

AUDIT FEE DETERMINANTS IN MINING SECTOR COMPANIES: FACTORS SPECIFIC TO CLIENTS, AUDITORS AND ENGAGEMENT

Mariola MAMCARCZYK^{1*}, Łukasz POPŁAWSKI², Paweł ZIENIUK³

¹ Cracow University of Economics, Department of Economics; mamcarcm@uek.krakow.pl,
ORCID: 0000-0003-0316-533X

² Cracow University of Economics, Department of Public Finance; lukasz.poplawski@uek.krakow.pl,
ORCID: 0000-0002-4147-3272

³ Cracow University of Economics, Department of Financial Accounting; pawel.zieniuk@uek.krakow.pl,
ORCID: 0000-0002-2088-8583

* Correspondence author

Purpose: Empirical studies concerning determinants which the amount of the fees for auditing a financial statement depends on are undertaken in the international literature. The review of the previous studies allowed the authors to distinguish three main groups of such factors. They concentrate around the character of a client, a category of an auditor who audits an entity and engagement in the auditing process. This paper aims to determine the factors that influence the amount of an audit fee in European mining companies.

Design/methodology/approach: The auditors' reports for 2019 were analysed. The authors formulated the main hypotheses according to which the amount of an audit fee for a financial statement of listed mining sector companies depends on the factors specific to an audited entity (H1), a category of an auditor (H2) and complexity of the process of the audit of a financial statement (H3). The collected data were a basis to construct the model of linear regression.

Findings: The results of the study carried out proved a strong statistically important relation between an audit fee for a financial statement and a size of an auditee expressed in a natural logarithm of the total assets. The essential relations were also confirmed between an audit fee for a financial statement and profitability of assets of audited companies, a category of an auditor and a number of Key Audit Matters verified during the audit and disclosed in the report by an statutory auditor. Furthermore, a relation between the amount of an audit fee for a financial statement and power of standards of reporting and auditing in a given country was confirmed.

Research limitations/implications: On the one hand, the acceptance of a research sample narrowed down to the listed companies, doing business exclusively in the mining sector is an added value of the empirical research carried out, which enabled drawing conclusions for the chosen branch. On the other hand, the small research value limits the study.

Practical implications: Our paper has some practical implications. The obtained results enable a comparison with the results of the previous empirical research and an evaluation of the determinants of the amount of audit fees of financial statements in the mining sector with other branches.

Originality/value: Our paper contributes to the literature on financial audit, as it allows new insight into better understanding of the process of selecting an auditor and negotiating his remuneration in a specific industry.

Keywords: financial audit, audit fee, key audit matters.

Category of the paper: Research paper.

1. Introduction

In an era of globalisation, standardization and harmonisation of accounting not only can the constant changes of information needs of individual recipients of a financial statement be observed but also the change in public perception of the profession of statutory auditor, who is not treated any longer as a person detecting frauds but confirming credibility of a financial statement. The aim of a contemporary audit is to confirm credibility of financial statements before making them available to the public. Currently, the audit should not be equated exclusively with the detection of accounting frauds, tax frauds and control of correctness of enterprise functioning.

In each member state of the European Union there must be a public control system concerning statutory auditors, carrying out activities during the audit, which will be independent of an auditor's profession. Regardless of the size and character of the entity for which the activities of the audit are carried out, the statutory auditor must remain independent. The independence gives freedom from suspicion of being dependent from the audited entities. According to the Code of Ethics IFAC, the inner independence is distinguished which is a state of mind allowing to express opinions without influences preventing independent judgement and allowing an honest, objective actions characterised by professional scepticism and the outer independence – connected with the avoidance of facts and circumstances which could justify a claim of the third party that honesty, objectiveness or professional scepticism were breached (Code of Ethics for Professional Accountants, 2005). One should realise that a fee for an audit of financial statements is the main source of incomes of the auditing companies, which can result in the decrease in the statutory auditors' independence.

