ROMANIAN PHARMACEUTICAL SECTOR - BEFORE AND DURING THE COVID-19 PANDEMIC

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Abstract. *Our article presents a sensitive subject such as the „makeover" of financial statement. The pharmaceutical sector has occupied and plays an important role in the management of the current pandemic, as well as its impact on the health of the population. The purpose of this work is to present the evolution of companies listed on the Bucharest Stock Exchange during the analyzed period between 2018-2020, and with the models found in the literature, we tried, as much as possible, to identify the true and fair view of the financial statements found in this sector.*

Keywords: *creative accounting, financial statements, manipulation, pandemic, pharmaceutical sector*

JEL Classification: M15, M40, M41, M42

Introduction

In a society that is constantly developing, knowledge is the key to success. Just as we must know ourselves to know what we are looking for and what path we must follow, so we must also know the "world" behind the figures, because as Ralph Waldo Emerson says, "knowledge is power." It also takes a thorough awareness in the financial world to give voice to the figures in the financial statements, sometimes they present a distorted picture of reality, using numerous methods. We can find ourselves in the situation of searching for reality, knowledge, being lost in surface information, and beyond. Therefore, it is important that these financial statements provide fair and real information to the company.

The true and fair view comes from Anglo-Saxon culture and was first used in the UK Companies Act in 1947, stating that: "each balance sheet of a corporation must publish an accurate image of the company's business at the end of the year, and each income statement of a company must give a faithful image of its outcome for the financial year" (Feleaga & Malciu, 2005, p. 335).

This paper deals with a transdisciplinary topic and incorporates information from the field of accounting and finance, addressing the theme of "the makeover" of financial statements through creative accounting. This topic is complex and sensitive, but at the same time a topical one and of great interest. Over time this topic has been addressed by both accountants and financiers like Shah (1988), Feleaga (2005), Malciu (1999), Naser (1993, Groșanu (2013), Stolowy & Breton (2004), Beneish (1999), Robu & Robu (2013), Safta, Achim, & Borlea (2020) and so on.

2. Literature review

The concept of creative accounting is presented in the literature by most authors as having negative valences on the economic environment, helping to manipulate financial statements. Creative accounting can be perceived as the process by which managers use certain breaches or

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ambiguities within accounting rules to improve investor information, making the company seem increasingly attractive (Shah, 1988, p. 83). In another reference paper, creative accounting is defined as the need for the extensive knowledge of qualified accountants to manipulate the figures contained in the annual reports (Feleaga N., Malciu L.,2002, p. 389).

Economist Naser (1993) characterizes creative accounting as the process of manipulating accounting data, taking advantage of the flexibility and the existence of loopholes, accountants choose the most advantageous measurement and information practices, which transform summary documents "from what they should be into what managers want them to be", it is also the method by which transactions are structured in such a way that the accounting result is the desired one.

From another perspective, creative accounting is presented as the process of flexibility existing within accounting regulations, and if they are practiced in good faith, allows one to guarantee a faithful image of the financial position and performance of the economic entity. However, due to the individual needs of each accounting information user, this flexibility ends up being used for private interests to the detriment of the public. The negative aspect of creative accounting is apparent from the fact that only a part of the users of the information is biased by its use (Groșanu, 2013, page 15).

On the other hand, some authors put creative accounting as moral and useful in the economic environment, as it provides accounting with ways to keep up with the rapid pace of market development and the growing financial products, according to Malo & Giot (1995).

In conclusion, creative accounting is used to improve on financial statements to gain from managers and shareholders, and to "enhance" the company's performance, or to diminish the financial result. Therefore, we will consider creative accounting to be the process by which the outcome and financial statements are handled.

Factors that support and admit the use of creative accounting are presented in the literature (Malciu, 1999, pp. 18-28) as follows:

- Costs arising from a conflict of interest.
- The lack of professional behavior and competence of the manager
- Uncertainty and risk.
- Variety of economic activities.
- Limits of accounting concepts.
- The attitude of accounting information users.
- Dematerialization of economic entities.
- Globalization of economic entities.
- Absence or insufficiency of national accounting rules.

In the business world, there are various types of manipulations practiced that fool investors; the most common is financial handling. This type of manipulation involves distorting the information contained in the financial statements to 'retouch' the performance and economic situation of the firm concerned. In conclusion, financial manipulation involves the use of all creative accounting methods to make a company's financial statements reflect the performance they want and not necessarily the actual performance.

Factors that encourage the handling of financial statements are

- Lacks in accounting rules that facilitate "changes" in financial statements, making it much easier for managers and accountants to improve the company's performance without exceeding legal limits.
- Conflicts of interest between companies and accounting firms, factor that emerges from the well-known Enron scandal.

