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EMPIRICAL STUDY REGARDING THE DETECTION OF THE RISK OF FRAUD AND TAX EVASION IN THE FIELD OF WOOD INDUSTRY, IN SUCEAVA COUNTY, USING THE BENEISH MODEL

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Abstract
Particular attention should be paid to fraud, tax evasion and the underground economy as it affects us all, having a multinational dimension. The research is a quantitative one whose purpose and role is to conduct an empirical study on the detection of the risk of fraud and tax evasion, triggered by accounting manipulations. The main objective of the research is represented by the possibility of testing and detecting the risk of tax evasion by applying the model developed by Professor Beneish (1999) to determine the fraud regarding the financial statements. The research methodology includes conducting a study that involves taking 6 essential steps. The sample on which the study was conducted records a total number of 274 economic entities (x3 financial years) from Suceava County, whose main activity is "wood cutting and re-trimming" (NACE 1610). The main result of the analysis is represented by the fact that the total number of companies that used at least in one of the analysed years fraudulent means to increase their number of sales or to reduce their profit is 223 (representing 79.88% of the total of the analysed companies). The other 51 (i.e. 57.93% of the total analysed companies) companies registered a lower value of the M-score indicator than the reference value, thus indicating that the companies did not manipulate the results in order to "bypass" the fiscal obligations, respectively there is no suspected fraud.

Key words: *beneish; evasion; fraud; N-E Romania; risk.*

JEL Classification: *M40.*

I. INTRODUCTION

In the Member States and at international and national level, there is now a concern for finding the best legal means to combat these disasters, as they represent a huge danger to the efforts of the Member States in ensuring the efficient functioning of the tax systems.

The reason for choosing the theme derives from the fact that the topic is a current one, because it is encountered in all areas and in all states (whether they are EU members or not) and because it affects the economic growth influencing the state budget by withholding from the payment of taxes and fees.

The N-E region, consisting of the counties: Iasi, Suceava, Bacău, Neamt, Botoşani and Vaslui, on which the study was conducted, was chosen due to the high level of tax evasion, which is justified by the poverty level of the area (Cosmulese & Mihai, 2019).

This work is structured in two parts: The first part ("II") is in fact a short introduction on what tax evasion means in the poorest area of Romania and it aims to familiarise with the risk of fraud and evasion on the main areas of activity. The second part ("III") comprises the actual study, that is to say, by means of the Beneish model, the detection of the risk of fraud and evasion within the companies, whose main object of activity is the exploitation and processing of wood material, from Suceava County.

II. RISK OF FRAUD AND TAX EVASION IN THE N-E AREA OF ROMANIA

The National Agency for Fiscal Administration and the General Regional Directorate of Public Finance Iasi are the main specialised bodies in combating the evasion phenomenon. Their main purpose is to increase the efficiency of the collection of budget revenues and the effectiveness in combating the phenomena of fraud and tax evasion. Poor monitoring, "lack of transparency, the mind-set of the society and the culture created around it and other causes, have led to an increase in tax evasion from year to year" (Olteanu & Pascu, 2017: 28; Socoliuc, Mihalciuc & Cosmulese, 2018).

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On the one hand, "regarding the estimation and detection of the risk of fraud, in the specialised literature this topic was intensely debated, the main methods/means/models proposed being:

• obtaining econometric models by using logistic regression analysis;

• using analyses (trend analysis, neural networks, financial report analysis, reasonableness tests and regression analysis);

• instruments of judicial accounting or bank credit;

• using discriminatory analysis in detecting manipulations of accounting results, etc" (Dan, 2017).