In the amended Directive of the European Parliament and Council no. 2014/56/UE, the range and degree of depth of a financial statement carried out by statutory auditors, auditing both the public interest entities and other entities were increased. The results of the audit of a financial statement should be documented in the audit report, which are prepared in accordance with the requirements of the audit standards accepted by the EU or a given member state (Directive 2014/56/EU). The report should include the entity whose annual or consolidated financial statements are a subject of a statutory audit, if it is an annual report or a consolidated one, a period covered by it and a financial reporting framework applied while preparing it.

The report includes the description of the range of a statutory audit together with the definition of at least the audit standards according to which it was done. The crucial element of the documentation is also the audit opinion providing information if an annual financial statement presents a real and reliable image in accordance with the financial reporting framework as well as with the statutory requirements. Moreover, the audit report includes, for instance, a statutory auditor's reference to any other matters which s/he pays attention to, a statement on any doubts connected with the occurrences which are doubtful as for the continuation of the activity by an entity, and also an indication of a statutory auditor's seat.

The implementation of the EU directives and also the introduction of the International Standards on Auditing as the obligatory standards on the basis of which the audits of financial statements are carried out in the European states led to the unification of the systems of the financial review. It means that in all the countries of the European Union similar requirements concerning both maintaining statutory auditors' independence (allowing the exceptions in the regulations of the national law referring to, for example, the period of turnover for statutory auditors and audit firms) and the unified requirements relating to the final product of the audit of financial statements, which is a statutory auditor's report, are binding.

The audit fee is incurred by audited entities. The results of the work done by statutory auditors confirm credibility of financial statements and at the same time minimise the risk of taking wrong decisions by investors. Therefore, in order to obtain a high quality of auditors' work, the appropriate remuneration seems to be necessary. Its relevant level may contribute both to maintaining independence and increasing a quality of a performed audit.

The obligation to conduct an audit of a financial statement is a requirement imposed on companies by regulations binding in a given country. The sufficient condition to comply with it is to choose a statutory auditor and allow him/her to go through the auditing process. Such a limitation results in the fact that some entities may tend to use these audit entities which will offer their services at lower prices. However, on the grounds of the role which statutory auditors play in functioning of the economic system correctly, an optimal allocation of the capital and maximisation of investors' benefits, a lot of companies accept the purchase of high quality services at the higher remuneration.

The empirical research conducted by the authors was to establish determinants of the amount of a fee for an audit of the financial statement in listed companies operating in the chosen specific branch of the economy. 62 companies conducting their business in the mining industry, listed in the main European stock exchanges, taken into account in the ORBIS database, were accepted for the research sample.

The method of the content analysis was applied in the empirical research. The complete versions of financial statements and the statutory auditor's reports of the audit of individual companies for 2019 made up the empirical material. What is more, the data published in the ORBIS database, concerning the listed companies accepted for the research sample were used.

The quantitative research methodology with support of the Statistica software was employed. The analysis of linear regression was used to confirm statistical relations.

The review of the international literature on the subject allowed to distinguish three groups of the factors perceived as the determinants of the amount of fees for an audit of a financial statement. Then, it was possible for the authors to consider the characteristic factors for (1) an audited entity, (2) a category of an auditing entity conducting the process of an audit and (3) complexity of the process of an audit of a financial statement. This division is also reflected in the formulated research hypotheses, according to which:

H1: The amount of a fee for an audit of a financial statement in listed companies of the mining sector indicates a statistically essential dependence on factors characteristic of an audited entity.

H2: The amount of a fee for an audit of a financial statement in listed companies of the mining sector indicates a statistically essential dependence on a category of an auditing entity conducting the process of an audit.

H3: The amount of a fee for an audit of a financial statement in listed companies of the mining sector indicates a statistically essential dependence on complexity of the process of an audit of a financial statement.

In the model of regression, an additional explanatory variable was also suggested strength of reporting and auditing standards, characteristic of individual countries in which the chosen companies do their business and in which an audit of a financial statement is done. The greater power of a standard influence can contribute to the increase in precision of the auditing process and the identification of a higher number of problem areas by statutory auditors.

