

# THE AUDIT OPINION IN THE ROLE OF STOCK PRICES FLUCTUATIONS ON THE MACEDONIAN STOCK EXCHANGE

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## Abstract

In the modern literature, the audit opinion is defined as a certificate that accompanies the financial statements of companies. The audit opinion is important because it provides an answer as to whether companies' financial statements are free from material misstatement. Although in the Republic of North Macedonia the research studies related to the influence of the audit opinions on the stock prices of the companies listed on the Macedonian Stock Exchange are almost non-existent, in the world numerous papers have researched the impact between these two variables. The purpose of this paper is to study the impact of audit opinions contained in the audit reports on the stock prices of companies in the Republic of North Macedonia. The model also includes two control variables: the net profit and the size of the companies. The sample included in the research are companies listed on the Macedonian Stock Exchange. The results of this research show that the impact of the audit opinion on the stock price is not significant, i.e., that investors in the decision-making process do not take into account the audit opinion.

**Keywords:** auditor's opinion; net profit; company size; stock price

**JEL Classification:** M42; G11

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## **1. Introduction**

The opinion given by the auditor on the objectivity and truth of the expressed circumstance and the aftereffect of the activity is an expert assessment of the presented financial condition and the consequence of the activity. In essence, the auditor evaluates whether the financial statements have been prepared following the applicable balancing regulations and accounting standards, truthfully and honestly. Based on the performed audit procedures and the collected evidence, the auditor forms an opinion on the financial statements, which he communicates to the interested users - stakeholders. The auditor's opinion is his reasoned impression of the financial statements and their correspondence with professional and legal regulations.

There are many studies on the effect, i.e., the impact of the audit opinion on the stock price of listed companies. From their results, it can be concluded that there are still different conclusions about the impact of the audit opinion on the stock price. Some studies have proven the relationship between these two variables to be significant, while other studies have concluded that audit opinion does not significantly affect the stock price.

The purpose of this research is to study the impact of audit opinions contained in audit reports on the stock prices of companies in the Republic of North Macedonia. The realized net profit of the companies, as well as their size, will also be added to the model as control variables. The sample includes fifteen companies listed on the Macedonian Stock Exchange. Normality data testing, multicollinearity and autocorrelation testing, ANOVA, linear regression, and other statistical methods are used to analyse the collected data. The analysis is done with the SPSS program. All the obtained results of the research are summarized in a conclusion which indicates whether the audit opinion and the other control variables have an impact on the stock price fluctuations on the Macedonian Stock Exchange.

The paper is conceived in the following sections: Introduction, Literature Review, Research Methodology, Results and Discussion, Conclusion.

## **2. Literature review**

Tom Lee (1984) gives one of the most comprehensive definitions of auditing as far back as 1984 and that "An audit is a tool by which a person is assured by another person of the quality, condition

or status of a matter in question, which this other person has examined. The need for an audit arises because the first-mentioned person is in doubt or has doubts about the quality, condition or status of the relevant issue in question, and is unable to remove such doubt (Lee, 1984)".

Rezaei and Shahroodi (2014) briefly defined the audit as a reassurance to stakeholders who have a business relationship with the company (Rezaei & Shahroodi, 2014). In the domestic audit practice, according to the Law on Audit (2010), the audit is defined as "independent examination of financial statements or consolidated reports and financial information, in order to express an opinion on their authenticity and impartiality" (Official Gazette of RNM, 2010)

The structure of the independent auditor's audit report is strictly defined by the auditing standards, and a key element of the report is the paragraph with the expressed opinion. For the readers and users of the audit report, it is of particular importance what message the auditor wants to convey to them through the form of the audit opinion. The nature of the audit opinion, with which a more objective and accurate diagnosis of the economic-financial condition of the audit services user and with the evaluation of his achievements, inevitably, by the nature of the works, indicates what should be done to eliminate and overcome the shortcomings and for strengthening the positives manifested during the client's operation (Bozhinovska, 2011). Basically, there are 4 types of audit opinion: unqualified opinion, qualified opinion, disclaimer of opinion, and adverse opinion (Kong, 2020).

