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Determinants of audit fees: Evidence from Poland

Abstract

Unlike many studies concerning audit fees in Western Europe or the United States, literature concerning this kind of research is very limited in Central and Eastern Europe. This study aimed to show what factors shape audit fees in Poland. It was conducted based on data collected from the financial statements of 111 companies listed on the Warsaw Stock Exchange in 2018. The study used a linear regression model to verify the determinants of audit fees. The research results indicate a positive relationship between audit fees and company size, measures of complexity (in addition to the ratio of inventories and receivables to total assets) and the fact that a company is audited by the 'Big Four' accounting firms.

Keywords

audit fee | statutory auditor | accounting | Warsaw Stock Exchange

JEL Codes

JEL: M42, M48

1 Introduction

The problem of the proper supervision of listed companies is extremely complex and a current one in Poland. In 2018, there was a spectacular collapse of GetBack S.A. (currently Getback S.A. in restructuring), which debuted a few months earlier on the Warsaw Stock Exchange (WSE). Moreover, in its report for 2018, its legal successor shows a loss of PLN 1.56 billion, negative capital of PLN 2.2 billion and a position which may be particularly surprising because revenues are also negative and amount to PLN -730 million. When examining the financial statements for 2017, the auditor finally issued a disclaimer of opinion, and the entire issue became extremely popular in the media due to the many irregularities (e.g. the mode of the sale of bonds of GetBack S.A., the transactions of the company with related entities, the work of the auditor), which are currently the subject of prosecution proceedings.

The subject of fees for statutory auditors in Poland appears in the context of this still unfinished case. The largest companies pay many millions of zlotys for an audit, and yet this does not protect investors from losses. The above-mentioned GetBack S.A. paid PLN 6.9 million to its auditor in 2018 where more than PLN 5 million was remuneration for assistance at the initial public offering (IPO). This article aimed to understand the determinants of audit fees based on data from WSE-listed Polish companies, compared to factors identified in world literature.

This article explores the issue of audit fees for a mandatory audit of the financial statements of companies listed on the WIG20, mWIG40 and sWIG80 indices of the WSE for 2018.

2 Theoretical foundations

To explain what influences audit fees, several theories that have appeared many times in studies concerning this issue should be considered. The first of these is the agency theory developed in the 1960s and 1970s. The essence of the agency theory is the relationship between business principals and their agents, where the agents can carry out activities that are not in line with the principals' interests (Jensen & Meckling, 1976, p. 313). From the perspective of this theory, the entire company is perceived as a network of contracts, whereas stakeholders (suppliers, bankers, customers, employees and so on) contribute to the company at a certain price. In this kind of relationship, managers act as agents who seek to obtain input from their stakeholders (bankers, shareholders, employees and so on) (Watts & Zimmermann, 1978, 1986). The involvement of an independent auditor who is appointed to represent the interests of both stakeholders and managers is one of the supervisory mechanisms that could solve the agents' problem (Jensen & Meckling, 1976, p. 308). Another theory derived from the agency theory is the stakeholder theory proposed by Freeman (1984). This model includes not only the external environment, broadly understood as shareholders, employees, customers and suppliers, but also new stakeholders, that is, those entities that have any interest in the activities of a given company (the media, local authorities, government agencies and so on) (Freeman, Wicks, & Parmar, 2004). In turn, in the stakeholder theory, which evolved from the agency theory, there is a conflict of interest between managers and stakeholders. However, the basic feature that differentiates both theories is that in the stakeholder theory, managers must consider the goals of all stakeholders, whereas in the agency theory, agents should first take care of the interests of the owners of capital. Here, too, the solution to the conflict of interest is to introduce an independent auditor who would provide an independent audit of financial matters and issue an opinion. It should be remembered that owners have a high demand for information, and so auditors are expected to perform their work at a very professional level (Freeman, 1984; Jones & Wicks, 1999; Donaldson & Preston, 1995; Jones, 1995). The aforementioned conflicts of interest between agents and principals or stakeholders lead to the phenomenon of information asymmetry, which results in a moral hazard. The phenomenon of moral hazard has been studied in detail in the context of research on the insurance market and refers to the situation in which the existence of

an insurance contract may significantly affect actions taken by the insured (they may take more risky actions than they would if they bore the full costs of that risk) (Rowell & Connelly, 2012). In the context of financial reporting, this phenomenon may occur when companies present false reports for publication, knowing that users of financial statements are unable to prove fraud in reports without access to information from within the organisations. This problem can be partially resolved at additional costs (Spence, 1973). These costs in relation to financial reporting can include the audit costs that are incurred by a company to ensure the highest quality of financial statements.

The subject of audit fees has been repeatedly discussed in the literature, mainly due to the study conducted by Simunic (1980). He was the first to formulate a model examining the determinants of audit fees (Simunic, 1980). He provided the theoretical foundations for many future empirical studies in subsequent years. In his work, he pointed out that audit fees depend, among others, on business complexity, the size of the assets of the audited company and the asset-liability ratio. Based on the Simunic model, in subsequent years, other researchers used variables and the structure of the model itself to find out what and to what extent determines audit fees. Simunic also claimed that internal control and external auditing can substitute for each other if the former is well performed.

Existing research regarding audit fees has been used to formulate research hypotheses and select a set of variables that will be subject to further analysis. Most often, the variables used in research on audit fees are divided into two perspectives: the client's perspective (the audited) and the perspective of the auditing firm (the auditor). From the point of view of the audited company, regardless of whether we consider research on the European, American, Asian or African markets, the following variables can be listed:

- the company size—many researchers have indicated a significant relationship between the company size and audit fees. It results directly from the fact that the larger the audited company, the more procedures must be performed to obtain a sufficient level of assurance that a financial statement is free from material misstatements. Following this, the auditor needs more resources (more employees involved in the audit) which results in a audit fee increase. Researchers usually determine the company size based on the total assets (Wallace & Naser, 1996; Inchausti, 1997; Ali, Ahmed & Henry,

2004; Galani, Alexandridis, & Stavropoulos, 2011; Ali & Aulia, 2015; Demirkan & Zhou, 2016; Liu, 2017), sales volume (Inchausti, 1997; Depoers, 2000; Prencipe, 2004; Rouf, 2011) or market capitalisation (Naser, Al-Kwari, & Nuseibeh, 2006; Chatterjee & Mir, 2008). The company size is also determined based on various combinations of data from the balance sheet of the company, such as the volume of inventories, debt, liabilities or receivables (Simunic, 1980; Taylor & Simon, 1999; Hay, Knechel, & Wong, 2006; Hassan & Naser, 2013). In this article, the variables that determine sales volume, total assets and revenue growth are used as variables in the model.