On the other hand, in terms of detecting the risk of tax evasion, not many studies have been carried out, those identified being mainly focused on detecting tax evasion in the field of indirect taxes – i.e. value added tax (Grosu, 2018). Identifying the areas prone to evasion is an important step in the "fight" against fraud and tax evasion. In this respect, the performance reports of ANAF identify and structure the main areas of activity according to the additional amounts attracted. In the following table and figure (see Table 1 and Figure 1) we will present, according to these reports, the top of the areas susceptible to evasion:

Table 1. The main areas with high risk of tax evasion (millions of RON)

No.	Areas of activity	Financial year		
		2016	**2017**	**2018**
1.	Construction and building materials	77,09	156,76	69,10
2.	Production and marketing of agri-food goods	9,50	63,88	46,99
3.	Exploitation and processing of wood material	6,91	30,48	18,02
4.	Transports	2,26	20,97	14,08
5.	Production and marketing of energy products	1,26	2,70	1,28
6.	Tourism	-	2,15	1,33
7.	Production and use of alcohol and alcoholic beverages	0,60	0,48	0,31
8.	Other areas (underground economy, production and marketing of tobacco products, etc.)	-	2,64	238

Source: Authors' own processing after: Performance reports of ANAF Iaşi for the 2016-2018

Following the analysis of the data in the table it is noted that the largest additional amounts are attracted from the field of construction. The highest amount collected corresponds to 2017 with 156.76 million RON, increasing by 79.67 million RON as compared to 2016 and decreasing by 87.66 million RON as compared to 2018.

In second place in the top of the fields of evasion is the production and marketing of agricultural food goods with increasing values. The lowest value of this area is found in 2016 (9.50 million RON) and the highest, as in the case of constructions, in 2017 with 63.88 million RON. Regarding this area, there is an increase in 2017 with about 204.64% and a decrease in value of 2018 of 44.08%.

In the field of transport, 2017 shows a negative evolution, rising alarmingly by 18.71 million RON compared to 2016. This increase is followed by a decrease of 6.89 million RON.

The additional amounts from the activity of production and marketing of energy products registered the highest level in 2017, 2016 comprising the lowest value. As with the other domains analysed, the values recorded in the three years under analysis are oscillating, noting both increases and decreases.

In the first year we analysed, tourism, the underground economy and the production and marketing of tobacco products are not considered as having a high degree of evasion because they do not register any value and because they are not included in the report of ANAF Iaşi. They begin to be taken into consideration in 2017.

No significant values are recorded in the field of production and use of alcohol and alcoholic beverages. We believe that the evasion in this field, as well as in the production and marketing of tobacco, is closely related to excise duties.

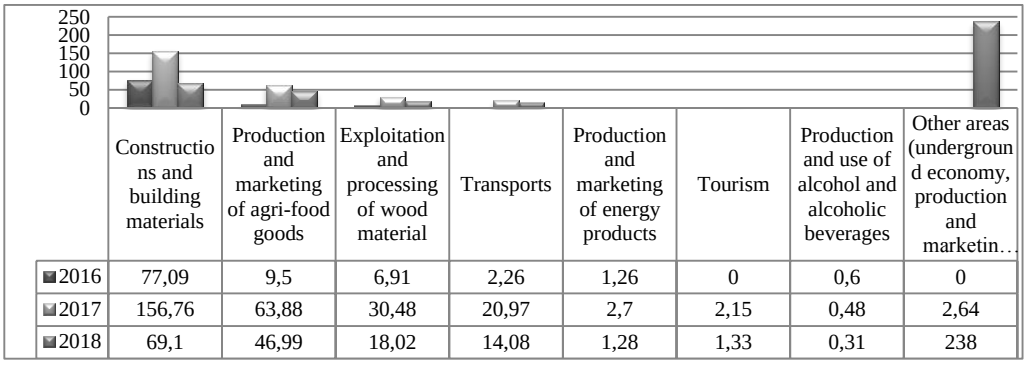

Figure 1 - Evolution of the additional amounts attracted from the main areas with high risk of evasion
Source: Authors' own processing according to the data taken from Table 1

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In support of the above, we have chosen to make this graphic, in order to see the evolution of the amounts related to each field.

It is noted that the year 2017 has brought significant increases for each area. The alarming growth is observed, however, in 2018, within "other areas"; we consider that this growth is mainly due to the evolution of the underground economy, which has reached worrying levels in recent years.