Several studies examined the impact of audit opinion on financial statements on the stock price of companies. Thus, Anvarkhatibi, et al. (2012) have concluded from their research that at 95% confidence interval there is no significant relationship between audit opinion and stock price (Anvarkhatibi, et al., 2012). Furthermore, Moradi et al. (2011) have come to a similar conclusion that qualified audit opinion does not affect stock prices (Moradi, et al., 2011). A year earlier, Tahinakis et al. (2010) conclude from their results that audit reports contain limited information about investors and that they are not part of the decision-making process of the investors themselves, de facto, the audit opinion does not influence the decision of investors (Tahinakis, et al., 2010). An interesting fact is that Tanui in 2010 have concluded from their research that there is still a small but very weak relationship between audit opinion and company stock price and that audit opinion is only a small part of the change in the stock price (Tanui,

2010). Recent and more detailed research with good data processing is done by Muslih and Amin (2018) which get a similar result as previous researchers, namely that the impact of audit opinion on stock price movements is not significant (Muslih & Amin, 2018).

Although the studies that have defined a connection between the audit opinion and the movement of the stock price are rare, they still exist. One of those studies was done in 2012. Hoti et al. (2012) point out that the opinion of independent auditors influences stock price movements (Hoti, et al., 2012).

The company's net profit also attracts a lot of attention from investors to invest in a particular company. It describes the financial gain realized when the income generated by the business activity exceeds the expenses and taxes involved in maintaining the business in question (Kenton, 2020). Purnamawati (2016) with his research on the impact of capital structure and profitability on the stock price in manufacturing companies concludes that there is a positive effect between them (Purnamawati, 2016). Also in 2018, Muslih and Amin (2018) confirm the hypothesis that there is a significant relationship between the company's net profit and stock price movements. This indicates the fact that the net profit is very important information for potential investors in the process of deciding on investments in certain shares.

Companies vary in their size as small companies, medium and large companies. In the literature for measurement of a certain company to which size group belongs, several measurement categories are used, such as: according to the size of the capital, the net worth of the company, the total assets of the company, the number of employees in the company, etc. (iEduNote, 2020).

In this part, also, the researchers have differing views and conclusions. Thus, Kurshev and Strebulaev (2015) in their research conclude a positive relationship between company size and capital structure (Kurshev & Strebulaev, 2015). Dogan (2013) conducted a detailed study of 200 listed companies on the Istanbul Stock Exchange between 2008 and 2011. He concludes that there is a positive relationship between the size of companies and their profitability (Dogan, 2013). Cheung and Lilian (1992) in their research point out that the relationship between firm size and stock price is current and variable from time to time (Cheung & Lilian, 1992).

### 3. Methodology

#### 3.1. Population, sample, method of data collection, measurement of variables

The population in the research is all companies listed on the Macedonian Stock Exchange. The sample used in the research are companies from the population, i.e., listed companies on the Macedonian Stock Exchange, and the data collection was done through several data sources, such as the website of the Macedonian Stock Exchange: *www.mse.mk*, the website of the system for electronic information for listed joint-stock companies: *www.seinet.com.mk*, as well as the individual websites of the joint-stock companies that are included in the sample.

**Table 1**

**Description of the variables**

<b>Variables</b>	<b>Abbreviation</b>	<b>Measurement</b>
Stock Price	STOCK_PRICE	The average stock price in the second quarter of the year after the publication of the audit report on the financial statements
Audit Opinion	AUD_OPINION	The measurement of the audit opinion is done with values from 1 to 5
Net Profit	PROFIT	The company's net worth (Income Statement)
Company Size	SIZE	Total assets in the Balance Sheet

*Source: Authors' text*

Table 1 provides an overview of the dependent variable and the independent variables together with their abbreviations and the measurement of the variables. The measurement of the identified variables in the model is as follows: the stock price of the companies is the sample taken from the website of the Macedonian Stock Exchange and represents the average stock price in the second quarter of the year after the publication of the audit report on the financial statements. The measurement of the audit opinion was done with values from 1 to 5 in the SPSS program: '5' for Unqualified opinion, '4' for Unqualified opinion with emphasis on question, '3' Qualified opinion, '2' for Disclaimer of opinion and '1' for Adverse opinion. The measurement of the net profit of the company is the de-facto absolute amount of the net profit of the company, which is stated in the Income Statement of the company itself. The value of the company in this research uses the value of the total assets presented in the Balance Sheet of the companies themselves.