2. Literature review and hypothesis development

It is generally accepted that the audit report is not an efficient communication tool to inform the users about the audit and its process (Gray et al., 2011; Vanstraelen et. al., 2012). The term *audit expectation gap* was formulated in the international literature of the subject (Lee, Ali, Gloeck, 2009). The main cause of the existence of a gap are various beliefs on statutory auditors' obligations and on the scope and the informative value of an audit report (Koh, Woo, 1998). Whereas, the users of financial statements expect that an audit of financial statements will guarantee detection of any breaches and incorrectness (Gupta, 2005), and statutory auditors should also interpret financial statements in the way which would allow stakeholders to take a decision on investing in the entity (Salehi, Rostami, 2009).

The stakeholders should be expected to understand that the process of an audit of a financial statement is conducted taking a materiality level into account, and a statutory auditor is not able to detect all incorrectness in the audited entity. The recipients of a financial statement receive

the final version of the financial statement, taking corrections suggested by a statutory auditor into account, yet they are not informed about the amount of correction. The access to the information about the amount of the suggested correction would require a disclosure of the statutory auditor's review documentation, which remains classified. If the recipients of the financial statement do not have the access to this documentation, the statutory auditor's auditing report still remains the only communication tool of the statutory auditors with the recipients of the financial statement.

The authors' subject of interest of the empirical research, conducted since 1980, is to determine the determinants influencing the amount of a fee for auditing a financial statement. Most papers available in the international literature connects the amount of a fee for the audit of a financial statement with the quality of an audit. One of the first authors who concentrated on the determinants of the amount of fees for auditing a financial statement and created the models of linear regression, aiming at the confirmation of the statistical dependences of these determinants was D. Simunic (1980). The approach adopted in his papers was a starting point for further studies, developing research samples and taking newer and newer factors into consideration which an amount of a fee for auditing a financial statement could depend on and indirectly also the quality of an audit (for example, Palmrose, 1986; Brinn, Peel, Roberts, 1994; Craswell, Francis, Taylor 1995; Taylor, Simon, Burton, 1999; Beattie et al., 2001).

The studies on the determinants of audit fees for a financial statement often incorporate in theoretical considerations referring the principal-agent problem. The agency between management and shareholders influences the monitoring costs in general and therefore audit fees in particular. Audit fees should be higher, thus making audit fees a promising proxy for the client's risk situation (Gul, Tsui, 2001; Nikkinen, Sahlström, 2004).

The survey of the literature on the subject, summarising the empirical research concerning the above mentioned problem was undertaken, for example, in the papers of Cobbin (2002); Causholli, De Martinis, Hay, Knechel (2011) and Hay, Knechel and Wong (2006). The above mentioned authors' findings show that the most often chosen explanatory variables in the models verifying the determinants of the amount of auditing fees included a size of an audited entity expressed by the total assets of an audited company or an amount of obtained revenues from the sale, a number of consolidated entities in the financial statement, a number of foreign branches, chosen indicators of the financial analysis (profitability, liquidity) and an auditor's category. Widmann, Follert and Wolz (2021), analysing the chosen research on an amount of auditing fees for financial statements, stated that the number of independent variables in the analysed research was from 5 to 29, and their average was 13. The subject of the further analysis was the empirical research conducted in recent years, i.e. after 2015, with the use of research samples including the companies listed in stock exchanges (for instance, Reid, Carcello, Neal, 2019; Mohrmann, Riepe, Stefani, 2019; Lesage, Ratzinger-Sakel, Kettunen, 2017; Hardies, Beesch, Branson, 2015).

In order to choose the appropriate set of explanatory variables, it was necessary to recognise the classification and aggregation to individual factor groups which were taken into consideration in the previous studies and especially those which showed essential statistical relations with the amount of auditing fees for financial statements. The detailed analysis of the sets of the explanatory variables adopted in individual studies allows to classify them to one of the three categories: factors connected with a client, an auditor and engagement.

Client Attributes

The size and complexity of the auditee determines the audit fee because a large company requires a higher workload (Pong, Whittington, 1994). Larger companies generally require a more time-consuming audit than smaller ones (Widmann, Follert, Wolz, 2021). The size of an audited entity, expressed by the total assets or the natural logarithm of this total is one of the most frequently used explanatory variables in the previous studies. Moreover, it should be emphasized that the statistically essential relation between the size of the studied entity expressed in this way and the amount of an auditing fee for a financial statement was most often used.