Hence, hypothesis H1 is as follows: factors related to the company size, such as the total assets, sales volume and the increase in revenues, positively affect the amount of audit fees.

- profitability—the literature on the subject also indicates a possible correlation between audit fees and the profitability of the audited company (Joshi & Al-Bastaki, 2000; Dekeyser, Gaeremynck, & Willekens, 2019). It can be argued that this is because high-profit companies also disclose more information and brag about their achievements (Watts & Zimmermann, 1986). High-profit companies also pay their managers' high salaries, and so the management boards of these companies may strive to confirm their competence and justify their high remuneration (Inchausti, 1997). Researchers used various combinations of profitability ratios: net profit, net profit to sales ratio, return on assets (ROA) ratio and return on equity (ROE) ratio. In their research, they have proved that audit fees depend on the company's profitability and that this correlation is significant (Simunic, 1980; Francis and Simon, 1987; Hay, Knechel, & Ling, 2008; Nam, 2018). Most often, this variable was used as a discrete variable describing either profit or loss, and its size was irrelevant.

Therefore, hypothesis H2 has been formulated: factors related to the company's profitability, such as net profit and ROA have a positive impact on audit fees.

- complexity—other interesting variables used by researchers are undoubtedly various combinations of business complexity. Researchers have indicated a positive relationship between the number of subsidiaries (the size of a corporate group) and audit fees (Simunic, 1980; Cameran, 2005; Joshi & Al-Bastaki, 2000; Clatworthy & Peel, 2006;

Thinggaard & Kiertzner, 2008; Ellis & Booker, 2011; Verbruggen, Christiaens, Reheul, & Van Caneghem, 2011). The main reason for this is that the more entities form a corporate group, the more time the auditor needs to express an appropriate opinion (Sandra & Patrick, 1996). It should also be noted that the more foreign entities there are in a corporate group, the more difficult a task it is for the parent company to create a consolidated financial statement because subsidiaries operating in other markets do not necessarily apply the international accounting standards (IAS)/the international financial reporting standards (IFRS) in their accounting. Therefore, when creating consolidated financial statements, the parent company must also adjust the data reported by subsidiaries according to the applicable IAS requirements for the consolidated financial statements of WSE-listed corporate groups. Moreover, the study (Clatworthy & Peel, 2006) indicates that the more companies in a corporate group, the greater the auditor's exposure to claims than that of the smaller entities. Researchers have also described the complexity of operations, that is, operating segments (Langendijk, 1997; Joshi & Al-Bastaki, 2000; Tee, Gul, Foo, & Teh, 2017) and the structure of total assets (Peel & Clatworthy, 2001; Simunic, 1980; Francis & Stokes, 1986; Francis & Simon, 1987; Joshi & Al-Bastaki, 2000; Carson, Fargher, Simon, & Taylor, 2004; Gonthier & Schatt, 2007; Thinggaard & Kiertzner, 2008). In the literature, complexity factors are also described as the number of operational entities in a corporate group, the number of countries in which they operate, and the number of separate opinions that an auditor must issue during the audit of the corporate group. Moreover, in the research, there are also indicators related in other ways to the company size, that is, the cash flow to total assets ratio. For this work, various ratios regarding the structure of a corporate group, inventories, receivables, debts and cash flows are used.

Therefore, hypothesis H3 takes the form of the specification: complexity factors, that is, the percentage of foreign companies, the operating cash flow to total assets ratio, ratios regarding inventories, receivables, debt, the number of operating segments, if there has been a merger/acquisition and prior year adjustments have a positive effect on audit fees.

In turn, from the auditors' point of view, the size of the audited firm is primarily considered. Although initially the research from the 1980s (Simunic, 1980)

did not indicate a significant impact of the company size on audit fees, as the years went by a high premium for being a large auditing company began to be noticeable. For example, Craswell set the amount of premium at 34% in his research on audit fees, based on the data of companies listed on the Australian Stock Exchange (Craswell, Francis, & Taylor, 1995).

Researchers also emphasise that large auditing firms can afford higher earnings compared to small auditing firms. The fact of an additional premium for being a 'Big Four' company has also been indicated (DeAngelo, 1981; Haniffa & Cooke, 2002; Glaum & Street, 2003). The aforementioned relationship also results from the fact that these companies are more visible in the market of auditing companies and thus more exposed to serious image consequences in the event of an erroneous auditor's opinion (e.g. the case of Enron resulted in the collapse of the well-known auditing firm of Arthur Andersen, which was taken over by PricewaterhouseCoopers). This greater pressure and more significant consequences in the event of failure mean that the owners of large companies are more likely to choose the 'Big Four' firms as their auditors, believing that, thanks to their standards, their financial statements will be prepared in accordance with the relevant financial reporting framework and give a true and fair view of the financial position. Thus, the status of the 'Big Four' is associated with an additional premium for the companies' reputation (Huang, Liu, Raghunandan, & Rama, 2007; Choi, C. Kim, Kim, & Zang, 2010; Wang, Sewon, Iqbal, & Smith, 2011; El-Gammal, 2012).

Based on these considerations, hypothesis H4 has been formulated: audit fees are positively dependent on whether a company is audited by one of the 'Big Four' firms or by another entity.

To date, other research hypotheses have appeared in the literature on audit fees, such as audit fees inversely depend on the time elapsed between the date of the auditor's opinion and the balance sheet date (Habib, Bhuiyan, & Rahman, 2019); audit fees are higher if a fiscal year ends in accordance with a calendar year than if a fiscal year ends at a different date (McMeeking, Peasnell, & Pope, 2006; Tee et al., 2017); the length of cooperation with an auditor is inversely proportional to the amount of audit fees due to the smaller effort of the auditor in the process of recognising the weakness of internal control (Okolie, 2014) or the closer relationship between the auditor and the audited entity (Barkess and Simnett, 1994; DeFond, Raghunandan, & Subramanyam, 2002; Car-

cello & Nagy, 2004). In turn, in his study, Knapp (1991) pointed out that, in the United States, the likelihood that an auditor will indicate significant irregularities increases in the first years of cooperation and then decreases reaching its minimum after 20 years of cooperation; reports other than the so-called clean opinions have a positive impact on the amount of audit fees (Verbruggen, Christiaens, Reheul, & Van Caneghem, 2015).

