

# Cover Page

## Determinants of the auditor's decision to waive audit adjustments

June 2010

Authors:

**Prof. Dr. Klaus Ruhnke**

Chair of Accounting and Auditing  
Freie Universitaet Berlin  
School of Business and Economics  
Institute of Business Auditing and Taxation  
Boltzmannstr. 20, D-14195 Berlin

Phone: + 49 (0)30 838 56682  
E-Mail: klaus.ruhnke@fu-berlin.de

**Dr. Martin Schmidt**

Visiting Professor International Business Administration  
European University Viadrina  
Faculty of Business Administration and Economics  
PO Box 1786, D-15207 Frankfurt (Oder)

Phone: + 49 (0)335 5534 2334  
E-Mail: mschmidt@euv-frankfurt-o.de, martin.schmidt-berlin@gmx.net

# **Determinants of the auditor's decision to waive audit adjustments**

June 2010

## **Abstract**

Based on a recent large sample with a non-US background, we analyze the impact of different parameters on the auditor's decision to book or waive an audit adjustment. We provide evidence that some factors that have not been looked at before in previous archival data-based studies do indeed influence the auditor's decision. One of these factors is qualitative materiality, being a factor not only receiving high attention by accounting and audit standard-setters, but also a factor that may affect the economic decisions of the users of financial statements. Other factors include a so-called hard close approach to prepare and audit the financial statements and quality of the client's management (its integrity and competence). We also test parameters that have previously been found to be determinative of the auditor's decision to book or waive and we are unable to confirm an association for each of these factors. Not only does our model explain the majority of the variance associated with the decision to book or waive, based on the goodness-of-fit-test, it also seems that our model can predict the auditor's decision to book or waive very well.

## **Keywords**

Audit, audit adjustments, audit-detected errors in financial statements, audit differences, audit judgment, audit misstatements, booked adjustments, German GAAP, hard close, high-level controls, internal control system, International Financial Reporting Standards (IFRS), International Standards on Auditing (ISA), materiality, misstatement characteristics, qualitative materiality thresholds, quantitative materiality thresholds, waive adjustments

## **Data Availability**

(Due to a confidentiality agreement with the participating audit firm the data are proprietary.)

## 1 INTRODUCTION

By issuing the audit opinion and the auditor's report, the auditor provides reasonable assurance that the financial statements under audit are free from material misstatements.<sup>1</sup> Put differently, the financial statements, when having received an unreserved audit opinion should not, to a high (although not absolute) certainty, contain any material misstatements. During the course of his audit, the auditor must document every difference that is 'not clearly trivial' (International Standard on Auditing (ISA) No. 450.5 and .A2 f.). This 'not clearly trivial'-threshold is substantially *below* the audit materiality threshold (ISA No. 320.10 ff.), and thus, also below the threshold constituting a material misstatement. Documenting every difference that is 'not clearly trivial' is necessary, since an individual, immaterial difference together with other immaterial differences can result, on aggregate, in a material misstatement of the financial statements. The auditor is finally faced with the decision which audit adjustments may be left uncorrected by the client, since these differences, even if waived, will not result in a material misstatement of the financial statements and which differences, if waived, will require the auditor to consider modifying his audit opinion. Coming from a different angle, it is by now widely accepted that the final (audited) financial statements are the result of negotiations between client and auditor (see e.g. Antle/Nalebuff (1991); Brown/Wright (2008)). Against this background, it is important to examine which factors drive the auditor's decision to have one audit difference corrected while 'waiving' the other.

A number of studies exist which examine determinants of the auditor's decision to book or waive an audit adjustment.<sup>2</sup> This prior evidence is at the same time both extensive and wanting. It is extensive, as a sizable body of prior studies already exists in this field of audit research. However, prior evidence is also somewhat lacking in a number of ways:

---

<sup>1</sup> ISA No. 200.17 in connection with IFAC Framework.11.

<sup>2</sup> See for a review of previous studies on audit differences Eilifsen/Messier (2000) and Ruhnke (2009), the studies are set out in detail in section 2 of this paper.

First, prior literature, if based on audit firms' archival data and/or working papers is solely based on US-evidence, that is, financial statements prepared in accordance with US-GAAP, audited under US-GAAS and within a US legal framework (including factors such as litigation environment and auditor liability). There exists only very limited evidence whether or not the factors found to be influencing the auditor's decision also hold under other financial reporting standards, other authoritative audit guidance and other legal frameworks. Notably, there is a growing number of experiment-based studies, one of which<sup>3</sup> even conducted with a non US-background. However, experimental designs in this area are faced with considerable methodical challenges: External validity seems questionable; especially client pressure and litigation or reputation risks cannot be reproduced in an experimental setting.