We have specified above that we will try to focus on a certain area that we are going to deepen in our case study. This field is represented by the exploitation and processing of wood material. We have chosen to analyse its evolution over the last 5 years; and this will be presented in Table 2 and Figure 2 as follows:

Table 2. The level and dynamics of the amounts attracted from the wood industry

	Additional amounts attracted (millions of RON)				
	2014	**2015**	**2016**	**2017**	**2018**
Exploitation and processing of wood material	58,7	85,38	6,91	30,48	18,02

Source: Authors' own processing by: Performance Reports of ANAF Iasi for 2014-2018

The data taken from the reports are fluctuating, as it can be seen. Increases and decreases in values are both noted.

2015 represents the year with the highest amount attracted, it increases by 26.68 million RON compared to the previous year and decreases by 78.47 million RON in the following year (6.91 million RON registered in 2016).

In the last two years analysed, the values oscillate again, the year 2017 recorded an increase of 23.57 million RON, reaching the value of 30.48 million RON and a decrease in 2018 with 12.46 million RON.

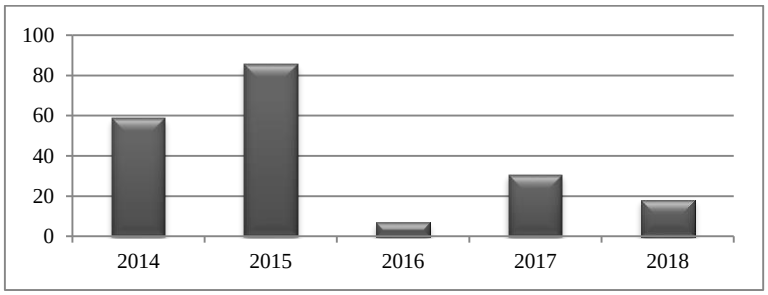

Figure 2 - Evolution of the amounts attracted from the wood industry
Source: Author's own processing according to the data in Table 2

The graph shows that, in our opinion, the means of slowing down the phenomenon, taken by the specialised authorities, have paid off in 2016 when the lowest value of the 5 years subject to the analysis is found. The year 2015 includes the highest value.

The choice of this area is motivated by the fact that, on the one hand, approximately 70% of the surface of the NE region of Romania is forested (according to the Capital magazine), and on the other hand that it is a controversial topic in recent years due to illegal cutting of the wood and the lack of interest of the authorities (www.capital.ro).

According to the data of the National Institute of Statistics, the largest area of forest fund is in Suceava County (438 thousand hectares), followed by Caraş-Severin (421 thousand hectares) and Hunedoara (317 thousand hectares). At the opposite pole the counties Galaţi, Constanţa and Teleorman are situated with less than 50 thousand hectares.

Romania's forest fund is distributed by development regions, according to NIS, as follows: Centre 19.3%, NE 18.2%, West 16.1, NW 15.2%, SV Oltenia 12.4%, South Muntenia 10, 2%, SE 8.2% and Bucharest-Ilfov 0.4% (www.green-report.ro).

II. Empirical Study On The Detection Of The Risk Of Fraud And Tax Evasion In The Field Of Wood Industry, In Suceava County, Using The Beneish Model

As a generic term, fraud also includes tax evasion, but fraud made, for example, to improve the entity's performance by artificially increasing the "turnover" indicator, does not imply, at the level of the studied entity, the manifestation of the tax evasion risk. Thus, the purpose of this manipulation is mainly to deceive and mislead potential investors to attract the necessary financing from them and not to circumvent compliance with tax obligations. However, theoretically, such a manifestation occurring in a certain period of time of this type of behaviour may lead in the next period to the desire to cancel its fiscal effect. Moreover, the fraud risk detected at the level of an entity is closely related to the fiscal evasion risk manifested at the level of its business partners located along the transactional border. Thus, if the fictitious income registered by the studied entities is invoiced to some economically differentiated entities, the fiscal consequences of the recording of the fictitious expenses by these entities and the unjustified fiscal advantages generated

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at the level of the final beneficiary situated at the end of the transactional chain must be taken into account, in this case, the studied entity is an accomplice of the tax evasion crimes.

The study focuses on this particular geographical area due to the resources and availability of the data, also taking into account the fact that there are significant differences of economic development between the analysed region and other geographical parts of the country, this region being less developed and therefore more exposed to fraud. Research studies on the level of economic development and tax evasion have concluded that underdeveloped countries have a larger underground economy, respectively a higher level of tax evasion.