### 3.2. Empirical specification

This research uses a quantitative research method. The processing of the collected data was done through several statistical methods and tests, using SPSS software. The model is formulated as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon \quad (1)$$

where: Y = Stock Price; X<sub>1</sub> = Audit Opinion; X<sub>2</sub> = Net profit; X<sub>3</sub> = Company Size;  $\varepsilon$  = random error.

### 3.3. Data analysis

The analysis of the collected data includes several statistical tests, as follows: *Data normality testing* to determine if data is normally distributed for decision making and conclusions. This test involves preparing a histogram of the dependent variable to see if the residual is skewed, and a simple Kolmogorov-Smirnov test is performed. If the significance value is greater than 0.05 then it means that the data is normally distributed. *Multicollinearity test* to determine the relationship between the independent variables. Multicollinearity can be detected by the Variance Inflation Factor (VIF). If the value of Centred VIF is less than 10, then it means that there is no multicollinearity. *Data heteroskedasticity test*, performed with Spearman's heteroscedasticity test. If the value is above 0.05 it means that there is no heteroskedasticity. Next, to determine if there is a problem with autocorrelation in the research model, a *Watson Durbin test (DW)* was performed, with the following conditions: a positive autocorrelation if the DW value is below -2 (DW < -2); no autocorrelation if the DW value is between -2 and +2, a negative autocorrelation occurs if the DW value is above +2 or DW > +2. The last statistical test is the *regression test* to see if the change in the variable Y can be explained by variable X. In this test, we use the coefficient R<sup>2</sup> (R square).

## 4. Results and discussion

### 4.1. Sample review

As previously mentioned in the paper, the population of this research are the companies in the Republic of North Macedonia that are listed on the Macedonian Stock Exchange. Fifteen companies listed on the stock exchange are taken in the research sample. The data used are panel data from fifteen companies and a time series of

six years (2014-2019). From here, there are ninety observations in the research.

#### 4.2. Research results

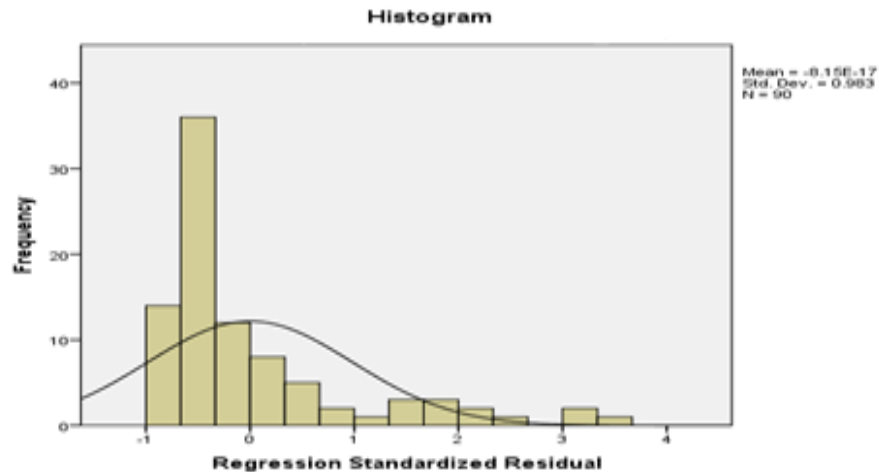
Furthermore, the results obtained from statistical data processing using SPSS software are followed.

➤ *Residual Normality Test*

This test is done to determine if the data is normally distributed or not, by testing the normality of the residual. The first test is shown in histogram 1 and table 2 below.