Second, a large number of factors remain that arguably *could* influence the auditor's decision, but have so far not been explored: For example, an accounting-based remuneration scheme, the quality of the client's management (i.e. integrity and competence) and a hard close approach to prepare the financial statements are likely to be influential to the question to book or to waive a difference. For example, qualitative materiality has recently received much attention in the professional literature as well as from accounting and audit standard-setters, one of the reasons being that quantitative thresholds alone cannot capture the complexity of audit reality. Moreover, the standard setter reminds auditors to consider both quantitative and qualitative factors in assessing materiality (ISA No. 450.A15 f.). A quantitatively small misstatement may nevertheless affect the economic decisions of the users of financial statements: For example, the misstatement may affect compliance with debt covenants or it may serve to hide failure to meet analysts' consensus expectations. For this reason, qualitative factors have to be taken into account when evaluating when making materiality decisions.

---

<sup>3</sup> Ng (2007), with a Singaporean background.

Third, consistent with the recent trend towards experimental research designs, evidence based on auditors' archival data is mostly older, dating from the 1990ies or even the 1980ies. Since that time, the audit environment saw a plethora of substantial changes in terms of concentration on the market for audit firms (Big 4 instead of Big 8), changes in auditor liability regimes, developments in corporate governance (such as how audit committees operate), and the ever-growing importance of risk management culminating in a shift to a business risk audit approach (e.g. ISA No. 315, 330), to name but a few, while at the same time accounting and audit standards have become more harmonized and international. Today, the International Financial Reporting Standards (IFRS) and the International Standards on Auditing (ISA) have gained a high significance globally in accounting and auditing. These substantial developments in the audit environment and regime pose the question whether or not evidence found some decades ago still holds today.

Against this background, our paper is aimed at extending the existing literature: We analyze the influence of 'new' factors on the auditor's decision to book or to waive (i.e. factors previously not examined in prior studies), while at the same time controlling for factors that have previously been found to be determinative. The remainder of this paper is organized as follows: Section 2 discusses existing literature on the matter including previous findings. Section 3 gives a brief overview on the audit environment, definitions and the relevant authoritative literature. Building on this, we develop our hypotheses. Section 4 deals with our sample and research design. Section 5 sets out our findings. The summary in section 6 contains our main conclusions, discusses limitations of our study and describes possible future research questions.

According to our findings, there are number of factors that influence the auditor's decision to book or waive audit adjustments that have previously not been examined. Among these factors is qualitative materiality and a hard close approach to prepare (and audit) the financial statements. We also confirm that some factors previously found to be influential also

seem to be valid under other audit regimes and legislative backgrounds, while we cannot confirm an influence of other factors also previously found to be influential. Reaching an adjusted  $R^2$  of 0.51 in our regression model accompanied by a p-value of 0.77 in our goodness-of-fit test, our model seems to explain the auditor's decision exceptionally well.<sup>4</sup>

## 2 PRIOR LITERATURE

A number of studies have already examined different factors and their impact on the auditor's decision to have an adjustment corrected or 'waiving' it.

### 2.1 Audit Adjustment characteristics

Conclusive evidence exists that the auditor is more inclined to accept uncorrected differences if these are *subjective* in nature, rather than objective (Wright/Wright (1997); Braun (2001); Ng (2007)). Previous studies generally attribute this finding to two cognitive distortions, being (1) 'pressure exercised by the client' and (2) 'justification effects': In certain constellations (e.g. in order to reach certain profit thresholds), the client will exercise pressure on the auditor (e.g. in terms of the level of fees, re-election of the auditor and the provision of additional non-assurance services to an assurance client in order to realize additional quasi-rents). The auditor, on the other hand, is more likely to yield to this kind of client pressure if different measurements or accounting options can be more easily justified on the grounds of existing room for discretion and judgment.

Also, prior evidence shows that auditors are more likely to accept uncorrected differences if these differences are *income-increasing*, i.e. the misstatements underlying the audit adjustments are income-decreasing (Wright/Wright (1997); Braun (2001)). This can be explained by the litigation and reputation risk associated with the nature of the difference.

---

<sup>4</sup> Similar studies typically reach a adjusted  $R^2$  between 0.19 and 0.35 (e.g., Icerman/Hillison (1991), 32; Wright/Wright (1997), 24; Joe et al. (2008), 34).

The auditor is far more likely to be confronted with the need to justify his actions (i.e. accepting an uncorrected difference) in litigation procedures or in court when the misstatement underlying the difference was income-increasing. In addition, the client is more likely to engage in earnings management and (fraudulent) earnings manipulation in order to boost income (rather than cut it) (Braun (2001), 80). Similarly, Libby/Kinney (2000) found that, in case of income-increasing misstatements (income-decreasing differences), the auditor is more likely to waive these adjustments if booking them would result in falling short of meeting analysts' forecast earnings. Extending these findings, Ng (2007) provides evidence that the number of auditors that insist on a quantitative immaterial difference being booked varies in accordance with the nature of the earnings threshold the client is trying to meet: Results indicate that auditors have a higher propensity to book a difference that affects the client's ability to meet recent earnings than one that affects the client's ability to meet analysts' forecast earnings. It is also shown that the availability of explicit materiality guidance (with the effect of enhancing the auditors' awareness of earnings thresholds) also raises the auditors' propensity to book an audit.