Ways to combat these harmful phenomena are being sought and it is necessary, first of all, to detect and analyse the economic areas with high risk of their occurrence and manifestation. In this context, developing a model that could detect or predict fraudulent behaviour among economic entities could be useful to both state authorities and the private business sector.

In the research we applied the Beneish model and developed a model of tax evasion analysis using Microsoft Excel software, for classifying companies into two categories: with risk of fraud and without risk of fraud, for the specific geographical area studied, which could be optimised and improved in such a way that it could be applied nationally.
A series of variables will be analysed - indices for detecting the accounting manipulations proposed by the Beneish model to classify entities into two categories: manipulators and non-manipulators - calculated based on the indicators in the financial statements, balance sheet, profit and loss account and informative data. Therefore, the Beneish model is used in this case as a data extraction technique, for exploring and analysing large amounts of data, to find out if the results of the companies have been manipulated or not.

The research objective and methodology

As a first step in analysing the financial indicators that could have a major impact as variables in the fraud detection and tax evasion model, this paper will present a case study, whose main objective is to test the possibility of detecting the risk of tax evasion by applying the model developed by Professor Beneish (1999) for detecting fraud on financial statements.

The research methodology involves the following steps (see Figure 3):

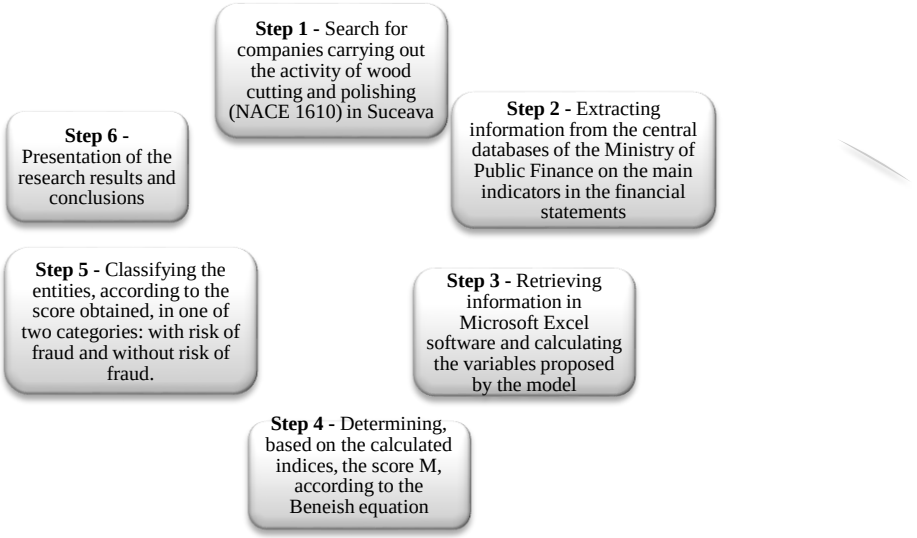

Figure 3 - The steps taken in the research methodology
Source: Authors' own processing

For the purpose of this study, we chose to apply the model developed by Professor Beneish (1999) to detect fraud in financial statements, as this is part of a larger research, which aims to identify financial indicators that could have a significant impact on tax evasion, and as the main purpose the developing of a model for detecting the phenomenon.

The research progresses involve testing the following work hypotheses (see Figure 4):

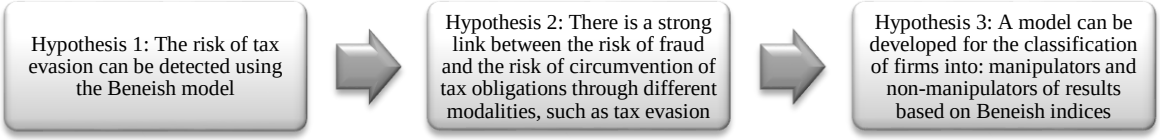

Figure 4 - The working hypotheses of the study
Source: Authors' own processing

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In order to verify the stated hypotheses, a sample of legal persons, economic entities using open sources, from the North-East region of Romania (more precisely from Suceava County) will be selected.