Apart from the balance sheet total, a financial position, profitability, liquidity and other aspects that impact the inherent risk of the whole engagement were the variables which characterised the studied entities. They are the indicators which an auditor usually concentrates on, evaluating a risk of a client's situation. The evaluation of the risk influences planning an auditing process. Therefore, if on the grounds of a high risk resulting from the client's property and financial situation, an auditor has to take additional procedures into account, it may result in the increase in labour consumption of the whole audit.

The notion should be accepted from the theoretical considerations, according to which auditing companies increase the amount of auditing fees when a client obtains negative financial results. Such a relation should also be considered in the context of a risk of an audit. If an entity bears a loss, an audit can require additional procedures on the grounds of a higher risk. However, the examples of the empirical research can be provided which contradict the existence between the amount of an auditing fee for a financial statement and obtaining a negative financial result by audited entities (Vafeas, Waegelein, 2007; Ittonen, Peni, 2012; Barua, Hossain, Rana, 2019).

Adopting the indicators of the financial analysis such as a profitability index or a liquidity ratio as the variables explaining the amount of an auditing fee for a financial statement should be explained with a common belief according to which the higher profitability indexes or liquidity ratios indicate improvement of a client's situation, a lower risk and at the same time less complicated auditing procedures.

In view of the above, the hypothesis H1 was formulated according to which the amount of an auditing fee for a financial statement in listed mining sector companies indicates a statistically essential dependence on the factors characteristic of an audited entity. The size of a company expressed with the natural logarithm of the total assets, a character of a financial result (a loss or a benefit) as well as profitability indexes of assets and liquidity ratios were adopted as the variables characteristic of the audited companies. The manner of establishing these indicators will be presented further below.

Auditor Attributes

The analysis of the amount of remuneration of auditing companies usually takes the division of auditing companies into consideration on the grounds of their size and range of doing business (Francis, 2004). The belief is often found in the literature, according to which the auditing companies belonging to "BIG-4" provide better quality audits (Francis, Yu, 2009; Krishnan, 2003). However, Pong and Witthington (1994) stated that the auditing companies belonging to "BIG-8" (nowadays "BIG-4") are more expensive than smaller auditing companies so they emphasize a premium for big audit firms.

On the other hand, the higher quality of an audit of financial statements results in higher fees. There is a common view, dominating among the professional accountants and the persons conducting audits of high level standardisation of audit procedures and working papers developed during the audit in big international auditing entities. However the main reason for such a belief is the great experience of the leading auditing companies in the audit of the financial statements of the listed companies.

In case of big leading auditing entities, there is a lower risk of lack of a statutory auditor's independence, especially connected with the lower dependence on a single principal (De Angelo, 1981; Palmrose, 1986). For the auditing entities of recognised reputation conducting business in a lot of countries, there is a bigger risk connected with the mistake made during the single audit which may be hyped, and simultaneously it may cause a significant decrease in the number of next orders. Thus, the higher quality of services provided by the big auditing companies is explained by higher motivation resulting from a higher risk from making a mistake (Ferguson, Stokes, 2010).

In view of the above, the hypothesis H2 was formulated according to which the amount of an auditing fee for a financial statement in listed mining sector companies indicates a statistically essential dependence on the category of the auditing entity going through the process of an audit. The zero-one variable was adopted as a variable representing an auditor's category, taking a value "1" for big international auditing entities or "0" for other entities authorised to audit financial statements

Engagement Attributes

The complexity of the process of an audit of a financial statement can influence the amount of an auditing fee for a financial statement. Before being assigned as an auditor, a proper analysis of the company's risk structure is required before the terms of engagement are fixed (D'Aquila, 2010). The lower number of problem areas can happen in the entities with the specific structure which is less complex, which accelerates the auditing procedures. Simultaneously, the activities done by statutory auditors and their co-workers become less labour-intensive as well as less cost-consuming. Abdul-Wahab, Mat Zain and James (2011) suggest that it is reasonable to conclude that the auditor needs more audit time and more specialized audit personnel to complete the audit investigation. This in turn will result in higher audit fees (O'Sullivan, 2000; Abdul-Wahab et al., 2011). Given that audit quality is unobservable, thus prior studies suggest the use of, amongst others, audit fees to proxy for audit effort.