The auditor is more likely to accept uncorrected differences when confronted with a *higher number of individual (small) differences* that, in aggregate, result in a material misstatement of the financial statement compared to a single, material difference (Braun (2001)). This seems interesting, since, as far as the extent to which the financial statements are misstated and the consequences for the auditor's opinion are concerned, there is no difference between these two scenarios (ISA No. 450.11, No. 700.11(b)).

The auditor is also more likely to accept uncorrected differences if the underlying error is a *prior-period* error (Joe et al. (2008)). This finding is confirmed by the experiment conducted by Hatfield et al (2008).

## 2.2 Other determinants

Icerman/Hillison (1991) examined a possible relation between the *audit approach* and the auditor's decision to accept uncorrected differences. They found that audit firms with structured audit approaches are more likely to book a higher proportion of individual adjustments than less structured audit firms. Joe et al (2008) examined the potential relation between the *client's internal control system* and *audit tenure*. They found that a strong internal control system—and longer audit tenure are both associated with a higher willingness of the auditor to accept uncorrected differences. Ng/Tan (2003) examined the influence of the effectiveness of the *client's audit committee* and *the availability of authoritative guidance* on the auditor's decision to book or waive an adjustment. They found that both factors jointly influence the auditor's decisions. Specifically, authoritative guidance has a greater effect in the absence of an effective audit committee than in its presence, while vice versa an audit committee influences this decision significantly only in the absence of authoritative guidance.

## 3 AUDIT ENVIRONMENT AND HYPOTHESES DEVELOPMENT

### 3.1 Definitions and authoritative audit guidance

An audit adjustment (audit difference) is defined as a misstatement, i.e. a diversion from the applicable accounting standards or framework from the auditor's point of view, detected in the course of the audit. The difference relates to the statement of financial position (balance sheet) and/or the statement of financial performance (income statement). The difference may be associated with an amount (measurement), the classification and/or disclosure (Kinney (2000), 216 ff.). Consistent with prior studies, we define an audit adjustment in this narrow sense, i.e. limited to adjustments in the balance sheet and/or income statement. This allows us to compare our results with previous findings and to investigate not only the number of adjustments, but also their magnitude in relation to audit materiality.



The term 'audit adjustment' is mentioned in ISA 260.11, but the International Standards on Auditing do not contain a definition.. ISA No. 450.3 ff. uses the terms 'identified misstatements', 'uncorrected misstatements' and 'correction of misstatements'. Audit adjustments can be further distinguished between 'objective', 'subjective' (i.e. misstatements relating to transactions or events involving estimations, assumptions, judgment and interpretation) and 'projected' adjustments (i.e. projecting misstatements based on a representative sample, see ISA No. 530.14).<sup>5</sup>

A definition of an 'audit adjustment' is contained in the US Public Company Accounting Oversight Board (PCAOB)'s auditing standard no. 3, par. 12.c.: "[A]n audit adjustment is a correction of a misstatement of the financial statements that was or should have been proposed by the auditor, whether or not recorded by management, that could, either individually or when aggregated with other misstatements, have a material effect on the company's financial statements." Further guidance on how to handle audit adjustments may be found in (US) Practice Alert No. 94-1. Both qualitative and quantitative factors need to be considered when evaluating whether an audit adjustment (misstatement) is material or not (see for similar guidance ISA No. 450.A16). For example, if a number of differences has influenced profit or loss in the same direction, this may indicate that client management is trying to meet earning forecasts.

In accordance with ISA No. 700.10, the auditor confirms in his unreserved audit opinion, that the financial statements comply, in all material aspects, with the applicable accounting standards. Paragraph 1(b) of this standard explicitly requires the auditor to consider, in reaching his conclusion, whether the uncorrected (waived) differences do not, individually or in aggregate, result in a material misstatement of the financial statements.

### **3.2 Hypotheses Development**

---

<sup>5</sup> ISA No. 450.A3 distinguishes between 'factual', 'judgemental' and 'projected' misstatements.

### 3.2.1 *Qualitative Materiality*

The concept of materiality is important throughout the audit process (ISA No. 320). A matter is material, if there is a substantial likelihood that it will affect the economic decisions made by a “reasonable person” using the financial statements. Evaluating materiality requires considering both quantitative and qualitative factors. Empirical evidence indicates that qualitative factors may cause misstatements of quantitatively small amounts to be material (e.g. Libby/Kinney (2000); Ng/Tan (2007)). Fernández-Laviada et al. (2009) show that auditors and preparers generally agree on the issuance of a qualified opinion due to uncorrected misstatements lower than the quantitative materiality levels if they relate to qualitative factors. Auditing standards also stress the importance of both, the quantitative and the qualitative dimension: ISA No. 450.A16 as well as SEC Staff Accounting Bulletin No. 99 include a list of eleven qualitative materiality factors that auditors should consider when evaluating materiality of uncorrected adjustments that are below certain quantitative levels.