Financial manipulation is always aimed at changes in recordings either to increase „apparent" revenues or to reduce "apparent" expenses or liabilities.

If financial manipulations violate the law and accounting standards, they are considered fraudulent and illegal, but activities are covered by terms such as "earnings or income

management", "smoothing" revenue, big bath accounting, or creative accounting in general, remain within the law.

The management of the result according to Healy & Wahlen (1999) is manifested when managers use practices that influence financial reporting and the classification of transactions in their favor, to mislead current and potential investors by presenting them with superficial economic performance, as well as to achieve a certain level of financial indicators required by certain contracts. Stolowy & Breton (2000) define outcome management as the way to deal with differences between the application of accrual and house accounting by recording future expenses and recognizing income only when needed, in the hope that in the future expenses will be covered by the result. An important factor in the analysis of the result management is the study conducted by Stolowy & Breton (2000), which presents a conceptual framework for the classification of financial manipulation techniques. According to the authors, the main reason for the accounts being manipulated is the desire to influence investors by the way they perceive the risk associated with an entity. This model is based on two components: the risk associated with the change in the result and the risk associated with the financial structure of the entity.

The researchers suggested a theoretical approach to the framework in which creative accounting practices are conducted. The principle behind this framework is that the main purpose of publishing financial information is to reduce as much as possible the costs of financing projects to be implemented by a company. Since the practical means of operating such transfers are based on the balance between debt and shared capital and the variation in the earnings per share obtained by the undertaking, the main purpose of the management of accounting data being to amend those two measures referred to above. The earnings per share may be modified by two methods, either by adding or subtracting certain revenues and expenses or by transferring an upstream or downstream column of the results serving as a basis for calculating the earnings per share. The ratio of debt to equity may be changed by artificially increasing profits or hiding certain financings through accrual accounting off the balance sheet.

According to Bonnet (1995), creative accounting methods fall into three main categories:

- Techniques impacting the Balance Sheet
- Techniques with Influences on Income Statement
- Techniques with implications for the information set out in the Annexes

The person responsible for assessing the risk of fraud and detecting manipulations of financial statements is the auditor and beyond. Thus, at the company level, manipulations of accounting information in financial statements may be detected by means of specific indices.

According to Beneish (1999), indices that can be used in the application of analytical procedures are: the Days' Sales in Receivables Index (DSRI), Gross Margin Index (GIG), Asset Quality Index (AQI), Sales Growth Index (SGI), Depreciation Index (DEPI), Sales, General and Administrative expenses Index (SGAI), Leverage Index (LVGI), Total Accruals to Total Assets Index (TATA). Beneish developed one of the most significant, simple, and reliable models for detecting the degree of financial statements handling, the M-Beneish model. This model is a statistical model based on the above indicators and aims to verify the likelihood of handling the reported results through the financial statements. The equation of this model is as follows:

M Beneish Score = -4.84 + 0.92*DSRI + 0.528*GMI + 0.404*AQI + 0.892*SGI + 0.115* DEPI – 0.172* SGAI + 4.679* TATA – 0.327 *LVGI Eq.1

M score interpretation:

M> -2.22 indicates a high probability that financial statements can be handled.

M< -2.22 suggests a low probability of manipulation.

The indicators developed by Beneish (1999) were used to introduce different models for the detection of the risk of handling financial statements in several countries: in Spain (Vladu et al., 2017), in Romania (Robu & Robu, 2013), in Asian countries (Hasan et al., 2017). Below we will

present the model proposed by Robu & Robu (2013) characteristic of Romania, based on the clues proposed by Beneish (1999):

Z Risc Fraudă-Beneish = -0.383*DSRI + 0.039*GMI – 0.325*AQI + 0.448*SGI + 0.273*DEPI + 0.915*SGAI + 0.478*LVGI – 0.153*TATA Eq. 2

According to Robu & Robu (2013) for the function of discrimination, Z Risk Fraud-Beneish, specific for Romania, can be interpreted using the following intervals:

[-2,841; -0,355] -safe area without risk of financial fraud.

(-0,355; 0,313) -area of uncertainty that requires additional audit procedures to determine whether financial manipulations are carried out or not, also referred to as the grey area (Achim et al., 2020)

[0,313; 2,453] - in this area the use of creative accounting practices is reported to distort the accounting result, which is the area at risk of financial fraud.