The more complex structure is, the more types of risk which an entity is exposed to. Complexity of an enterprise is most often expressed with the number of reported operating segments (Bedard, Hoitash, Hoitash, 2008; Markanian, Parbonetti, 2007; Pinto, Morais, 2018). Therefore, the number of reported segments of activity, possible to be established on the basis of the statement of the company, can be a variable explaining the amount of an auditing fee for a financial statement. It is emphasised in the literature of the subject that the total number of business segments is better than the total number of subsidiaries, as the score is slightly higher and the standard deviation is slightly smaller. The statistically essential dependence between the amount of an auditing fee for a financial statement and the number of reported segments of activity was proved in the chosen empirical research (Behn et al., 1999; Carcello et al., 2002; Goodwin, Wu, 2014).

The interesting variable confirming complexity of the auditing process of a financial statement is the number of days between the end of the audit and the signature of the audit opinion. This variable exists in the empirical research relatively infrequently probably owing to the difficulties in obtaining the data concerning the period of conducting an audit of a financial statement. Sometimes the level of foreign activities of the client is also a standard variable in audit fee models.

Statutory auditors are obliged to report Key Audit Matters (KAM) i.e. issues, which according to a statutory auditor's professional opinion, were the most significant while examining a financial statement for a current period. Establishing the number of KAMs reported in the audit statement depended on a statutory auditor's professional opinion. The higher number of disclosed KAMs can suggest the existence of a bigger number of problem areas in the activity of an audited company. The results of the research indicate that the amount of audit fees is positively connected with the level of strategic and operational risk (Yang, Yu, Liu, Wu, 2018). Thus, the higher auditing fee for a financial statement may result from complexity of an auditing process. The more problem areas defined as Key Audit Matters, the more labour-

intensive and at the same time cost-consuming a financial statement can be. The data collection on the number of disclosed Key Audit Matters is relatively simple as currently they are made available to the public in statutory auditors' reports.

In view of the above, the hypothesis H3 was formulated according to which the amount of an auditing fee for a financial statement in listed mining sector companies indicates a statistically essential dependence on complexity of the auditing process of a financial statement. The number of reported segments of activity and the number of disclosed Key Audit Matters were adopted as the variables representing complexity of an auditing process of a financial statement.

3. Research design

The companies listed in the main European stock exchanges were taken for the research sample. The initial research sample was established on the basis of a list of listed companies taken from the ORBIS database. In connection with the branch character of the study, the companies doing business in one of the following areas were exclusively accepted for the sample: (1) hard coal and brown coal production, (2) exploitation of oil and natural gas, (3) mining of mineral ores, (4) other mining and excavation.

The inactive companies and the companies which did not disclose financial statements and statutory auditors' reports to the public were rejected from the initial sample of 248 companies. The random selection with the constant sampling interval was applied among the other entities. Thus, the selection of the companies to the sample meets the conditions of a random selection. The final research sample consisted of 62 companies for which the analysis of the content provided in the statements was done.

The collection of the data for the empirical research required making the analysis of content both the complete versions of the financial statements for 2019 for the companies accepted for the research sample and the statutory auditors' financial statements concerning the audit. The financial statements provided the source of data such as the amount of an auditing fee for a financial statement or the number of the reported segments of activity by an audited entity. The number of disclosed Key Audit Matters were established on the basis of the independent statutory auditors' auditing reports. The other data characterising the studied entities such as a range of the activity measured with the amount of the balance sheet total, the amount of the obtained financial results or the basic indicators of the financial analysis were taken from the ORBIS database. The indicators of the standard influence power of the reports and the financial review for individual countries were taken from the study results made available to the public by the World Economic Forum, within the research of the Global Competitiveness Report (Schwab, 2018).

The collected data became a basis of the construction of the regression model, identifying the determinants of the amount of audit fee in companies from the mining sector.