If the auditor decides, in light of qualitative factors, to set audit materiality below the lowest common quantitative thresholds for a particular client, this fact, by itself, confirms the significance of the qualitative factors. Since the qualitative factors need to be documented in the auditor’s working papers, the auditor and the engagement team will be particularly aware of their consideration of any detected differences. This awareness is likely to increase the auditor’s propensity to insist on detected differences being corrected by the client. Thus, we formulate the following research hypothesis<sup>6</sup>:

*H1: If the auditor has reduced audit materiality for the financial statements as a whole (overall materiality) below the lowest common quantitative thresholds for a particular client (i.e. the auditor used an even lower materiality threshold for qualitative reasons), adjustments detected in the course of this audit are associated with a lower likelihood of being waived.*

---

<sup>6</sup> This hypothesis and all other hypotheses are expressed in the form of a statistical alternative hypothesis.

### **3.2.2 Audit adjustment characteristics**

The auditor's ability to withstand client pressure in a conflict situation may depend on the subjectivity of the conflict issue. Deix/Giroux (1992) argue that auditors are relative less able to withstand client pressure when the conflict issue is associated with room for interpretation and judgment. Additionally, the decision to waive a subjective adjustment can be more easily justified, which would be relevant in the event of litigation and/or a court case. Existing empirical studies provide evidence in this direction (e.g. Wright/Wright (1997), 19; Braun (2001), 79 f.; Nelson/Smith/Palmrose (2005), 902). This gives rise to the following hypothesis:

*H2: An audit adjustment pertaining to a transaction or event is associated with a higher likelihood of being waived when the adjustment is subjective rather than objective in nature.*

An auditor is more likely to accept an adjustment if this adjustment was already accepted in the prior year audit. This effect is due to cognitive distortion well documented in auditing (e.g. Wright (1988); Joe et al. (2008), 14 f.): Auditors tend to adhere to past decisions ('anchoring').

*H3: An audit adjustment pertaining to a prior-period misstatement is associated with a higher likelihood of being waived.*

In accordance with the concept of materiality (ISA No. 320.2 ff.), it is likely that quantitative immaterial adjustments are in general less important for the economic decision of a "reasonable person" using the financial statements.

*H4: An audit adjustment that is larger in relation to the materiality threshold set for the financial statements as a whole (overall materiality) is less likely to be waived.*

Investors and creditors are more likely to suffer damages and sue auditors when reported income is overstated than understated (e.g. Carcello/Palmrose (1994)); this may also cause reputation damages for the auditor. This leads to auditor conservatism, i.e. the auditor is

more motivated to have adjustments corrected which are, on aggregate, income-decreasing. Auditor conservatism is well documented in the existing literature (e.g. Kinney/Martin (1994); Nelson/Smith/Palmrose (2005)), leading to H5:

*H5: An audit adjustment has a lower likelihood of being waived if the sum of all corrected misstatements for the respective client was income-increasing (loss-decreasing).*

### **3.2.3 Client and financial statement characteristics**

According to the logic of the audit risk model, lower control risks are c.p. associated with a lower audit risk. When internal controls are strong, it is reasonable to expect a lower level of undetected errors than when controls are weak (see also ISA No. 240.A42). Rationally, the auditor will thus be more inclined to accept uncorrected differences.

In-line with a stronger focus on the client's business risks (see ISA No. 315, ISA No. 330 or the proposed PCAOB standards on risk assessment and responses to risk; Knechel/Salterio/Kochetova-Kozloski (2010)), entity-level controls have become more important. Therefore, we analyze entity-level controls separately (see also International Auditing Practice Statement (IAPS) No. 1012.36).

In ISA No. 240.A64, the control environment includes the factor 'integrity and competence of management', i.e. the quality of the client's management. ISA No. 315.A106 notes that deficiencies such as management's lack of competence may have a pervasive effect on the financial statements. Empirical studies also show that control risk factors appear to be related to the incidence of misstatements (Eilifsen/Messier (2000), 19 ff.). This leads to the following hypotheses.

*H6: If the auditor rates the client's internal control system as strong, audit adjustments pertaining to this client have a higher likelihood of being waived.*

*H7: If the auditor rates the client's entity-level controls as strong (i.e. their existence and effectiveness), audit adjustments pertaining to this client have a higher likelihood of being waived.*

*H8: If the auditor rates the quality of the client's management (i.e. integrity and competence) as high, audit adjustments pertaining to this client have a higher likelihood of being waived.*

When the client chooses a hard close approach for preparing the financial statements, the statements are prepared (and audited) as of a reporting date *preceding* the actual reporting date (mostly, 30 November is chosen for financial statements as of 31 December). The remaining work is limited to transactions and events occurring in the time frame in December. On the one hand, time pressure associated with preparing and auditing the financial statements is reduced. On the other hand, the complexity in terms of reconciliations and control activities increases. However, one can expect that clients capable of handling a hard close also tend to have a strong internal control system, so that the lower control risk associated with a strong internal control system may (over)compensate hard close-induced higher inherent risk. On average, overall audit risk is likely to be lower, resulting in the auditor (a) detecting fewer differences and (b) being more willing to accept waived audit adjustments.