3 Results

3.1 Research sample

The study used data from published financial statements and reports on the activities of the management boards of companies listed in the WIG20, mWIG40 and sWIG80 indices in 2018. In the case of entities that form a corporate group, data from consolidated financial statements were studied. In the case of other entities, data were collected from separate financial statements. In the case of a financial year ending on a day other than 31 December 2018, the study covered the period ending during 2018.

Due to the need to ensure comparability of data, it was necessary to remove data from the research sample concerning: companies from the financial industry (banks, insurance companies, investment funds, debt collection companies and the WSE-listed company Gielda Papierów Wartościowych w Warszawie S.A.)—19 entities; foreign companies, which are listed on the WSE but whose headquarters are outside Poland—seven entities (Kernel Holding S.A., AmRest Holdings SE, ASBIS Enterprises Plc, Astarta Holding N.V., Ovostar Union PCL, IMC S.A., Play Communications S.A.); and companies for which data for the given period were incomplete or unavailable—three entities (Capital Group S.A. and Rainbow S.A.—the data were unavailable at the stage of data collection, and Mabion S.A.—the data were available but the company did not generate revenues in 2017 and 2018). Therefore, there was no data for four variables: *SalesGrowth*, *ForeignSales*, *lnSales2018* and *lnSales2017*. Based on this, we decided to remove these observations from the data set in order to not disturb the model results. Financial industry entities were excluded due to their different operating characteristics. Moreover, these entities are subject to much greater regulations than production, service and other entities. In addition, entities, such as banks and insurance companies, use their own

Tab. 1: Description of the variables used in the study

| Variables | Expected impact | Description of the variable |
|----------------------|-----------------|---|
| <i>InAuditFee</i> | N/A | Natural logarithm of the amount of audit fees for conducting a mandatory audit of an entity's financial statement in the period covered by the statement (including fees for reviews of financial statements) |
| <i>InTOTALASSETS</i> | + | Natural logarithm of the total assets |
| <i>BIG4</i> | + | Discrete variable coded as 1 if a company's auditor is Deloitte, EY, KPMG or PwC, and 0 in other cases |
| <i>MERGE</i> | + | Discrete variable coded as 1 if there was a merger or acquisition of entities forming a corporate group during a financial year and 0 in other cases |
| <i>LEVERAGE</i> | + | Company's debt to total assets ratio |
| <i>Complexity</i> | + | A company's total short- and long-term receivables and inventories |
| <i>Foreign</i> | + | The ratio of the number of foreign companies in a corporate group to the number of all companies forming the corporate group |
| <i>InSales2018</i> | + | Natural logarithm of sales volume in 2018 |

Tab. 2: Basic characteristics of the variables (non-logarithmic values for the variables *AuditFee*, *TOTALASSETS* and *Sales2018*)

| Variable | Mean | Standard deviation | Min | Max |
|--------------------|---------------|--------------------|------------|-----------------|
| <i>AuditFee</i> | 598,957 | 1,028,801 | 16,000 | 5,881,000 |
| <i>TOTALASSETS</i> | 5,478,254,619 | 12,263,775,906 | 34,686,420 | 75,905,000,000 |
| <i>BIG4</i> | 0.6306306 | 0.4848229 | 0 | 1 |
| <i>MERGE</i> | 0.2432432 | 0.4309865 | 0 | 1 |
| <i>LEVERAGE</i> | 0.1638752 | 0.1459938 | 0 | 1 |
| <i>Complexity</i> | 0.3086383 | 0.2124534 | 0.0061615 | 0.8692479 |
| <i>Foreign</i> | 0.2534987 | 0.2651958 | 0 | 0.9545455 |
| <i>Sales2018</i> | 4,488,839,727 | 11,919,499,823 | 17,486,560 | 109,706,000,000 |

balance sheets and profit and loss accounts, so some of the data presented are incomparable. Foreign entities' data were removed as the intention was to only study the Polish market. Therefore, it is reasonable to not combine them with the observations regarding Polish entities due to their own specifics prevailing in the domestic markets of the audit services in these countries. Finally, 111 observations were used in this study.

3.2 Model variables

The analysis of data used in the study on audit fees for the mandatory audit of financial statements and an auditor's own experience related to work in an audit company allowed the selection of variables used in the

linear regression model. The variables are described in Table 1. Basic statistics of the data set used in the model are presented in Table 2 (non-logarithmic values are given).

Considering our main variable (*AuditFee*), we can see that the average audit fee in Poland based on the aforementioned research sample is nearly PLN 600,000. However, the high standard deviation of over PLN 1 million should be highlighted. This shows a significant differentiation of audit fees in Poland. The lowest audit fee recorded in the research sample was PLN 16,000 and the highest was over PLN 5.8 million. Moreover, 63% of companies from the research sample were audited by the 'Big Four' auditing firms.

Tab. 3: Correlation between variables

| | <i>lnTOTALASSETS</i> | <i>BIG4</i> | <i>MERGE</i> | <i>LEVERAGE</i> | <i>Complexity</i> | <i>Foreign</i> | <i>lnSales2018</i> |
|----------------------|----------------------|-------------|--------------|-----------------|-------------------|----------------|--------------------|
| <i>lnTOTALASSETS</i> | 1 | | | | | | |
| <i>BIG4</i> | 0.4497* | 1 | | | | | |
| <i>MERGE</i> | 0.1461 | | 1 | | | | |
| <i>LEVERAGE</i> | 0.1153 | 0.3038* | 0.1318 | 1 | | | |
| <i>Complexity</i> | -0.1528 | -0.2342* | -0.097 | 0.3808* | 1 | | |
| <i>Foreign</i> | -0.0311 | 0.0733 | -0.0311 | 0.118 | 0.0544 | 1 | |
| <i>lnSales2018</i> | 0.8593* | 0.3053* | 0.1612 | 0.2627* | 0.0893 | -0.1229 | 1 |

*Significant at the confidence level of 5%.

3.3. Correlation analysis

Correlation analysis shows that two variables, *lnSales2018* and *lnTOTALASSETS*, are very strongly correlated with each other (correlations above 0.85). The final version of the model was also tested for collinearity. The correlation between the variables is presented in Table 3.