In order to verify the statistical hypotheses, the following explanatory variables were adopted for regression analysis purposes:

Dependent variable

Y – natural logarithm of an amount of the audit fee. The logarithm was applied to normalize the features characterised by a big range. We use the logarithmic transformation of audit fee to capture the level of audit effort in the audit fee model. The similar approach was applied to the chosen empirical research done previously (Abdul-Wahab et al., 2011; Ishak, Abidin, 2021)

Explanatory variables

X1 – natural logarithm of the total assets,

X2 – nature of a financial result, the zero-one variable (loss = 1, profit = 0),

X3 – return on assets,

X4 – liquidity ratio,

X5 – auditor's category conducting an audit of the financial statement,

X6 – number of *Key Audit Matters*,

X7 – number of financial reporting segments,

X8 – strength of reporting and auditing standards.

The choice of the explanatory variables for the authors' linear regression model is motivated by a will to confirm the results of the previous research on the sample of the companies doing business in the specific sector of the economy – the mining industry.

The set of the variables X1-X4 were adopted as the variables characteristic of the entities whose financial statements were audited. The size of the entity was expressed by the natural logarithm of the total assets (X1). The variety X2 is a dummy variable for companies that recorded a loss in the previous year. The variable X3 is a return on assets calculated as the relation between the net profit of the company and the total assets. The variable X4 is a liquidity ration expressed with the relation between the current assets and the current liabilities.

The explanatory variable X5, representing an auditor's category conducting an audit of a financial statement is a zero-one variable, taking a value "1" for big international auditing entities (Deloitte, EY, KPMG, PwC) or "0" for other entities authorised to audit financial statements. The choice of the variable was based on the common classification of auditing entities conducting an audit of financial statements into two groups.

The variables X6 and X7 refer to the degree of complexity of the financial statements audited by the statutory auditors. The higher number of reported operating segments (X6) can show bigger complexity and a developed structure of an enterprise, which can cause the existence of a higher number of problematic issues in its business. On the other hand, the variable X7 represents the number of the disclosed Key Audit Matters. Establishing the number of KAMs reported in the audit statement depended on a statutory auditor's professional

opinion. The higher number of disclosed KAMs can suggest the existence of a bigger number of problem areas in the activity of an audited company.

Additionally, the variable X8 was adopted as strength of reporting and auditing standards. Inaccuracy of standards and their weak strength can contribute to a choice of solutions which are a client's preferences (compare for instance, Mayhew, Schatzberg, Sevcik, 2011). The indicator of standard strength used as an explanatory variable is given to the public by the World Economic Forum, within the research of The Global Competitiveness Report (Schwab, 2018). The index value is calculated for each country and it takes the values from 1 to 7.

4. Results and Discussion

The amount of the auditing fees for the financial statement in the companies of the research sample, given in the financial statements of the individual companies, was converted into the EUR currency. The average fee for the audit of the financial statement for the companies of the research sample amounted to 3.575 thousand EUR.

The variables in this study consisted of eight independent variables and one dependent variable. The dependent variable (Y) is the natural logarithm of an amount of the audit fee. To understand the characteristics of the variables in terms of a minimum value, maximum, average and standard deviation, the descriptive statistical data is presented in table 1.

Table 1.
Descriptive statistics

VARIABLE	Minimum	Maximum	Mean	Std. Deviation
Y	1,98	10,78	6,14	2,16
X1	8,00	19,70	14,04	3,19
X2	0,00	1,00	0,32	0,47
X3	-1,70	0,50	-0,02	0,29
X4	0,10	36,09	3,52	6,56
X5	0,00	1,00	0,65	0,48
X6	1,00	7,00	2,77	1,45
X7	1,00	8,00	3,06	1,68
X8	4,30	6,10	5,58	0,48

Source: own study.

The explanatory variable Y has a normal distribution, which was confirmed by the Shapiro-Wilk test done (p-value = 0,217202). The significance level of $\alpha=0.05$ was adopted. Since p-value $> \alpha$, we accept the H0. It is assumed that the data is normally distributed. In other words, the difference between the data sample and the normal distribution is not big enough to be statistically significant.

The histogram of the distribution of the variable Y was presented in Fig. 1.