*H9: If the client chooses a hard close approach for preparing the financial statements (and having the financial statements audited), audit adjustments pertaining to this client have a higher likelihood of being waived.*

### **3.2.4 Potential other determinants**

There are other potential factors that may drive the auditor's decision to waive an audit adjustment. For example, the existence of an accounting-based management remuneration scheme, the level of competition, client tenure (see Joe et al (2008)), the client's overall economic and financial position. Consistent with the audit risk model, all of these factors, except for client tenure, can be attributed to inherent risk. Low inherent risk is generally associated with a low audit risk. Thus, the auditor is more willing to accept uncorrected differences. In previous studies, some of these factors have been found to be associated with the occurrence of audit differences. Notably, two factors have been consistently found to be relevant, one being the competence of the accounting personnel. Secondly, expectations

based on differences which were detected in prior-period financial statements proved to be an effective strategy to detect differences. Conversely, factors attributable to the “external environment”, such as the level of competition or regulatory control, have not been found to be associated with the occurrence of differences (see Eilifsen/Messier (2000), 19 ff. for an overview of respective studies).

## 4 SAMPLE AND RESEARCH DESIGN

### 4.1 Data Collection

Our sample was compiled by one of the Big 4 audit firms in Germany. In order to gather a sample representative of the audit firm’s client portfolio, the population of all of the clients under audit in the year 2007 was divided into a 3 x 3-matrix, one dimension being the firm’s size (measured by the workload in hours needed to conduct the audit), the other dimension being the firm’s line of industry (industrial markets, consumer markets and information, communication & entertainment<sup>7</sup>). The audit client population (n = ca. 7,500 audits) in all industry lines was attributed to the 3 x 3 = 9 clusters and a random sample of 45 client firms from each of the clusters was drawn, resulting in a total sample of 405 (9 cluster x 45 client firms). The response gathered in the second half of 2008 (including a follow-up) amounted to 255 client firms (response rate 63.0 %) with 1,158 adjustments. Compared to other studies looking into the determinants of booked vs. waived adjustments, this is the largest sample ever<sup>8</sup>, compared to other field studies it is the third-largest sample<sup>9</sup>.

---

<sup>7</sup> The audit firm’s overall audit client portfolio consisted mainly of those three lines of industry. Financial (banking) institutions and insurance institutions were omitted due to being only a small fraction of the audit firm’s client portfolio.

<sup>8</sup> To our knowledge, the study by Joe et al. (2008) is the second largest, comprising 458 adjustments.

<sup>9</sup> We are aware of only two studies that are based on an even bigger sample, Kreutzfeldt/Wallace (1986), n=260 (firms) and Houghton/Fogarty (1991), n=480 (firms).

Given that the response rate is fairly identical over all nine clusters and given that the audit approaches of the Big 4 audit firms are similar to a large degree (Lemon/Tatum/Turley 2000; Ballou/Earley/Rich 2004, 83 f.; Knechel 2007, 393 ff.), our results should be representative for other Big 4 audits. Since the response rate is relatively high, and missing responses could be attributed to reasons such as changes in the audit firm's client portfolio in almost all cases, there seems to be no evidence to suggest a non-response-bias.

The data was gathered based on questionnaires completed under the supervision of the engagement leader by the engagement team. We were provided with anonymized data on each of the client firms drawn for the sample. While designing the questionnaire, we worked closely together with the audit firm in order to ensure that the questions were understandable, practical and well-suited for the study at hand. In addition, we conducted a pre-test.

In other studies, the choice of the sample is often left to the audit firm<sup>10</sup> or the method of drawing the sample is not made transparent in detail at all. Sometimes, audit clients with no observations (audit adjustments) are intentionally eliminated from the sample (e.g. Kreutzfeldt/Wallace (1986), 21; Houghton/Fogarty (1991), 4), to the effect that those studies will generally evidence more audit adjustments. Overall, stemming from the random approach used for our sample, we expect our sample and our results to be exceptionally neutral and unimpaired.