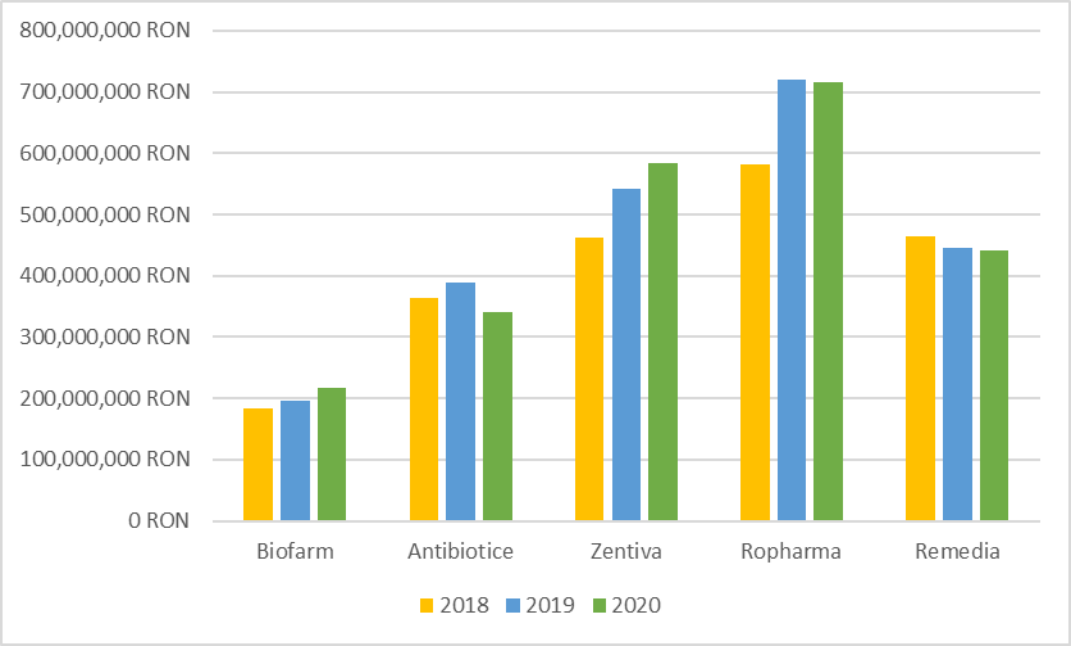
3. Database and results

This study aims to identify the likelihood of handling financial statements in the Romanian sector. These were collected from the entire pharmaceutical sector and comprise five companies listed on the Bucharest Stock Exchange. Thus, we analyzed the following economic entities: BIOFARM S.A., ANTIBIOTICE S.A., ZENTIVA S.A., ROPHARMA S.A., and REMEDIA S.A.

Furthermore, because we want this topic to be topical and capture the impact of the COVID-19 pandemic on the pharmaceutical sector, we have collected, until the time of this analysis, annual data for the period 2018-2020, as well as half-yearly data (2019-2020), and note that the financial statements for 2020 have not been published so far for all companies.

Based on the models established in the literature, in this section we will present the "reality" caught with the help of the Model M-Beneish and the score Z Risk Fraud-Beneish developed by Robu & Robu (2013).

Graph 1. Evolution of turnover for 2018-2020



Source: *Self-processing*

It is noted that the turnover is on an upward trend for Biofarm, Zentiva, and Ropharma over the analyzed period; their revenues increased in 2020 as a result of the growing demand for medicines on the market during the pandemic period. The highest turnover is held by Ropharma for the period 2019-2020 with values of more than 700 mils. RON. At the opposite end of the line are

Antibiotics and Remedia whose turnover followed an oscillating trend, recording decreases in 2020 compared to 2019.