3.4 Reduction of discrete variables

In the initial version of the study, six discrete variables were classified: *BIG4*, *MERGE*, *Loss*, *Yearend*, *Restatement* and *AuditOpinion*. Preliminary regression showed that four variables: *Loss* (discrete variable coded as 1 in the event of a loss in the financial year and 0 in other cases); *Yearend* (discrete variable coded as 1 if the company's financial year ends on 31 December 2018 and 0 in other cases); *Restatement* (discrete variable coded as 1 when a company has made prior year adjustments during a financial year—adjustments resulting from the implementation of the new IFRS 9, IFRS 15 or IFRS 16, which are mandatory for companies preparing financial statements in accordance with the IAS/IFRS, are not considered prior year adjustments; the variable is coded as 0 in other cases); and *AuditOpinion* (discrete variable coded as 0 in the situation when an auditor was unable to express an audit opinion and issued an disclaimer of opinion, or issued an adverse opinion, a qualified opinion or an unqualified opinion, but with additional explanation and if an auditor issued the so-called clean opinion, that is, an unqualified opinion without additional explanations to the opinion issued) may be insignificant variables. The three variables, namely *AuditOpinion*, *Loss* and *Yearend*, are very weakly

differentiated. In the case of the *Yearend* variable, only in four cases out of 111 observations did a financial year not end on 31 December 2018. In the case of the *Loss* variable, only 10 companies recorded a loss at the end of the year, while in the case of the *AuditOpinion* variable, the auditor issued a different opinion to an unqualified opinion and additional explanations in only 8 cases. In this situation, the decision was taken to eliminate these variables from the model. In the case of the *Restatement* variable, an additional Student's *t*-test was performed and, based on the *p*-value = 0.2812, it showed that there are no grounds for rejecting the null hypothesis, saying, at the confidence level of 5%, that fees for the mandatory audit of financial statements do not differ significantly in the case of financial statements where it was necessary to make prior year adjustments and thus transform the comparative data from those where such an adjustment was not required. Thus, this variable has also been removed from the model. In the case of the *BIG4* and *MERGE* variables, the *p*-value = < 0.05 and so we have rejected the null hypothesis about equal audit fees for audits carried out by one of the 'Big Four' auditing firms and other audit companies. Also, in the event of mergers or acquisitions of companies, the null hypothesis of equal audit fees in the event of such phenomena and their absence should be rejected.

3.5 Reduction of continuous variables

The first version of the model assumed the use of 13 continuous variables. However, after performing the first regression, it was indicated that there would be premises to claim that some of these variables would be insignificant. The highest *p*-value statistics were

obtained by the following variables: *CFO* (net operating cash flow to the total assets ratio), *SalesGrowth* (revenue growth rate year to year) and *ROA* (ROA calculated based on net profit and the total assets at the end of a financial year) (0.867, 0.705, 0.621, respectively). High statistics indicate that these variables should be discarded from the final version of the model. Also, from the auditor's point of view, the aforementioned variables do not have to be crucial for determining the amount of audit fees. In the case of the *CFO* variable, it is impossible to clearly assess the financial position of an entity by only looking at operating cash flows. Similar conclusions can also be derived by analysing the *ROA* and *SalesGrowth* variables. Here, too, these indicators will vary significantly depending on the industry and also depending on the size of the enterprises. Capital-intensive industries will probably stand out with fairly low *ROA* and *SalesGrowth* values even if their profits and revenues go far beyond the forecasts of industry experts. In turn, a low *ROA* can also be achieved for small companies that do not have a high total assets. It is sufficient to achieve a low net profit to have a low *ROA*. However, in the case of *SalesGrowth*, a fairly low value of this indicator can be expected in the case of companies that achieve revenues calculated in billions due to a high base. A low value of the indicator for companies with revenues of several million is also achievable, but the development of such an entity will be assessed differently than in the case of a large enterprise. In the above-mentioned situations, the amount of audit fees will differ, although the explanatory variable may assume similar values. Thus, the *ROA* variable has also been removed from the final version of the model.

The *Foreign_Sales* variable is another variable that has been removed from the model due to the complexity of many factors that may determine the impact of this variable on audit fees. Thanks to the internet, companies have the opportunity to sell their goods around the world without generating additional costs associated with transport (e.g. the computer games industry and retail sales, where customers pay for transport services). Moreover, foreign sales often take place based on ex-works sales, which, in principle, can be treated as domestic sales by an auditor. Therefore, as the above premises could disturb the model results, we have decided to remove the above variable from the model.

In the next step, three subsequent variables were analysed: *Auditlength* (the length of a current auditor's cooperation with a company counted in years),

AuditReport_Lag (the number of days from the end of a financial year to the date of an auditor's opinion) and *Segment* (the number of operating segments disclosed by a company). In the case of the variable describing the length of cooperation between an auditor and a given company, it is difficult to describe the expected direction of the impact of extending this cooperation by another period based on data from only 1 year. On the one hand, it can be stated that in each subsequent year, the auditor understands the company more and has to spend less time to comprehend the key processes occurring in the entity. Going further, one can expect fewer hours being spent by the auditor during the audit, which will translate into lower fees. On the other hand, the company can grow dynamically and each subsequent year may bring new acquisitions, mergers or simply strong increases in the entity's activity, which should translate into a rise in audit fees. Therefore, one can hypothesise that there is no particular relationship between extending the period of cooperation between an auditor and a company. Another variable that has been removed from the model is describing the number of days since the end of a financial year (*Audit_Report_Lag*). On the one hand, it should be noted that auditors have the most work in January, February and March and so an audit ending in April should be significantly cheaper. However, it should be remembered that the largest entities most often presented their reports for 2018 in the period between the end of February and the end of March. In contrast, small entities most often postponed the dates of publication of their financial statements to the last possible moment allowed by law. However, it cannot be ruled out that very large entities, due to the quite complicated processes of data compilation, will want to present their reports at the latest time required by Polish law. In the case of a variable describing the number of operating segments reported by an entity, it is also difficult to find a clear direction of the impact on audit fees. It can be expected that small entities will report fewer segments than large corporate groups with complex structures. However, it should be remembered that the requirements for segment reporting described in IFRS 8 give a large amount of freedom in identifying segments and their number. The key restriction is that segments should describe at least 75% of the entity's total revenues. On the other hand, IFRS 8 recommends that an entity consider the appropriateness of presenting more than 10 segments. The standard in this situation imposes some sort of aggregation of segments. The freedom in choosing reporting segments means that this variable

can behave very differently depending on the selected sample.