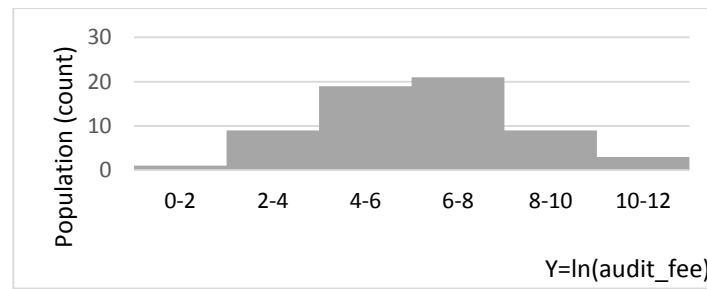


Figure 1. The distribution histogram of variable Y.

Source: own study.

In order to verify the intercorrelations between the response variable and explanatory variables, the correlation coefficients were calculated. The obtained results allowed to conclude that there is no significant correlation between the response variable (Y) and explanatory variables (X1-X9). No significant intercorrelation was stated between the individual explanatory variables. Thus, the assumptions enabling adoption of the proposed set of variables for further research and performance of linear regression analysis for the response variable and explanatory variables are met.

The linear regression analysis was performed with the use of Statistica software. The results of analysis are presented in table 2.

Table 2.

Results of linear regression analysis

Independent Variables	Coefficient	T	P > t (p-value)
Const.	-8,15291	-7,02541	0,000000
X1	0,69742	16,41400	0,000000
X2	0,26082	1,00030	0,319263
X3	-0,79795	-1,96194	0,052186
X4	0,00056	0,03750	0,970148
X5	-0,48592	-2,12031	0,036129
X6	0,12828	2,04505	0,043132
X7	0,00449	0,08259	0,934323
X8	0,77892	4,25898	0,000042
R-square	0,83133		

Source: own study.

Based on the results of regression analysis in the above table, the regression equation model obtained is as follows:

$$Y = -8,153 + 0,697 X1 + 0,260 X2 - 0,798 X3 + 0,0006 X4 - 0,486 X5 + 0,128 X6 + 0,004 X7 + 0,779 X8 + e$$

The obtained results allow to conclude that:

- there are strong significant correlations between the amount of audit fee (Y) and natural logarithm of the total assets (X1) and strength of reporting and auditing standards (X8),
- there are significant correlations between the amount of audit fee (Y) and return on assets (X3), auditor's category (X5) and number of *Key Audit Matters* (X6),

- there are no significant correlations between the amount of audit fee (Y) and nature of the financial result (X2), liquidity ratio (X4) and number of financial reporting segments (X7).

The power of the adopted model is satisfactory. The R² (R-squared) coefficient, named the coefficient of determination, specifies the level, in which the variability of response variable was explained by variability of the explanatory variables. In the performed research, the value of this coefficient is approx. 83%, which demonstrates strong power of the adopted model.

The obtained results of the study illustrate coherence with the results of a lot of previous research undertaken in the research samples including listed companies without the analysis of the sector. Similarly to the majority of the studies collected and discussed in the review papers (Cobbin, 2002; Causholli, De Martinis, Hay, Knechel, 2011; Hay, Knechel, Wong 2006), the dependence of the auditing fee for the financial statement on the size of the audited entity was proved in the conducted study. This confirms the viewpoint according to which larger companies generally require a more time-consuming audit than smaller ones. The dependence between the amount of the auditing fees for the financial statement and the existence of the negative financial result was not found in the accepted research sample. As already discussed, the similar conclusions were drawn in the previously chosen research (Vafeas, Waagelein, 2007; Ittonen, Peni, 2012; Barua, Hossain, Rana, 2019). In case of the other factors characteristic of the client, taken into consideration as the explanatory variables in the audit (profitability, liquidity), the statistical dependence was only found in case of profitability. Therefore, the property and financial situation of the audited companies expressed with the indicators of the financial analysis may be a determinant of the amount of the auditing fees for the financial statements. Notwithstanding, similarly to the previous empirical research, not every accepted variable representing the financial situation of the companies proves the essential dependence.