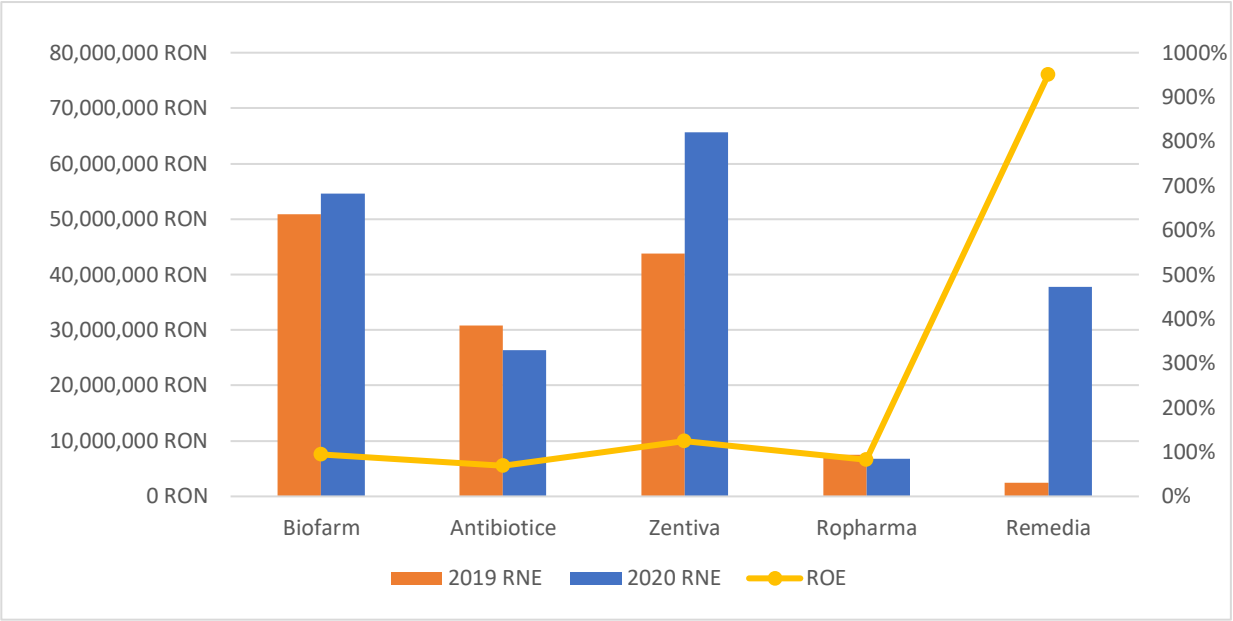
Graph 2. Evolution of assets and return on assets

Source: *self-processing*

Note: TA – Total Assets

In terms of asset return, Remedia has the highest growth, with around 1548% in 2020 compared to 2019, followed by Zentiva, which recorded an increase of 38 percentage points. Biofarm and Ropharma followed an oscillating trend, without registering significant differences. Although it saw an increase in total assets in 2020, the return on assets decreased by about 25% compared to 2019.

Graph 3. Evolution of net income and return on equity

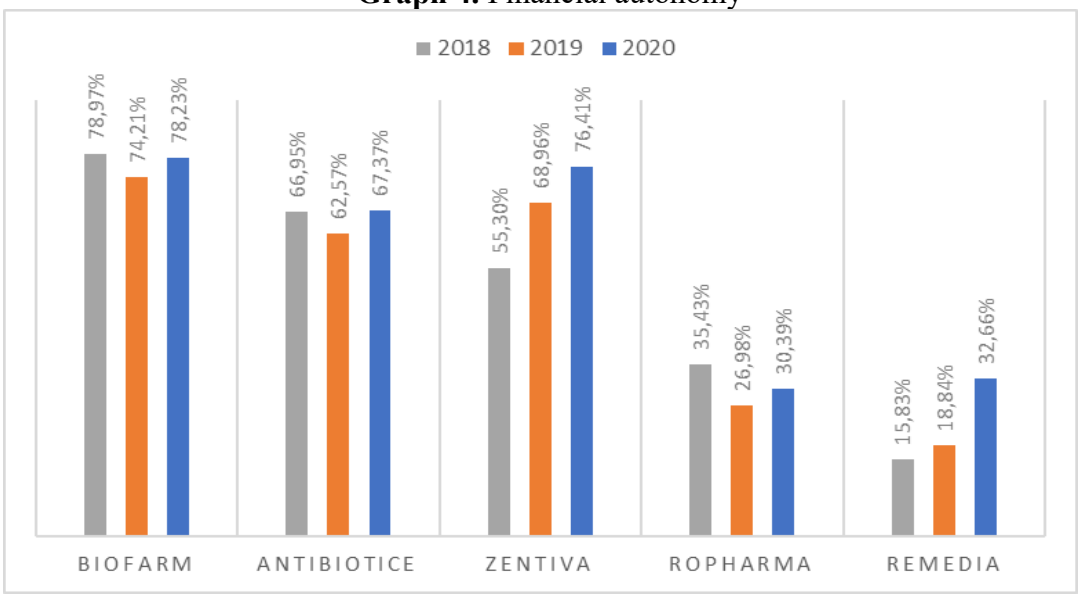


Source: *self-processing*

Note: RNE – Net income

Remedia recorded the most significant change in return on equity (ROE) in 2020 compared to 2019, increasing with about 850%, followed by Zentiva with an increase of 24.5%. At the opposite end of the line were Biofarm, Antibiotice and Ropharma whose evolution of ROE followed a downward trend, with the largest decrease in Antibiotice recording by about 30% in 2020 compared to 2019.