Another variable that should be considered when determining the final value of the model is the variable of sales in 2017 (*lnSales2017*). Perhaps this variable should be considered in interaction with the dummy variable describing whether an audit is performed by a statutory auditor for the first time because this is the only case where the auditor examines comparative data to a limited extent. In the next year of cooperation, there is no need to perform additional audits concerning the previous year because this data was audited in the previous period and an opinion was issued about them, so this variable has also been removed from the model.

The next step involved analysing the variables that were significant in the initial version of the model, that is, *lnTOTALASSETS*, *LEVERAGE*, *Foreign* and *Complexity*. In the case of the first variable, the studies of other researchers indicate a positive significant correlation between this variable and audit fees and so it has been left in this study. The total assets show how big an entity is, taking account of its state of ownership and financing methods.

In the case of the *LEVERAGE* variable, it can be hypothesised that the higher an entity's debt compared to the total assets, the higher the risk arising from the entity's operations. Therefore, also an auditor's responsibility for issuing a reliable opinion is crucial. Thus, it can be argued that in such a situation, an auditor will demand higher remuneration due to the greater risk of issuing an incorrect opinion. Auditing companies are afraid of losing reputation and so, in the above situation, the key statutory auditor responsible for conducting an audit will probably decide on a more thorough audit (larger samples of documents will be taken for examination). The *Complexity* variable shows how much inventories and receivables a company has relative to the total assets. At the stage of the initial linear regression, the *Complexity* variable showed an inversely proportional effect on audit fees. This can be explained by the fact that, in some cases, companies with low capital intensity and small service-providing companies will have higher values of this ratio. In such a situation, large capital-intensive entities will have a significant share of fixed assets in the structure of assets and thus the *Complexity* ration will be low for such companies. As the variable turned out to be significant in the original version of the model, it has been left to verify whether it would still be significant in the final version of the model. In turn, the *Foreign*

variable, describing how large the share of foreign companies is in a corporate group, may have an impact when determining audit fees because the more foreign companies in a group, the more work an auditor has to put into auditing a consolidated financial statement. In such a situation, additional problems are most often encountered when adapting the consolidation packages of companies to the accounting principles in force in Poland, as well as converting amounts provided in foreign entity statements into Polish currency, which causes additional difficulties in calculating the capital value from the conversion of amounts provided by foreign entities. Moreover, this variable was also significant in the case of primary regression. Given the above, this variable has been kept in the model.

The variable of revenue for 2018 (*lnSales2018*) is the last one that was analysed. Although in the case of primary regression it turned out to be insignificant, like the *lnTOTALASSETS* variable, it has been left in the model because the volume of revenues also describes the company size and the larger the company, the higher the expectations regarding an auditor's remuneration. The correlation analysis of the *lnSales2018* variable shows a very strong correlation with the *lnTOTALASSETS* variable; however, this variable carries a lot of information about the company size.

After analysing the significance of continuous variables, those of *lnTOTALASSETS*, *LEVERAGE*, *Complexity*, *Foreign* and *lnSales2018* have been included in the final version of the model.

3.6 Model description

After taking a series of steps to determine the final version of the model, the final regression was carried out using the formula:

$$\ln \text{AuditFee} = \beta_0 + \beta_1 \ln \text{TOTALASSETS} + \beta_2 \text{BIG4} + \beta_3 \text{MERGE} + \beta_4 \text{LEVERAGE} + \beta_5 \text{Complexity} + \beta_6 \text{Foreign} + \beta_7 \ln \text{Sales2018}$$

The results of the final version of the linear regression model are presented in Table 4. In this version of the model, there are no more insignificant variables (the *p*-value for individual variables is below the confidence level of 5%), and it can also be seen that all regressors together are significant (Prob > *F* = 0.0000). The *R*² coefficient was 0.8101 and was slightly lower than in the first regression (0.8167). Then the model

Tab. 4: Final version of the linear regression model

```
. xi: reg ln_AuditFee ln_TOTALASSETS i.BIG4 i.MERGE LEVERAGE Complexity Foreign ln_Sales2018
i.BIG4          _IBIG4_0-1          (naturally coded; _IBIG4_0 omitted)
i.MERGE         _IMERGE_0-1         (naturally coded; _IMERGE_0 omitted)
```

| Source | SS | df | MS | Number of obs | = | 111 |
|----------|------------|-----|------------|---------------|---|--------|
| Model | 132.868559 | 7 | 18.9812227 | F(7, 103) | = | 62.77 |
| Residual | 31.1471749 | 103 | .302399756 | Prob > F | = | 0.0000 |
| | | | | R-squared | = | 0.8101 |
| | | | | Adj R-squared | = | 0.7972 |
| Total | 164.015734 | 110 | 1.49105213 | Root MSE | = | .54991 |

| ln_AuditFee | Coef. | Std. Err. | t | P> t | [95% Conf. Interval] | |
|----------------|-----------|-----------|-------|-------|----------------------|-----------|
| ln_TOTALASSETS | .2600793 | .0929165 | 2.80 | 0.006 | .0758013 | .4443572 |
| _IBIG4_1 | .484579 | .1279933 | 3.79 | 0.000 | .2307343 | .7384236 |
| _IMERGE_1 | .3571145 | .1242074 | 2.88 | 0.005 | .1107783 | .6034506 |
| LEVERAGE | 1.434155 | .4012236 | 3.57 | 0.001 | .6384224 | 2.229887 |
| Complexity | -1.013776 | .296101 | -3.42 | 0.001 | -1.601023 | -.4265296 |
| Foreign | .6528294 | .2039874 | 3.20 | 0.002 | .2482686 | 1.05739 |
| ln_Sales2018 | .218669 | .0849214 | 2.57 | 0.011 | .0502474 | .3870906 |
| _cons | 1.977835 | .75729 | 2.61 | 0.010 | .4759293 | 3.479742 |

was tested for collinearity. High values of the variance inflation factor (VIF) statistics were observed for the *lnTOTALASSETS* and *lnSales2018* variables, which is associated with a strong correlation between these variables. However, the values of the VIF statistics do not exceed the threshold described in the literature as 10, and the mean is 3.2. In the case of our model, we have not removed the variable with the highest VIF value (the VIF statistics for the variables *lnTOTALASSETS*, *lnSales2018*, *Complexity*, *BIG4*, *LEVERAGE*, *Foreign*, *MERGE* are 8.58, 7.60, 1.44, 1.40, 1.25, 1.06 and 1.04, respectively).

