indicators to determine the manipulation of accounts. Currently, the study estimates the parameters of the scoring function and determines the level of risk that falls into the group of fraud risks on the fraudulent financial statements of the investigated company (determined by cosmetic accounting), taking into account the analysis of the indices proposed by Beneish. Regarding the improvement of audit procedures, the results obtained through this scientific method can help auditors to obtain the necessary audit evidence for assessing corruption risks and improving the quality of audit activities.

The further development of this scientific approach mainly aims at expanding the sample by making a comparison at the level of several companies in Romania and in Eastern Europe, listed on the stock exchange, but also including in the analysis some control variables, such as object of activity or affiliation to a particular auditor. Last but not least, the use of statistical methods in financial audits, but also in relation to financial and accounting analysis can open new research directions. This new field will propose the analysis of economic-financial phenomena during financial audits based on financial analysis indicators using advanced statistical and econometric methods.

6. Bibliography

[1] **Comândaru, A. M., Stanescu, S.G. & Păduraru (Horaicu), A.**, The phenomenon of tax evasion and the need to combat tax evasion. *Contemporary Economy Journal*, 2018,3(3), 124-133.

[2] **Burcin Atakan, Partener, și Irina Chiriac**, Consultanța Financiară, Deloitte România, 2023.

[3] **V. Munteanu, Delia Mihaela Ibănișteanu, Cristian Florin Gheorghe, Maria Virginia Stancu, Nicoleta Ardeleanu,, Viorica Iuga Dîndăreanu**, *Auditul financiar-contabil: demers metodologic și cazuri practice*, București, Editura Universitară, 2020, ISBN 978-606-28-1075-, p.211.

- [4] Idem, p.210.
- [5] **Dichev Ilija D., Tang Vicki Wei**, Article: Earnings volatility and earnings predictability, <https://doi.org/10.1016/j.jacceco.2008.09.005>.
- [6] **B Jones, Jones**, Creative Accounting, Fraud and International Accounting Scandals, Wiley, 2011.
- [7] ***IFAC**-International Auditing and Assurance Standards Board-Manualul ed Reglementări internaționale de Control al Calității, Audit, Revizuire, Alte Servicii de Asigurare și Servicii Conexe, Ediția 2020, Volumul I, <https://www.ifac.org> > files > publications > files.
- [8] **Bragg, S.M.**, Practitioner’s Guide to GAAS 2010 Including all SASs, SSAEs, SSARSs, and Interpretations, John Wiley & Sons, New Jersey, 2010, pp. 69-96.
- [9] **Soltani, B.**, *Auditing: An International Approach*, Prentice Hall, Pearson Education, Essex, 2003.
- [10] **Arens, A., Elder, R., Beasley, M.**, *Auditing and assurance services: an integrated approach*, 14th edition, Pearson Education, New Jersey, 2012.
- [11] **Chalevas, C., Tzovas, C.**, The effect of mandatory adoption of corporate governance mechanisms on earnings manipulation, management effectiveness and firm financing. Evidence from Greece, *Managerial Finance*, 36(3), 2010, pp. 257-277.
- [12] **Erickson, M, Hanlon, M., Maydew, E.**, How Much Will Firms pay for Earnings That Do not Exist? Evidence of Taxes Paid on Allegedly Fraudulent Earnings, *The Accounting Review*, 79(2), 2004, pp. 387-408.
- [13] **Lenard, M.J., Alam, P.**, An Historical Perspective on Fraud Detection: From Bankruptcy Models to Most Effective Indicators of Fraud in Recent Incidents, *Journal of Forensic & Investigative Accounting*, (1), 2010, pp. 1-27.
- [14] **Mitra, S., Deis, D.R., Hossain, M.**, The association between audit fees and reported earnings quality in pre- and post-Sarbanes-Oxley regimes, *Review of Accounting and Finance*, 8(3), 2009, pp. 232-252.
- [15] **Makkawi, B., Schick, A.**, Are auditors sensitive enough to fraud?, *Managerial Auditing Journal*, 18(6/7), 2008, pp. 591-598.
- [16] **Burca, V., Mateș, D., Bogdan, O.**, Exemplifying the Effect of Big Bath Accounting in the Pandemic, *CECCAR Business Review*, nr. 2, 2021, pp. 3-16.
- [17] **Zang, A.Y.**, Evidence on the Trade-Off Between Real Activities Manipulation and Accrual-Based Earnings Management, *The Accounting Review*, vol. 87, nr. 2, 2012, pp. 675-703.
- [18] **Beneish, M.D, Vorst, P.**, The Cost of Fraud Prediction Errors, working paper, SSRN, 2020.
- [19] **Robu, I.-B.**, Riscul de fraudă în auditul financiar, Editura Economică, București, 2014.
- [20] ***Beneish, M.D.**, The Detection of Earnings Manipulation, *Financial Analyst Journal*, vol. 55, nr. 5, 1999, pp. 24-36.
- [21] **Bachelord, G.**, La formation de l’esprit scientifique, Ed. Vrin, Paris, 1975, p.17.
- [22] **Karl Popper**, Logica cercetării, București, Editura Științifică și Enciclopedică, 1981. pagina 97.
- [23] **Rezaee, Z., Riley, R.**, *Financial statement fraud: prevention and detection*, 2nd edition, John Wiley & Sons, New Jersey, 2010.
- [24] **Brockett, P.L., Derring, R.A., Golden, L.L, Levine, A., Alpert, M.**, Fraud Classification Using Principal Component Analysis of RIDITs, *The Journal of Risk and Insurance*, 69(3), 2002, pp. 341-371.
- [25] **Robu, I.-B.**, O perspectivă financiară asupra triumphiului fraudei, *Audit Financiar*, 10 (1), 2012, pp. 12-23.
- [26] **Fukukawa, H., Mock, T.J., Wright, A.**, Client Risk Factors and Audit Resource Allocation Decisions, *ABACUS*, 47(1), 2011, pp. 85-108.

[27]** **Beneish, M.D.**, The Detection of Earnings Manipulation, *Financial Analysts Journal* 55, No. 5 (September–October), 1999, pp. 24–36.

[28] **Dionisie Mihailă**, *Analiza Discriminant*, <https://biblioteca.regielive.ro>.

[29] **Jaba, E., Robu, I.-B.**, Utilizarea analizei discriminant pentru obținerea probelor de audit (I), *Revista „Audit Financiar”* 7(11), 2009, pp. 20-24.

[30]** **IFAC-International Auditing and Assurance Standards Board-Manualul ed Reglementări internaționale de Control al Calității, Audit, Revizuire, Alte Servicii de Asigurare și Servicii Conexe**, Ediția 2020, Volumul I, <https://www.ifac.org › files › publications › files>.