Graph 4. Financial autonomy



Source: *self-processing*

Biofarm, although it did not register significant changes during the period under review, has the highest financial independence, followed by Zentiva, which has followed an upward trend, managing to improve its situation over time. Even, the evolution of Antibiotice's financial autonomy has followed an oscillating trend, it has significant financial independence. On the other extreme, we find the companies Ropharma and Remedia whose financial autonomy is smaller, but it improved in 2020 compared to 2019.

Table 1. *Summary results - Evolution of total assets - Half-yearly data 2019-2020*

No. crt.	Name	Period	Total assets	IAT
1.	ANTIBIOTICE S.A.	S-2019	741757757	106.25%
		S-2020	788126315	
2.	BIOFARM S.A.	S-2019	307949624	115.26%
		S-2020	354948112	
3.	FARMACEUTICA REMEDIA S.A.	S-2019	67797871	102.05%
		S-2020	69186944	
4.	ROPHARMA	S-2019	515691103	88.83%
		S-2020	715567931	
5.	ZENTIVA	S-2019	481731995	116.73%
		S-2020	427930868	

Source: *self-processing*

Analyzing the evolution of total assets on a semi-annual basis, it is noted that almost all companies are on an upward trend; the most significant increase is recorded by Biofarm and Zentiva. Ropharma is down by about 11% in 2020 compared to 2019.

We want to maintain the confidentiality of companies, so we have generically named them, in an order other than the one presented above: Company A, Company B, Company C, Company D, and Company E.

Table 2. Summary results – annual financial results 2018-2020

	Period	Beneish M-score	Z-score
Company A	2018	<-2,22	Low probability
	2019	<-2,22	Low probability
	2020	<-2,22	Low probability
Company B	2018	>-2,22	Average probability
	2019	<-2,22	Low probability
	2020	<-2,22	Low probability
Company C	2018	>-2,22	Average probability
	2019	<-2,22	Low probability
	2020	Md	Md
Company D	2018	>-2,22	High probability
	2019	>-2,22	High probability
	2020	Md	Md
Company E	2018	<-2,22	Low probability
	2019	>-2,22	Average probability
	2020	Md	Md

Source: *self-processing*

Note: Md – missing data

During the 2018-2020 analysis period, in the light of both models used, companies A, B, and C have managed to present a picture of reality as accurate as possible, especially in recent years of analysis when it is noted that the situation has improved. Companies D and E fall within an area where it is assumed that there is a higher probability of 'the makeover' to have results, but given that the Beneish model is not specific to Romania and the model developed by Robu & Robu is not strictly adapted to the pharmaceutical sector, this study accepts its limitations.

Table 3. Summary results – half-yearly financial results 2019-2020

No. crt.	**Name**	**Period**	**Beneish M-score**
1.	Company A	S-2019	>-2.22
		S-2020	
2.	Company B	S-2019	<-2.22
		S-2020	
3.	Company C	S-2019	>-2.22
		S-2020	
4.	Company D	S-2019	<-2.22
		S-2020	
5.	Company E	S-2019	<-2.22
		S-2020	

Source: *self-processing*

From the analysis carried out in the two semesters, it shows that companies B, D, and E are in the area without risk of financial manipulation, while companies A and C have a score of more than -2.22, being placed in an area at risk of presenting an "improved" reality of financial statements.

Conclusions

In conclusion, it is noted that most companies have maintained ethical conduct with respect to the presentation of financial statements. Although some companies are at risk of financial

manipulation, we cannot rule on this issue, the study has certain limitations, one of which is that we do not have a specific model for the pharmaceutical sector in Romania.

The pharmaceutical sector was among the few sectors that continued to operate during the pandemic, managing to show its true value and importance in the case of such a situation. Because the fear of not getting sick has led most people to buy medications in exceptionally large quantities, stocks of cheap medicines like Paracetamol, as well as those of medicines that treat serious diseases such as Euthyrox or Siofor, have been depleted in record time.

Since the beginning of the pandemic in Romania, drug manufacturers have presented incredibly effective management, being able to adapt their production lines according to the requirements and also trying to help hospitals and pharmaceutical points by supporting the need for medicines on the market. Most drug manufacturers have even expended the production of paracetamol, for example, Zentiva had reopened the production line, in the case of Antibiotics. Drug sales have increased enormously, and companies have invested in virus protection.

We conclude this work, which can receive new valences, with a quote belonging to Samuel Johnson, certainly health is more valuable than money, because health makes money."

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