To test the correctness of the presented model, Ramsey's RESET test was used. The result of p -value = 0.0987 has made it possible to accept the null hypothesis ($p > 0.05$) and proceed with further diagnostic tests. The Jarque-Bera test was used to check the normality of the random component distribution. In this case, the calculated probability of the test statistics is 0.9640, and so there is no reason to reject the null hypothesis. It can, therefore, be concluded that the random component has a normal distribution. Based on the results obtained from the Breusch-Pagan test (p -value: 0.2838 > 0.05) and the White test (p -value: 0.3456 > 0.05), we have no grounds to reject the null hypotheses about homoscedasticity of the random component. After performing diagnostic tests, it can be concluded that the final version of the linear regression model is correct.

4 Interpretation of results

This article is based on data from WSE-listed companies for 2018 and describes the empirical study on the impact of various variables on audit fees. Having conducted a range of tests and the analysis of factors, we have selected variables that are significant in the final version of the linear regression model. According to the results presented in the final version of the model, it can be seen that the amount of audit fees depends positively on company size measured by the total assets, the sales volume of the audited company, the ratio of debt to the total assets, the number of foreign companies relative to the total number of companies in a corporate group, the fact of a merger or acquisition in the audited financial year and the fact that a company was audited by a 'Big Four' auditing firm. Moreover, audit fees depend negatively on the complexity of the total assets (measured as the sum of inventories and receivables relative to the total assets). Therefore, it should be stated that there are no grounds to reject some of the research hypotheses put forward at the beginning of this study. The study only has fully confirmed hypotheses H1 and H4, saying that the company size and the fact that a company was audited by a 'Big Four' firm positively affect audit fees. This correlation is also convergent with the results of international research on this topic. Hypothesis H3 on the positive effect of complexity factors has been partially confirmed. In this study, this hypothesis has been rejected by a negative result for the *Complexity* variable. This result is also different from the results

described in international literature. Perhaps, it is worth extending the research sample in subsequent studies dealing with audit fees, or to attempt to disaggregate data by industry. However, hypothesis H2, which says that the factors related to the company's profitability, that is, net profit, ROA and ROE, have a positive impact on audit fees, has not been verified because the variables describing them were rejected at the analysis stage for the variables and data. It cannot be ruled out that some variables would not have been excluded at the stage of variable selection if the data set had been larger.

In this study, the negative impact of business complexity on audit fees may be striking. Companies with a *Complexity* ratio below 10% have been verified (among such companies were Cyfrowy Polsat, Energa, Globe Trade Centre, Polska Grupa Energetyczna, Netia, Tauron, Polenergia and Bogdanka). These are companies from highly capital-intensive industries, such as energy, mining, real estate and telecommunication operators. The hypothesis that rather smaller entities have low *Complexity* indices has been confirmed by the negative correlation between the *Complexity* and *lnTOTALASSETS* variables. The available literature indicates that the *Complexity* indicator, if it is significant, is positively correlated with audit fees.

The *LEVERAGE* variable has the strongest impact on audit fees. In addition to the aforementioned correlation and the possibility of an additional risk premium, it should also be noted that loan agreements most often contain additional clauses called covenants. When granting loans, banks expect a company to meet certain criteria that determine whether the loan will become due immediately or will be repaid on a schedule. For the covenants to be properly calculated, banks most often expect the financial data presented in financial statements to be audited by the 'Big Four' firms. Therefore, taking account of the aforementioned circumstances, the results of the relationship between debt and audit fees are in line with expectations.

5 Conclusions

The literature review shows that the number of studies on the determinants of audit fees in Central and Eastern Europe is very limited and requires further study. This article contributes to global research into audit fees. Based on the literature review, a model has

been developed which uses data collected from the financial statements of WSE-listed Polish entities. In this model, the variables that have proved to be significant include: the variable regarding the total assets and revenues for 2018 (in a logarithmic form); business complexity calculated as the sum of inventories and receivables relative to the total assets; the company's debt ratio; the number of foreign companies relative to all companies forming a corporate group; and two discrete variables regarding the fact that an entity was audited by a 'Big Four' firm and that there was an acquisition or merger with another entity in a given financial year. The study has shown positive correlations of variables (except for the *Complexity* variable). During the study, all hypotheses could not be verified due to the rejection of some variables. However, it can be said that the study whose results are presented in this article contributes to the research conducted in many countries around the world.

The research on audit fees in Poland should be further developed. Interesting results could be obtained, for example, through the disaggregation of the *BIG4* variable by separating it into five different items describing each of the 'Big Four' firms and other companies. Perhaps the high premium is unevenly distributed among individual audit companies and there are companies that, despite belonging to the 'Big Four', are unable to obtain a high premium. It may be particularly interesting to analyse how the case of auditing GetBack S.A. has affected Deloitte as it has certainly undermined the company's reputation in the audit market. Moreover, in the following years, it would be necessary to carefully examine the impact of regulations introduced in 2017 related to the profession of statutory auditor. It should be noted that Poland has introduced regulations regarding the prohibition of the provision of non-audit services in a much broader form than was required by European Union regulations. Poland is the only EU country to introduce a 5-year rotation period for audit companies with a four-year grace period (this applies to public interest entities). Research conducted in subsequent years into the amount of premium for audits conducted by a 'Big Four' company may also be interesting. Perhaps the regulations introduced in 2017 will significantly affect the results achieved by all audit companies.

Considering the specificity of the Polish audit market and the fact that dynamic changes have been observed in the functioning of capital markets in Poland over the past 30 years, the results obtained in the study cannot be generalised to all Central and

Eastern European countries. However, it should be noted that this is not the purpose of the study.

Thanks to the results obtained, this article is a complement to world literature and gives an overview of the determinants of audit fees in one of the countries of Central and Eastern Europe. The results are consistent with the results obtained in other countries of the world, although there are some differences in details concerning the conclusiveness of the tested model. The study certainly gives an insight into the specifics of one of the Central and Eastern European countries.