**Histogram 1**

**Data distribution**



**Table 2**

**One-Sample Kolmogorov-Smirnov Test**

		STOCK_PRICE
N		90
Normal Parameters <sup>a,b</sup>	Mean	13049.13
	Std. Deviation	19347.000
Most Extreme Differences	Absolute	.263
	Positive	.263
	Negative	-.252
<b>Asymp. Sig. (2-tailed)</b>		<b>.000</b>

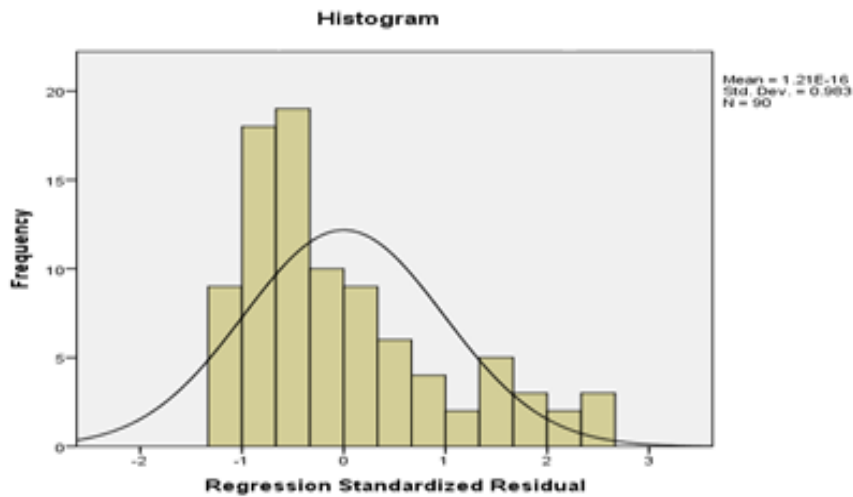
*a. Test distribution is Normal; b. Calculated from data*

*Source: Authors' calculations*

Histogram 1 shows that the residual is skewed to the left. Also, from the Kolmogorov-Smirnov test, it can be concluded that the value of 0.00 is less than 0.05. This means that the residues are not normally distributed. When the curve of the histogram is skewed, then the transformation of the data by making a square root is required. Thus, the data is transformed in the SPSS program using the square root. After the transformation is done, the following results are obtained:

**Histogram 2**

**Data distribution**



**Table 3**

**One-Sample Kolmogorov-Smirnov Test**

		STOCK_PRICE
N		90
Normal Parameters <sup>a,b</sup>	Mean	86.6906
	Std. Deviation	74.80675
Most Extreme Differences	Absolute	.200
	Positive	.200
	Negative	-.153
Kolmogorov-Smirnov Z		1.898
<b>Asymp. Sig. (2-tailed)</b>		<b>.001</b>

*a. Test distribution is Normal; b. Calculated from data*

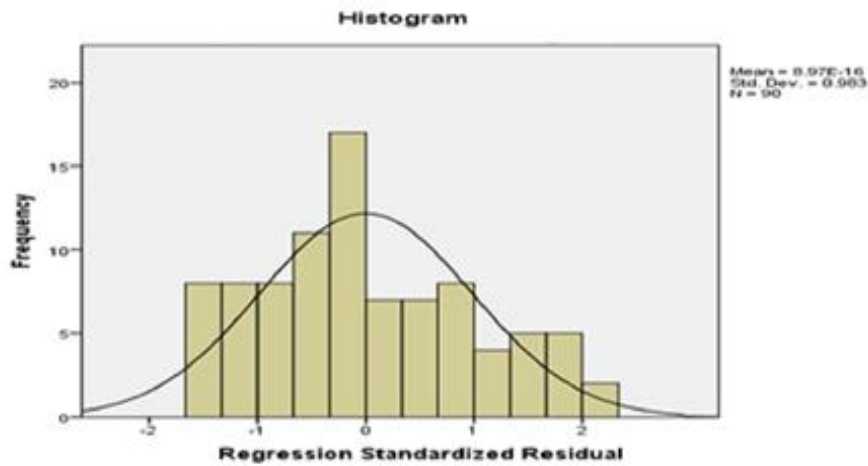
*Source: Authors' calculations*



Histogram 2 shows that the curve looks better but is still slightly skewed. In table 3, with the Kolmogorov-Smirnov test, it can be seen that the value of 0.01 is less than 0.05. This means that the residues are not normally distributed. The data is transformed again using the square root. The obtained results are shown in the following histogram and table.