As mentioned before, the sample comprises audits carried out in Germany. Depending on whether the client is capital-market oriented (i.e. has issued debt and/or equity instruments that are publicly traded) and is required to publish consolidated financial statements, the

---

<sup>10</sup> See for example Messier/Eilifsen/Austen (2004), 226, who approached the audit firm with a request for forming a representative sample. There is obviously some motivation for the audit firm to choose those engagements with a high number of differences (or differences with a higher size) and omit those engagements with no differences (or a small number of differences or differences of small size) in order to underline and evidence the own audit's power to detect misstatements, resulting in this power being overestimated and generally a higher sampling risk.

financial statements under audit are prepared either in accordance with International Financial Reporting Standards (IFRS) or German GAAP. The audits are carried out in accordance with German audit standards. Notably, German audit standards are generally consistent with International Auditing Standards (ISA and related statements).<sup>11</sup>

## 4.2 Logistic Regression

Our response variable, *CORRECTED*, is a binary variable that can take either the value “1” (audit adjustment has been booked by the client) or “0” (audit adjustment has not been booked by the client, and the auditor waives the adjustment, i.e. accepts that the adjustment has not been booked). Since our response variable is binary, we use a logistic regression to test the association between the decision to waive the adjustment and the determinants mentioned above. In particular, we estimate two regressions, with one model including (model 1) and one model excluding (model 2) four control variables. Estimating a second regression model excluding the control variables is necessary since we employ a goodness-of-fit test of our model, which would not produce meaningful results when including control variables that have not proved to have a significant influence on the response variable. Our regression model excluding the control variables (model 2) is defined as follows:

$$\begin{aligned} \text{CORRECTED} = & \beta_1 \text{SUBJECTIVE} + \beta_2 \text{PRIOR-PERIOD} + \beta_3 \text{SIGNIFICANT} + \beta_4 \text{OVERALL INCREASING} \\ & + \beta_5 \text{QUALITATIVE MATERIALITY} + \beta_6 \text{INTERNAL CONTROL SYSTEM} + \beta_7 \text{ENTITY-LEVEL CONTROLS} \\ & + \beta_8 \text{QUALITY} + \beta_9 \text{HARD CLOSE}, \end{aligned}$$

the explanatory variables being:

*SUBJECTIVE*: A categorical variable that can take the value of either “0” (the adjustment is of an ‘objective’ nature, such as a miscalculation) or “1” (the adjustment is subjective in nature

---

<sup>11</sup> See Köhler et al. (2007). Under the German Commercial Code, statutory audits are to be performed in compliance with ISA and related statements.



and includes judgment and interpretation, e.g. determining a carrying amount based on assumptions and estimations),

*PRIOR-PERIOD*: A categorical variable with the value of either “1” when the adjustment relates to a misstatement rooting in the financial statements of a prior period or “0” (the adjustment roots in the present period financial statements),

*SIGNIFICANT*: A categorical variable that takes the value “1” if the adjustment reaches or exceeds 30 % of the materiality set for the financial statements as a whole (overall audit materiality) (“0” otherwise),

*OVERALL INCREASING*: A categorical variable that takes the value “1” if the sum of all corrected adjustments associated with the client has decreased income (i.e. the misstatements underlying the corrected adjustments were, in aggregate, income-increasing),

*QUALITATIVE MATERIALITY*: A categorical variable that takes the value “1” if the auditor set the overall audit materiality at a level at least 25 % below the materiality that would result from a purely ‘quantitative’ approach (‘quantitative materiality’) based on the three quantitative thresholds commonly used by audit firms, total assets, sales revenue, and profit or loss. More specifically, ‘quantitative materiality’ is calculated<sup>12</sup> as

*Quantitative Materiality* =  $\min \{0.5 \% \cdot \text{total assets}; 0.5 \% \cdot \text{sales revenue}; 10 \% \cdot \text{profit or loss}\}$ .

This approach is also broadly consistent with the audit approach followed by the participating audit firm. It may lead to a very small quantitative materiality threshold if profit or loss is low. Thus, it can be considered a very conservative approach by itself. Since a ‘qualitatively determined materiality’ is only coded if the overall materiality threshold was set even *lower* than this already conservative measure to a substantial extent (25 %), our approach may not capture *all* cases in which qualitative factors were important. It ensures however, that all cases *coded* as being associated with a ‘qualitatively-set materiality’ actually *are*,

---

<sup>12</sup> If sales revenue and/or profit or loss was zero, that number was omitted when calculating the minimum, since otherwise the minimum would result in a - meaningless - materiality of zero. This ‘modified minimum’ affected nine clients.

*INTERNAL CONTROL SYSTEM:* An ordinal variable that can take the values “1” to “4”, based on the auditor’s rating of the client’s internal control system, whereby “1” denotes “poor” and “4” denotes “very strong”,

*QUALITY:* An ordinal variable that can take the values “1” to “4”, based on the auditor’s rating of the client’s management quality (i.e. integrity and competence), whereby “1” denotes “poor” and “4” denotes “high”,

*ENTITY-LEVEL CONTROLS:* An ordinal variable that can take the values “1” to “4”, based on the auditor’s rating of the client’s entity-level controls (i.e. their existence and effectiveness), whereby “1” denotes “poor” and “4” denotes “very strong”,

*HARD CLOSE:* A categorical variable that takes the value “1” if the client chooses a hard close approach for preparing the financial statements (and having the financial statements audited).