References

- Ali, M. J., Ahmed, K., & Henry, D. (2004). Disclosure compliance with national accounting standards by listed companies in South Asia. *Accounting and Business Research*, 34(3), 183–199. doi: 10.1080/00014788.2004.9729963
- Ali, S., & Aulia, M. R. P. (2015). Audit firm size, auditor industry specialization and audit quality: An empirical study of Indonesian state-owned enterprises. *Research Journal of Finance and Accounting*, 6(22), 1–14. <https://www.iiste.org/Journals/index.php/RJFA/article/view/26912/27595>
- Barkess, L., Simnett, R. (1994). The Provision of Other Services by Auditors: Independence and Pricing Issues. *Accounting and Business Research* 24(94), 99–108. doi: 10.1080/00014788.1994.9729469
- Cameran, M. (2005). Audit fees and the large auditor premium in the Italian market. *International Journal of Auditing*, 9(2), 129–146. doi: 10.1111/j.1099-1123.2005.00205.x
- Carcello, J. V., & Nagy, A. L. (2004). Audit firm tenure and fraudulent financial reporting. Working Paper, University of Tennessee. <https://pdfs.semanticscholar.org/7300/68a12bf89ad3c-44fe29f836169c092447f35.pdf>
- Carson, E., Fargher, N., Simon, D. T., & Taylor, M. H. (2004). Audit fees and market segmentation—further evidence on how client size matters within the context of audit fee models. *International Journal of Auditing*, 8(1), 79–91. doi: 10.1111/j.1099-1123.2004.00159.x
- Chatterjee, B., & Mir, M. Z. (2008). The current status of environmental reporting by Indian companies. *Managerial Auditing Journal*, 23(6), 609–629. doi: 10.1108/02686900810882138
- Choi, J. H., Kim, C., Kim, J. B., & Zang, Y. (2010). Audit office size, audit quality, and audit pricing. *Auditing: A Journal of Practice & Theory*, 29(1), 73–97.
- Clatworthy, M. A., & Peel, M. J. (2006). The effect of corporate status on external audit fees: Evidence from the UK. *Journal of Business Finance and Accounting*, 1(2), 169–201. doi: 10.1111/j.1468-5957.2006.00658.x
- Craswell, A. T., Francis, J. R., & Taylor, S. L. (1995). Auditor brand name reputations and industry specializations. *Journal of Accounting and Economics*, 20, 297–322. doi: 10.1016/0165-4101(95)00403-3
- doi: 10.1111/ijau.12149
- DeAngelo, L. E. (1981). Auditor size and audit quality. *Journal of Accounting & Economics*, 3, 183–199.
- DeFond, M. L., Raghunandan, K., & Subramanyam, K. R. (2002). Do non-audit service fees impair auditor independence? Evidence from going concern audit opinions. *Journal of Accounting Research*, 40, 1247–1274. doi: 10.1111/1475-679X.00088
- Dekeyser, S, Gaeremynck, A., & Willekens, M. (2019). Evidence of Industry Scale effects on audit hours, billing rates, and pricing. *Contemporary Accounting Research*, 36(2) (Summer 2019), 666–693. doi: 10.1111/1911-3846.12460
- Demirkan, S., & Zhou, N. (2016). Audit pricing for strategic alliances: An incomplete contract perspective. *Contemporary Accounting Research*, 33(4) (Winter 2016), 1625–1647. doi: 10.1111/1911-3846.12213
- Depoers, F. (2000). A cost benefit study of voluntary disclosure: Some empirical evidence from French listed companies. *European Accounting Review*, 9(2), 245–263. doi: 10.1080/09638180050129891
- Donaldson, T., & Preston, I. (1995). Stakeholder theory of the corporation: Concepts, evidence, implications. *Academy of Management Review*, 20, 65–91. doi: 10.5465/amr.1995.9503271992
- El-Gammal, W. (2012). Determinants of audit fees: Evidence from Lebanon. *International Business Research*, 5(11), 136–145. doi: 10.5539/ibr.v5n11p136
- Ellis, Y., & Booker, Q. L. (2011). Audit fee determinants in the nonprofit sector: A study of community action agencies. Faculty Publications, Columbia State University. <http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.647.296&rep=rep1&type=pdf>

Francis, J. R., & Simon, D. T. (1987). A test of audit pricing in the small-client segment of the US audit market. *Accounting Review*, 62(1), 145–157. <http://www.jstor.org/stable/248051>

Francis, J. R., & Stokes, D. J. (1986). Audit prices, product differentiation, and scale economies: Further evidence from the Australian market. *Journal of Accounting Research*, 24, 383–393. doi: 10.2307/2491141

Freeman, E., Wicks, A., & Parmar, B. (2004). Stakeholder theory and “the corporate objective revisited”. *Organization Science*, 15(3), 364–369. doi: 10.1287/orsc.1040.0067

Freeman, R. (1984). *Strategic management: A stakeholder approach*. Boston, MA: Pitman Press.

Galani, D., Alexandridis, A., & Stavropoulos, A. (2011). The association between the firm characteristics and corporate mandatory disclosure: The case of Greece. *World Academy of Science, Engineering and Technology*, 77, 101–107. <https://waset.org/publications/10904/the-association-between-the-firm-characteristics-and-corporate-mandatory-disclosure-the-case-of-greece>

Glaum, M., & Street, D. L. (2003). Compliance with the disclosure requirements of Germany's new market: IAS versus US GAAP. *Journal of International Financial Management and Accounting*, 14, 64–100. doi: 10.1111/1467-646X.00090

Gonthier, B. N., & Schatt, A. (2007). Determinants of audit fees for French quoted firms. *Managerial Auditing Journal*, 22(2), 139–160. doi: 10.1108/02686900710718654

Habib, A., Bhuiyan, M. B. U., & Rahman, A. (2019). “Problem” directors and audit fees. *International Journal of Auditing*, 23, 125–143. doi: 10.1111/ijau.12150

Haniffa, R. M., & Cooke, T. E. (2002). Culture, corporate governance and disclosure in Malaysian corporations. *Abacus*, 38(3), 317–349. doi: 10.1111/1467-6281.00112

Hassan, Y. M., & Naser, K. (2013). Determinants of audit fees: Evidence from an emerging economy. *International Business Research*, 6(8), 13–25. doi: 10.5539/ibr.v6n8p13

Hay, D. C., Knechel, W. R., & Wong, N. (2006). Audit fees: A meta-analysis of the effect of supply and demand attributes. *Contemporary Accounting Research*, 23(1), 141–191. doi: 10.1506/4XR4-KT5V-E8CN-91GX

Hay, D., Knechel, W., & Ling, H. (2008). Evidence on the impact of internal control and corporate governance on audit fees. *International Journal of Auditing*, 12(1), 9–24. doi: 10.1111/j.1099-1123.2008.00367.x

Huang, H. W., Liu, L. L., Raghunandan, K., & Rama, D. V. (2007). Auditor industry specialization, client bargaining power, and audit fees: Further evidence. *Auditing: A Journal of Practice & Theory*, 26(1), 147–158.