**Histogram 3**

**Data distribution**



**Table 4**

**One-Sample Kolmogorov-Smirnov Test**

		STOCK_PRICE
N		90
Normal Parameters <sup>a,b</sup>	Mean	8.4613
	Std. Deviation	3.90715
Most Extreme Differences	Absolute	.129
	Positive	.129
	Negative	-.088
Kolmogorov-Smirnov Z		1.220
<b>Asymp. Sig. (2-tailed)</b>		<b>.102</b>

*a. Test distribution is Normal; b. Calculated from data*

*Source: Authors' calculations*

It can already be seen on the histogram that the residual is normally distributed. Table 4 also shows that the value obtained from

0.102 is greater than 0.05, which means that the residual now has a normal distribution. These transformed data can be used in the further research process.

➤ **Multicollinearity test**

The next statistical test is the multicollinearity test. Table 5 shows the Variance Inflation Factor (VIF) values for the three independent variables (audit opinion, net profit, and company size) and all values are less than 10.

**Table 5**

**Multicollinearity test**

<b>Coefficients<sup>a</sup></b>					
Model	Unstandardized Coefficients		Standardized Coefficients	Collinearity Statistics	
	B	Std. Error	Beta	Tolerance	VIF
1 (Constant)	2.406	.635			
AUD_OPINION	.137	.330	.049	.805	<b>1.242</b>
SIZE	-1.301E-11	.000	-.445	.564	<b>1.773</b>
PROFIT	.003	.002	.218	.487	<b>2.055</b>

*a. Dependent Variable: STOCK\_PRICE*

*Source: Authors' calculations*

The result means that there is no multicollinearity between the three variables.

➤ **Autocorrelation test**

To determine if there is a problem with autocorrelation in the research model, the Watson Durbin test (DW) was performed with the conditions listed above in the paper.

**Table 6**

**Autocorrelation test**

<b>Model Summary<sup>b</sup></b>					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.344 <sup>a</sup>	.118	.084	.63977	<b>.630</b>

*a. Predictors: (Constant), AUD\_OPINION, SIZE, PROFIT; b. Dependent Variable: STOCK\_PRICE*

*Source: Authors' calculations*

Table 6 shows the result obtained for the value of DW, which is 0.630 which means that there is no autocorrelation.

➤ **Heteroskedasticity test**

Spearman heteroskedasticity test was performed for heteroskedasticity and the results are presented in Table 7.

**Table 7**

**Spearman heteroskedasticity test**

			Correlations			
			PROFIT	AUD_OPINION	SIZE	STOCK_PRICE
Spearman's rho	PROFIT	Correlation Coefficient	1.000	.454**	.866**	.067
		Sig. (2-tailed)		.000	.000	<b>.549</b>
		N	82	82	82	82
	AUD_OPINION	Correlation Coefficient	.454**	1.000	.294**	-.012
		Sig. (2-tailed)	.000		.005	<b>.909</b>
		N	82	90	90	90
	SIZE	Correlation Coefficient	.866**	.294**	1.000	.171
		Sig. (2-tailed)	.000	.005		<b>.108</b>
		N	82	90	90	90
	STOCK_PRICE	Correlation Coefficient	.067	-.012	.171	1.000
		Sig. (2-tailed)	.549	.909	.108	
		N	82	90	90	90

\*\* Correlation is significant at the 0.01 level (2-tailed).

Source: Authors' calculations

From Table 7, it can be concluded that the significance of the variables: audit opinion, company size, and net profit are 0.909, 0.108, and 0.549. The results indicate that there is no heteroskedasticity.

➤ **Regression Tests**

○ **Simultaneous Test (F test)**

To see if the independent variables simultaneously affect the dependent variable, the following hypotheses are set:

" $H_0$ : Audit opinion, net profit, and company size do not have a simultaneous effect on the stock price."

"H<sub>1</sub>: Audit opinion, net profit, and company size have a simultaneous effect on the stock price."