The essential relation between the auditing fee of the financial statement and the category of the auditing entity should be emphasised on the basis of the obtained results of the study. The cost intensity of the audit occurred to be higher if the audited company chose an auditing firm belonging to the “BIG-4”. Yet, owing to the small research sample, the introduction of the separate zero-one variables for the individual auditing entities belonging to the “BIG-4” was abandoned. In case of the empirical research done on bigger research sample, it was found, for example, that “amongst audit firms, it is evidenced that PWC and KPMG charge higher fee than the other firms” (Ishak, Abidin, 2021).

The study did not prove the essential dependences between the amount of the auditing fees for the financial statement and the number of the activity segments reported by the companies. The reached conclusion differs from the results of the chosen research (Behn et al., 1999; Carcello et al., 2002; Goodwin, Wu, 2014). Yet, it was confirmed that there is the dependence between the amount of the auditing fees for the financial statements and the number of problem areas found and disclosed by the statutory auditors expressed by the number of the Key Audit

Matters. Hence, it confirms that the complexity of the process auditing the financial statements influences the cost intensity of the audit.

The main limitation of the study was the small research sample resulting from the branch character of the study. However, it should be pointed out that the performed empirical study did not aim at the evaluation of the quality of the work of the auditing firms. It only confirms the existence of the differentiation on the level of the remuneration of the auditing entities. This differentiation can be influenced by the factors concerning both the clients, auditors and auditing process. The obtained results for the research sample of the mining sector companies confirm that the amounts of the audit fee belonging to each group separated by the authors chosen from among the previous determinants analysed in the literature of the subject are statistically essential also in the chosen specific sectorial group of the mining sector entities.

In the authors' opinion, there is still a demand for the further empirical studies concerning the potential differentiation of the quality of the provided auditing services and the identification of the factors significantly influencing the level of the perceived audit quality.

5. Conclusions

This study contributes to expanding the literature on audit fee determinants. The main objective of the study was to identify factors that influence the amount of an audit fee in European mining companies. This objective was achieved. The empirical study conducted on the sample of the European listed mining sector companies confirmed the existence of the relations between the amount of the auditing fee for the financial statement and the factors specific both for the clients, auditing firms and complexity of the audit process.

The proper remuneration of the statutory auditors is one of the guarantees of their independence and simultaneously their objectivity and reliability of the issued opinions. The modern financial review faces a lot of newer and newer challenges mainly connected with the constant expansion of information needs reported by the capital market. Therefore, it can be expected that such expectations of the market will force the further evolution of the form of the opinion and the report as well as they will be a catalyser of the changes in the manner of the information exchange between the statutory auditors and various groups of stakeholders.

The time horizon of the study included the reporting year 2019. The agreements about the audit of the financial report for this period were signed at the end of the year when there was not an epidemic situation connected with the spread of the epidemic COVID-19. The situation during the pandemic significantly made planning and doing the audit of the financial reports more difficult. What is more, uncertainty and unpredictability of the situation connected with the pandemic vitally influenced the statutory auditors' working conditions. Apart from posing threat to public health, which has economic consequences, the epidemic accelerated the

evolution of the profession of statutory auditor towards the use of remote techniques to do their tasks (Tysiac, 2020). The situation also forced the statutory auditors to work under conditions of the limitation of the range of the audit (Amato, 2020).

Uncertainty and unpredictability are the reasons why one should still take a possibility of appropriate modifications of the manner of obtaining sufficient evidence into consideration, which an opinion about an audited financial statement is based on. The hindered access to persons or information as well as the existence of risks forcing the changes in the auditing procedures may still influence the statutory auditors' working conditions. Consequently, it may influence the changes in the amount of the auditing fees for financial statements in the years to come. Therefore, it seems that the problem discussed in the article is still relevant and in the near future there will be the empirical research done taking the division into the periods before and after the epidemic situation into account. It should also be pointed out that the changes in the manner and place of conducting an audit resulting from the use of remote work on a wider scale should go hand in hand with the appropriate reaction to the changes in the working conditions and the renewed analysis of quality control procedures connected with management of and supervising the groups realizing the orders of the audit of financial statements.

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