Regression model 1 further includes the four control variables *COMPETITION*, *CLIENT’S ECONOMIC SITUATION*, *REMUNERATION* and *CLIENT TENURE*. The control variables are defined as follows:

*REMUNERATION:* The variable is categorical and can take the values 0 (no such accounting-based remuneration scheme in place with that audit client) or 1 (scheme established by audit client),

*COMPETITION* in the audit client’s line of business, the variable is ordinal and can take the values 0 (substantially decreasing) up to 4 (substantially increasing), based on the auditor’s rating of the strength of competition.

*CLIENT TENURE:* The variable can take the values 0 (firm has been audit client for 1 year), 1 (2 years), 2 (3-5 years) or 3 (6 years or more),

*CLIENT’S ECONOMIC SITUATION:* Again, the variable is ordinal and takes values from 1 (poor) to 4 (strong, healthy), also based on the auditor’s rating of the economic situation.

## 5 RESULTS AND INTERPRETATION

### 5.1 Descriptive statistics

Tables No. 1 and 2 provide some descriptive data on the sample. Overall there are 1,158 audit differences related to the financial statements of 255 firms.

[insert table No. 1 here]

Table No. 1 depicts the number and mean size of corrected and uncorrected adjustments, each in relation to materiality by number of *adjustments per client*. Generally, the mean size of corrected adjustments exceeds the mean size of uncorrected (waived) adjustments, indicating that the significance of the individual adjustments relative to audit materiality is likely to influence the decision whether a specific adjustment is corrected or not. The number and mean size of the adjustments significantly increase once the total number of adjustments per audit client exceed a certain threshold (10 or more adjustments per client). Notably, the mean size of corrected adjustments generally exceeds the mean size of uncorrected (waived) adjustments.

[insert table No. 2 here]

Table No. 2 focuses on the *individual adjustments* and gives the number and mean size of total, corrected and uncorrected adjustments (in relation to materiality) sub-classified by the characteristics of the adjustment, a 'qualitatively'-set materiality and client and financial statement characteristics, i.e. the characteristics measured by the explanatory and control variables. Some categories (such as client tenure of only one year, very poor entity-level controls, very poor quality of client's management and strongly decreasing competition) are underrepresented or do not have any observations. As two of those factors (*CLIENT TENURE* and *COMPETITION*) do not significantly influence the decision to correct or waive an audit

adjustment and the other two factors (*QUALITY* and *ENTITY-LEVEL CONTROLS*) are measured by ordinal variables (see next section) which can take four different values (i.e. can take values between 1 and 4, representing four levels), we do not expect our results to be interfered by those two categories being underrepresented.

## 5.2 Regression model

### 5.2.1 $R^2$ , *goodness-of-fit*, *multicollinearity* and *parameter estimates*

Our regression model archives a  $-2 \log(L)$ -value of 1,030.9 (intercept and explanatory variables) versus a  $-2 \log(L)$ -value of 1,578.5 (intercept only), resulting in a rescaled  $R^2$  (calculated according to Nagelkerke (1991)) of 0.51. However, a high regression coefficient, by itself, does not contain information on the question whether the model can forecast or predict the auditor's decision. It merely measures the extent to which the variance is statistically "explained". Therefore, in order to measure the predictive ability of our model, we also employ a goodness-of-fit test according to Hosmer and Lemeshow (Hosmer/Lemeshow (1989), 140 ff.), the result being 0.77. Obviously, not only does our model explain the majority of the variance associated with the decision to book or waive, the goodness-of-fit test also evidences that our model is able to predict extraordinarily well the auditor's decision to book or waive audit adjustments.

With regard to potential multicollinearity between the explanatory variables, one would expect some dependencies between the three explanatory factors associated with the internal control system, the existence and effectiveness of high-level controls and the quality of the client's management, i.e. its integrity and competence, as rated by the auditor. For one, a competent management is intrinsically motivated to establish both, a strong internal control system and effective high-level controls, in order to ensure financial statements that comply with the financial reporting standards and prevent fraud. This notion might also explain why ISA No. 240.A64 views the quality of the client's management as a factor attributable to the control environment and thus control risk, rather than inherent risk.

Secondly, high-level controls may serve as a component – among other components and procedures – of a strong internal control system.

In order to control for multicollinearity, we calculate the variance inflation factors for the explanatory variables (reproduced in table No. 3).

[insert table No. 3 here]

As expected, the variance inflation factors for those three variables are higher than the variance inflation factors for all the other variables, which do not indicate any multicollinearity. Whereas the variance inflation factor for the *QUALITY* variable is only slightly higher, the factors for the *INTERNAL CONTROL SYSTEM* and *ENTITY-LEVEL CONTROLS* variables are substantially higher. However, the factors are far from those thresholds commonly perceived as being associated with serious multicollinearity (Hocking (1996), 274 f.; Menard (1995), 66, Neter/Wasserman/Kutner (1990), 409; O’Brian (2007)). In addition, as multicollinearity will cause standard errors for the coefficient estimates to be inflated, we do not find evidence that suggests the respective standard errors are being inflated due to multicollinearity.