As a data selection methodology, the following algorithm was applied:

Step 1 - accessing the site https://www.topfirme.com - selecting the county (Suceava) - identifying the legal persons taking into account the main object of activity (NACE 1610 - cutting and polishing the wood) - ordering the companies according to the number of turnover.

After this stage, a total of 409 legal entities were selected.

Step 2 - extracting from the central database of the Ministry of Public Finance (the section on fiscal information and financial statements,(http://www.mfinante.gov.ro)) the main indicators from the financial statements of the selected entities and extracting the parameters required to calculate the indices proposed by Beneish for the 5-variable model, namely: the debt index in the turnover; gross margin index; asset quality index; sales growth index; total expenditure index.

The indicators needed to calculate these indices are: net sales respectively turnover; debts; gross profit/loss; current assets, fixed assets, total assets; total debt; total expenses.

These were extracted for four consecutive years, the data being between 2015 and 2018. If the value of the financial indicators in the balance sheet and in the profit and loss account was zero, the conventional value "1" would be used to be able to calculate the required clues.

The data for the sample population were extracted for the respective intervals in order to calculate the M score for two periods (the indicators of the initial financial period must be calculated compared to the previous financial period). All these parameters were initially extracted to serve the calculation of the Beneish model with 8 variables, but it was concluded that the indicators available on the official website of the Ministry of Public Finance do not allow the calculation of all variables.

After this stage, a total of 274 economic entities were taken over in Microsoft Excel, on which the study will be carried out. The analysis will be done only on this number of companies because they were the only ones we had access to. The rest of the companies (135) either did not submit the balance sheet for 2018 or the values on the balance sheet were equal to 0, or we did not have access to their data.

Step 3 – calculating, by using Microsoft Excel, the variables based on the selected parameters that represent the values of the indicators in the financial statements of the selected entities. The formulas used to calculate the variables are presented in Table 3 as follows:

Table 3. Calculation formulas of the indices proposed by Beneish

No.	Index names	Symbol	Calculation formula
1.	Debts in turnover index	ICCA	(Ct/CAt)/(Ct-1/CAt-1)
2.	Gross margin index	IMB	(PBt/CAt)/ (PBt-1/CAt-1)
3.	Asset quality index *	IQA	(TA-TD)/Ks
4.	Sales growth index	ICV	CAt/ CAt-1
5.	Total expenditure index	ICT	ChTt/CAt)/(ChTt-1/CAt-1)

Source: Author's own work after: Beneish, 1999: 24-36

**Notes: Where: C = debts; CA = turnover; PB = gross profit loss; TA = total assets; TD = total debt; Ks = share capital; ChT = total expenses; t = current year; t-1 = the previous year.*
****Notes: the value of this index "1".*

It should be noted that, at this stage, an index was not calculated, i.e. the asset quality index (IQA), due to the unavailability of the data regarding the asset structure reports. Instead of this index, the test values proposed by Beneish were used, in order not to influence the structure of the model, the data used being those of the table of the median value (see *table no. 4*) of the variables Beneish (1999). This table is presented as follows:

Table 4. The median values of the Beneish variables

Characteristic	Manipulators		Nonmanipulators		Wilcoxon Z	Median Test
	Mean	*Median*	*Mean*	*Median*		
DSRI	1,465	1,281	1,031	0,996	0,000	0,000
GMI	1,193	1,036	1,014	1,001	0,006	0,007
AQI	1,254	1,000	1,039	1,000	0,096	0,246
SGI	1,607	1,411	1,134	1,106	0,000	0,000
DEPI	1,077	0,966	1,001	0,974	0,307	0,774

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Characteristic	Manipulators		Nonmanipulators		Wilcoxon Z	Median Test
	Mean	*Median*	*Mean*	*Median*		
SGAI	1,041	0,960	1,054	1,010	0,271	0,389
LVGI	1,111	1,030	1,037	1,000	0,394	0,077
TATA	0,031	0,034	0,018	0,013	0,000	0,002

Source: Author's own work by: Beneish, 1999: 5

$$M = 6,065 + (0,823 * ICCA) + (0,906 *IMB) + (0,593 * IQA) + (0,717 *ICV) + (0,172 * ICT)$$

Step 4 - Using the calculated variables, the M score was calculated according to the Beneish equation, as follows:

The interpretation of this score M will be as follows:

- "if M> -2.22 - it is likely that the results of the company will be manipulated;
- if M <-2,22 - it is unlikely that the results of the company will be manipulated" (Beneish, 1999: 5).