Inchausti, A. G. (1997). The influence of company characteristics and accounting regulation on information disclosed by Spanish firms. *European Accounting Review*, 6(1), 45–68. doi: 10.1080/096381897336863

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305–360. doi: 10.1016/0304-405X(76)90026-X

Jones, T. (1995). Instrumental stakeholder theory: A synthesis of ethics and economics. *Academy of Management Review*, 20, 404–437. doi: 10.5465/amr.1995.9507312924

Jones, T., & Wicks, A. (1999). Convergent stakeholder theory. *Academy of Management Review*, 24(2), 206–221. https://edisciplinas.usp.br/plugin-file.php/4127600/mod_resource/content/1/2.%20Jones%2C%20T.%20M.%2C%20Wicks%2C%20A.%20C.%201999..pdf

Joshi, P. L., & Al-Bastaki, H. (2000). Determinants of audit fees: Evidence from the companies listed in Bahrain. *International Journal of Auditing*, 4(2), 129–138. doi: 10.1111/1099-1123.00308

Knapp, M. C. (1991). Factors that audit committee members use as surrogate for audit quality. *Auditing: A Journal of Practice and Theory*, 10(1), 35–52.

Langendijk, H. (1997). The market for audit services in the Netherlands. *European Accounting Review*, 6(2), 253–264. doi: 10.1080/713764721

Liu, S. H. (2017). An empirical study: Auditors' characteristics and audit fee. *Open Journal of Accounting*, 6, 52–70. doi: 10.4236/ojacct.2017.62005

McMeeking, K. P., Peasnell, K. V., & Pope, P. F. (2006). The determinants of the UK Big Firm premium. *Accounting and Business Research*, 36(3), 207–231. doi: 10.1080/00014788.2006.9730022

Nam, H.-J. (2018). The impact of mandatory IFRS transition on audit effort and audit fees: Evidence

from Korea. *Australian Accounting Review*, 87(28, Issue 4), 512–524. doi: 10.1111/auar.12209

Naser, K., Al, H. A., Al-Kwari, D., & Nuseibeh, R. (2006). Determinants of corporate social disclosure in developing countries: The case of Qatar. *Advances in International Accounting*, 19, 1–23. doi: 10.13189/ujaf.2014.020402

Okolie, A. O. (2014). Auditor tenure, auditor independence and accrual – based earnings management of quoted companies in Nigeria. *European Journal of Accounting Auditing and Finance Research*, 2(2), 63–90. <http://www.eajournals.org/wp-content/uploads/Auditor-Tenure-Auditor-Independence-and-Accrual-%E2%80%93-Based-Earnings-Management-of-Quoted-Companies-in-Nigeria.pdf>

Peel, M. J., & Clatworthy, M. A. (2001). The relationship between governance structure and audit fees pre-Cadbury: Some empirical findings. *Corporate Governance. An International Review*, 9(4), 286–297. doi: 10.1111/1467-8683.00256

Prencipe, A. (2004). Proprietary costs and determinants of voluntary segment disclosure: Evidence from Italian listed companies. *European Accounting Review*, 13(2), 319–340. doi: 10.1080/0963818042000204742

Rouf, A. (2011). Corporate characteristics, governance attributes and the extent of voluntary disclosure in Bangladesh. *African Journal of Business Management*, 5(19), 7836–7845. doi: 10.5897/AJBM10.1180

Rowell, D., & Connelly, L. (2012). A history of the term “Moral Hazard”. *The Journal of Risk and Insurance*, 79(4), 1051–1075. doi: 10.1111/j.1539-6975.2011.01448.x

Sandra, W., & Patrick, P. (1996). The determinants of audit fees in Hong Kong: An empirical study. *Asian Review of Accounting*, 4(2), 32–50. doi: 10.1108/eb060673

Simunic, D. A. (1980). The pricing of audit services: Theory and evidence. *Journal of Accounting Research*, 18, 161–190. doi: 10.2307/2490397

Spence, M. (1973). Job market signaling. *Quarterly Journal of Economics*, 87(3), 355–374. <https://pdfs.semanticscholar.org/2d89/1415c5f4faa5d1adf-4492c01fc596231353e.pdf>

Taylor, M., & Simon, T. (1999). Determinants of audit fees: The importance of litigation, disclosure, and regulatory burdens in audit engagements in 20 countries. *The International Journal of Accounting*, 34(3), 375–388. doi: 10.1016/S0020-7063(99)00017-5

Tee, C. M., Gul, F. A., Foo, Y.-B., & Teh, C. G. (2017). Institutional monitoring, political connections and audit fees: Evidence from Malaysian firms. *International Journal of Auditing*, 21, 164–176. doi: 10.1111/ijau.12086

Thinggaard, F., & Kiertzner, L. (2008). Determinants of audit fees: Evidence from a small capital market with a joint audit requirement. *International Journal of Auditing*, 12(2), 141–158. doi: 10.1111/j.1099-1123.2008.00377.x

Verbruggen, S., Christiaens, J., Reheul, A. M., & Van Caneghem, T. (2011). Audit pricing in a reformed nonprofit market. HUB Research Papers, 29. <https://scholar.google.com/citations?user=a5L0XtQAAAA-J&hl=en>

Verbruggen, S., Christiaens, J., Reheul, A.-M., & Van Caneghem, T. (2015). Analysis of audit fees for nonprofits: Resource dependence and agency theory approaches. *Nonprofit and Voluntary Sector Quarterly*, 44(4), 734–754. doi: 10.1177/0899764014551279

Wallace, R., & Naser, K. (1996). Firm-specific determinants of the comprehensiveness of mandatory disclosure in the corporate annual reports of firms listed on the stock exchange of Hong Kong. *Journal of Accounting and Public Policy*, 14(4), 311–368. doi: 10.1016/0278-4254(95)00042-9

Wang, K., Sewon, O., Iqbal, Z., & Smith, L. M. (2011). Auditor market share and industry specialization of non-big 4 firms. *Journal of Accounting and Finance*, 11(2), 107–127. <http://www.jgbm.org/page/1%20Sewon%20O.pdf>

Watts, R., & Zimmermann, J. (1978). The demand for and supply of accounting theories: The market for excuses. *The Accounting Review*, 54(2), 273–306. https://edisciplinas.usp.br/pluginfile.php/3829960/mod_resource/content/0/Watts_Zimmerman_1979.pdf

Watts, R., & Zimmermann, J. (1986). *Positive accounting theory*. Englewood Cliff, NJ: Prentice Hall.