**Table 8**

**ANOVA**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	4.287	3	1.429	3.492	<b>.020<sup>b</sup></b>
Residual	31.925	78	.409		
Total	36.213	81			

a. Dependent Variable: STOCK\_PRICE; b. Predictors: (Constant), SIZE, AUD\_OPINION, PROFIT

The ANOVA table shows that the significance value is 0.020 and it is less than 0.05 which means that H<sub>0</sub> is rejected, i.e. that the audit opinion, net profit, and size of the company simultaneously affect the stock price. Thus, a regression can be continued by analysing the relationship between independent variables and the dependent variable.

o **Multiple regression**

In Table 9 the results of the multiple regression are given. The effects of independent variables on the dependent variable will be elaborated separately.

▪ Audit Opinion

"H<sub>0</sub>: The audit opinion does not affect the stock price."

"H<sub>1</sub>: The audit opinion affects the stock price."

**Table 9**

**Multiple regression (t test)**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.406	.635		3.790	.000
AUD_OPINION	.137	.330	.049	.413	<b>.681</b>
SIZE	-1.301E-11	.000	-.445	-3.144	<b>.002</b>
PROFIT	.003	.002	.218	1.428	<b>.157</b>

From Table 9, it can be concluded that the value of the significance of the variable "audit opinion" is 0.681 > 0.05. This means that H<sub>0</sub> is accepted and H<sub>1</sub> is rejected, ie that the audit opinion does not

affect the share price. According to the results obtained, it can be concluded that the audit opinion is not an important part of the decisions made by investors, in fact investors make their decisions based on other factors, and most investors probably do not understand the audit and the significance of the audit report.

- Net Profit

" $H_0$ : Net profit does not affect the stock price."

" $H_1$ : Net profit affects the stock price."

Table 9 shows that the value of significance for the net profit is  $0.157 > 0.05$ . Also, in this case, it can be concluded that the net profit does not affect the stock prices on the stock exchange and that the net profit is also not taken into account in the decisions of investors.

- Company Size

" $H_0$ : The company size does not affect the stock price."

" $H_1$ : The company size affects the stock price."

And last but not least, the value of the size of the company is  $0.002 < 0.05$  which means that  $H_0$  is rejected and  $H_1$  is accepted, i.e. the size of the company has an impact on the stock price. Given that the size of the company is measured by the size of the assets on the balance sheet, it is important to investors whether the company in which they invest is characterized as small or large, concerning the total assets owned by the company.

- **Determination test (R Square)**

The purpose of this test is to determine how much the independent variables can explain the changes in the dependent variable.

**Table 10**

**Determination test**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.344 <sup>a</sup>	<b>.118</b>	.084	.63977

*a. Predictors: (Constant), SIZE, AUD\_OPINION, PROFIT; b. Dependent Variable: STOCK\_PRICE*

The coefficient of determination (R square) is 0.118 which means that the audit opinion, net profit, and size of the company explain 11.8% of the share price. The remaining 88.2% are explained by other variables that are not covered by this research. The value of the coefficient of determination, R square, is considered large if it exceeds 50%, but even a small value of this coefficient is not a bad indicator. "The small value of R square indicates that the ability of the independent variables to explain the change in the dependent variable is very limited. If R square is close to 1 it means that the independent variables predict almost all the information needed to predict the changes in the dependent variable, which is very rare (Achmad & Witiastuti, 2018)".

## **5. Conclusion**

From the literature, it can be stated that researchers in the past have come to inconsistent results when it comes to the impact of audit opinion on the stock price of companies. Although the main purpose of the audit report, especially the audit opinion is to assist in the decision-making process of investors, in the Republic of North Macedonia it has no impact on them, i.e., investors' decisions are based on some other factors. As added variables in the research are the net profit and the size of the companies. Although the audit opinion is not significant for the movement of the stock price, the results show that the size of the company still has a significant effect on the change in the stock price in the Republic of North Macedonia, i.e., potential investors take into account the size of the company before investing in it. The net profit of the companies as an absolute amount, on the other hand, has no significant effect on the share price.

As a limitation in the research can be mentioned the small sample that is included at random from the companies listed on the Macedonian Stock Exchange, as well as the lack of similar research in the Republic of North Macedonia to compare the results obtained.

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