Empirically, economic entities with higher M scores are more inclined to commit fraud. However, the M score is a probabilistic model that does not have 100% accuracy in detecting fraud. The M score can be converted to probabilities using the NORMSDIST function in Microsoft Excel.

It can be seen that some economic entities have very high values for score M. This is due to the fact that the financial statements presented to the tax authorities and available on the official website of the Ministry of Public Finance contain anomalies.

Step 5 - from the evaluated sample, which contains 274 economic entities (274 entities x 3 financial years), in 57.93% of cases, the M-score indicator had a lower value than the reference value, indicating that the companies did not manipulate the results to "bypass" the fiscal obligations, respectively there is no suspicion of fraud. On the other hand, out of a total of 274 entities studied, 79.88% registered an M score higher than the reference value of -2.22, indicating that the results of the entity were manipulated and they committed the financial fraud through fraudulent practices, in one of the monitored periods, showing a changing behaviour.

In Table 5, there is a brief presentation of the possible interpretation of the evolution of the indicators calculated according to the Beneish model:

Table 5. Interpretation of the indicators proposed by the Beneish model

No.	Indicators	Description
1.	Index of the debt in turnover	- a disproportionate increase in debts in relation to sales may contain indications of income manipulation - the artificial increase in turnover to attract investors will lead to a high value of unrecovered debts, the desire to present a favourable opinion on the financial position of the entity through overvaluation of assets, artificial growth of receivables, etc. - a decrease in the degree of debt collection can be explained in the case of companies at risk of fraud through possible fictitious debts, which have matured and which cannot be settled. The highlighting of a decrease in the degree of receivables and in the case of companies without risk of fraud can be explained by the current economic context, marked by the economic-financial crisis.
2.	Gross margin index	- a significant increase in the gross margin rate can be explained by possible frauds regarding the recognition of the revenues realized in order to present a cosmetic performance of the company; - in the case of companies without fraud risk, the super-unit values of the index show a decrease in time of the values of the gross margin rate. This fact can be explained by the diminution of the level of sales or of the commercial addition applied by the companies, as a result of the economic-financial crisis, the values of the indices approaching the normal limit proposed by Beneish, of 1,014 in the case of the companies without fraud risk.
3.	Asset quality index	- the diminution of the quality of the asset in the case of companies with fraud risk can be explained by the use of abusive procedures to reassess current or fixed assets or to recognize some expenses in advance, which leads to the distortion of the faithful image of the financial position; - for companies without fraud risk, the values of asset quality indices within the limit proposed by Beneish indicate that the financial statements faithfully present the financial position.
4.	Sales growth index	- considering the main schemes of financial fraud that can be carried out, this can be explained by a series of inconsistencies in the recognition of the revenues, registered at the level of companies with risk of financial fraud; - an entity that registers an increase in turnover is considered to be more tempted by fraud, because its financial situation and financing needs put pressure on managers to reach the set goals.

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5.	Total expenditure index	- the low values of the index can be transposed by the desire to manipulate/modify the result, by not including or fully recognizing the expenses during the financial period, in order to attract the potential investors; - the high values of the index can be interpreted by the desire to manipulate/modify the result, by recording the fictitious expenses. Also, the high values of these expenses in relation to the turnover realized by the company can be considered unjustified or abusive if the level of sales records a decrease in time.

Source: Authors' own processing after: www.valuesignals.com; Robu & Robu, 2013: 12-13

The total number of companies that used in at least one of the analysed years fraudulent means to increase the number of sales or decrease their profit is 223. The other 51 companies did not evade.

We think that the economic agents are influenced to commit irregularities due to the legislation, first of all, which allows bypassing and reinterpreting it and due to the lack of stricter ways of punishing.

Considering the large number of companies that have committed fraud, I can say that the field of wood cutting and polishing deserves its place in the top of the areas with high risk of fraud.

Step 6 - the last stage of the study is the presentation of the results and conclusions.

According to the analysis of the data collected at the level of the selected sample, the obtained results show that the hypotheses formulated and proposed for testing were validated, namely:

Results of Hypothesis 1: I believe that the risk of tax evasion can be detected using the Beneish model.

Applying the model leads to the classification of approximately 80% of the entities that perform tax evasion, respectively entities that use the manipulation of the accounting information and which report fraudulent financial statements.

Results of Hypothesis 2: According to the study it was concluded that there is a strong connection between the risk of fraud and the risk of circumvention of tax obligations through different ways, such as tax evasion.

According to Dr. Dinga fiscal fraud "represents the so-called illegal (illicit) tax evasion. That being the case, tax fraud is the same with illegal tax evasion. Tax fraud is in close connection to the underground economy, corruption and fiscal immorality" (Dinga, 2008: 30).

It can be argued that a useful tool for detecting financial and accounting fraud, such as the Beneish model, can also be effective for detecting tax fraud - it is the indication of the manifestation of the risk of tax evasion.

We want to make a clear delineation between evasion and fraud. This delimitation consists in defining the terms, namely: "fraud is an action, criminally punished, characterized by deceiving someone, deliberately to obtain an illegal benefit" (www.euroavocatura.ro) and tax evasion which means the partial or total theft of paying the obligations.

Results of Hypothesis 3: A model can be developed for classifying firms into: manipulators and non-manipulators of results based on Beneish indices.

According to the results, the companies subject to the analysis can be classified in risk groups regarding fraudulent financial reporting, determined by accounting manipulations, based on the indices proposed by Beneish (1999).

The validation of the research hypotheses led to the achievement of the objective of the study, in terms of testing the possibility of detecting the risk of tax evasion by applying the model for detecting fraud regarding financial statements.

Therefore, the model developed by Professor Beneish could be used as an early indication in the early phase of a research on developing a model to detect tax evasion.

As future research perspectives, in order to create a sustainable model for detecting tax evasion, variables based on fiscal data (depending on the availability of these data) must be included, and the sample of fiscal entities to be studied should be expanded, to ensure the representativeness and the correctness of the data. Consideration should also be given to the possibility of structuring the data according to the size of the entities, the field of activity and the geographical location, in order to address certain latitudinal and longitudinal features.

A mechanism for detecting fraud and tax evasion could be useful for the state authorities, even for the isolated case from Romania, because, although based on a geographical cluster, it could be optimised and further developed to be applied to national level or to suit the national specificity of each country, thus having a very high applicability.

Such a mechanism cannot ensure that fraud does not happen, but by detecting the most vulnerable economic areas, policymakers could maintain a controlled dimension of the phenomena by making quick decisions on preventing and combating tax evasion and fraud in these areas (Dikmen & Kucukkocaoglu, 2009).

IV. CONCLUSIONS

In this study, we analysed the implications of a model for detecting the manipulations of the revenues, using the Beneish model (1999), which was estimated using data from 2015-2018 on a sample of 274 companies, in the field of wood processing and exploitation in Suceava County.

Beneish is a model based on accounting that has an extraordinarily powerful strength not only to detect fraud, but also to estimate the level of tax evasion.

We have found that companies with a higher probability of manipulation (high M score) earn lower profits and vice versa.

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A key feature of the model is its focus, not only on the results of aggressive accounting, but also on the predisposition of the management to take such actions, first and foremost.

Our hope and expectation are represented by the fact that these results and findings will stimulate the work in the field of fiscal control, indicating the directions for future research on the quality of earnings.

Conducting the research led to the achievement of the proposed objective, namely of testing the possibility of detecting the risk of fraud and evasion regarding the financial statements, by applying the Beneish model.
We want to underline the fact that the research is of a regional type and we have noticed that the specialized magazines give an increased importance to these regional studies by the presence in international specialized journals of such studies.

IV. REFERENCES

1. Beneish, D. M. (Sep. - Oct., 1999). *The Detection of Earnings Manipulation.* Published in Financial Analysts Journal, 55(5), 5-36.
2. Cosmulese, G. C., & Mihai, L. (2019). *The Importance Of Forestry At Macroeconomic And Microeconomic Level*. Ecoforum Journal, 8(1). Retrieved January 18, 2019 from: http://www.ecoforumjournal.ro/index.php/eco/article/view/964
3. Dan, S. (2017). *Evaziunea fiscală* (bachelor degree). Submitted at University Ștefan cel Mare Suceava, Romania.
4. Dikmen, B., Kucukkocaoglu, G. (2009). *The Detection of Earnings Manipulation: The Three-Phase Cutting Plane Algorithm Using Mathematical Programming*. Journal of Forecasting, DOI: 10.1002/for.1138. Retrieved August 28, 2018 from: https://onlinelibrary.wiley.com/doi/abs/10.1002/for.113.
5. Dinga, E. (2008). *Consideraţii teoretice privind evaziunea fiscală vs frauda fiscală*. Published in the magazine Studii financiare 4/2008, Bucharest. Retrieved September 05, 2018 from: https://www.researchgate.net/publication/46548484_CONSIDERATII_TEORETICE_PRIVIND_EVAZIUNEA_FISCALA_VS_FRAUDA_FISCALA.
6. Grosu, V. (2018). *The dimension of tax evasion in Romania*. Ecoforum Journal, 7(2). Retrieved November 14, 2018 from: http://ecoforumjournal.ro/index.php/eco/article/view/820
7. Olteanu, D. S., Pascu, L. M. (2017). *Evaziunea fiscală și corupția – fenomene complexe ale societății românești*. Published in the Colection of working papers ABC-ul lumii financiare, 5. Retrieved September 12, 2018 from: http://www.fin.ase.ro/ABC/fisiere/ABC5_2017/18.pdf.
8. Performance Reports of ANAF Iasi. (2014). Retrieved December 06, 2018 from: https://static.anaf.ro/static/10/Iasi/Raport_DGRFPIasi_2014.pdf.
9. Performance Reports of ANAF Iasi. (2015). Retrieved December 06, 2018 from: https://static.anaf.ro/static/10/Iasi/Raport_DGRFPIasi_2015.pdf.
10. Performance Reports of ANAF Iasi. (2016). Retrieved December 06, 2018 from: https://static.anaf.ro/static/10/Iasi/Raport_DGRFPIasi_2016.pdf.
11. Performance Reports of ANAF Iasi. (2017). Retrieved December 06, 2018 from: https://static.anaf.ro/static/10/Iasi/Raport_DGRFPIasi_2017.pdf.
12. Robu, I. B., Robu, M. A. (2013). *Proceduri de audit pentru estimarea riscului de fraudă bazate pe indici de detectare a manipulărilor contabile.* Published in the magazine Audit Financiar, 106(10), 12-13. Retrieved October 03, 2019 from: https://www.cafr.ro/uploads/AF%2010%202013-8944.pdf.
13. Socoliuc, M., Mihalciuc, C., Cosmulese, C.G. (2018). *Tax Evasion in Romania–between Past and Present.* LUMEN Proceedings, 6(1), 406-412.
14. ***Fraud, Criminal Law. Retrieved October 14, 2018 from: http://www.euroavocatura.ro/dictionar/2064/Frauda.
15. ***How much of the country's surface is occupied by forests? Retrieved October 28, 2018 from: https://www.capital.ro/cat-la-suta-din-suprafata-tarii-este-ocupata-de_paduri156664.html.
16. ***The national forestry fund has increased. Retrieved November 07, 2018 from: https://www.green-report.ro/ins-fondul-forestier-national-s-a-majorat-cu-03-in-2018-volumul-de-masa-lemnoasa-recoltata-a-crescut-cu-63/.
17. ***Beneish M-Score. Retrieved November 15, 2018 from: https://www.valuesignals.com/Glossary/Details/Beneish_M_Score/1/.