The parameter estimates for the explanatory variables (odd ratios) are shown in table No. 4.

[insert table No. 4 here]

### **5.2.2 Materiality**

If the auditor has set audit materiality substantially lower than the most conservative ‘quantitative materiality’ thresholds based on commonly used quantitative figures (total assets, sales revenue, profit or loss), this will also influence his willingness to accept (waive) adjustments not being corrected by the client. In other words, if the auditor chooses a lower

overall audit materiality for other, qualitative reasons, he is less likely to waive adjustments, as expected (H1). This goes along with a reduced willingness to accept uncorrected adjustments. The likelihood of being corrected is 1:1.55 (significant at the 10 %-level).

### **5.2.3 Audit Adjustment Characteristics**

The explanatory variables relating to the characteristics of the audit adjustment are consistent with our hypotheses (H2-H3). Audit adjustments involving estimations (i.e. judgment and interpretation) have odd ratios below zero. More precisely, subjective audit adjustments have a 1:1.7 and adjustments rooted in prior periods have even a 1:3.86 likelihood of being waived. Both parameters are significant at the 5 %-level.

If an audit adjustment is individually 'significant', i.e. the individual audit adjustment amounts to at least 30 % of the audit materiality, the likelihood of being booked is three times as large as if the individual adjustment is smaller, relative to audit materiality, as was expected (H4). When looking at the income direction of the aggregate corrected adjustments related to a particular client, an adjustment is even 12 times as likely to be corrected if the overall direction of the corrected adjustments is income-decreasing (i.e. the underlying misstatement has increased profit or loss). The finding is consistent with H5 and constitutes a strong evidence for auditor conservatism. Both factors are highly significant (1 % level).

### **5.2.4 Client and financial statement characteristics**

The explanatory variables related to the audit client's characteristics and the approach to prepare the financial statements (i.e. hard close) are all consistent with our hypotheses (H6-H9).

High-level controls will increase the likelihood (1:2.27) of an adjustment being left

uncorrected (waived), as expected (H7). Again, this factor is highly significant (1 %-level). A similar effect can be observed in relation to a 'good' internal control system (H6), although the effect is not as strong (1:1.44) and not highly significant (10%-level).

If the quality of the client's management, its integrity and competence (H8), is rated as high by the auditor, this is associated with a 1:2.27 higher likelihood of an adjustment being corrected. However, it must be noted that, although highly significant (1 %-level), this effect may not only be attributed to the auditor's willingness to accept uncorrected adjustments. The effect can also (maybe even more likely) be explained by the fact that a 'high quality' management with high integrity and competence is intrinsically motivated to publish financial statements free of any misstatements, whether material or not, and will thus choose to correct every adjustment the auditor might detect.

If the client chooses a hard close approach for the financial statements, this approach will, as expected (H9) significantly increase the likelihood of adjustments being left uncorrected (waived) with a 1:3.75 likelihood. The effect is highly significant (1 %-level).

### **5.2.5 Control variables**

When including the four control variables in the regression model, none of the control variables proved to be significantly influencing the auditor's decision at least on the 10 %-level (see table No. 5).

[insert table No. 5 here]

While the result could be attributed to measurement error for the *COMPETITION* and *CLIENT'S ECONOMIC SITUATION* variables,<sup>13</sup> measurement error (see section 5.3) seems highly unlikely for the *REMUNERATION* and *CLIENT TENURE* variables.

The existence of an accounting-based remuneration could primarily influence the motivation of the client's management to engage in fraudulent reporting in order to reach certain remuneration thresholds and thus would affect, from the auditor's perspective, inherent and thus, error risk. Based on the audit risk model, the auditor will react to an increased level of error risk due to an accounting-based remuneration scheme by adjusting his audit procedures. However, an influence on his decision to waive an audit adjustment cannot be substantiated.

Assuming that longer client tenure will allow the auditor to reach an acceptable low level of audit risk with a lower effort (e.g. the auditor can refrain from annually assessing the client's control system), and further assuming a constant level of audit fees, longer client tenure will result in economic rents. If the auditor is presumed to have an incentive to realize those rents, there is a certain motivation to 'keep' a client, which might result in the auditor's increasing willingness to waive audit adjustments. This effect can e.g. be addressed by mandatory auditor rotation. Since we cannot substantiate that client tenure influences the auditor's decision to waive an audit adjustment, our study does not suggest that standard-setters should require auditor rotation or tighten respective standards.<sup>14</sup>

### 5.3 Limitations

Our study is subject to a number of limitations. For one, we did not examine *all* factors that

---

<sup>13</sup> We were e.g. unable to rely on going-concern prediction models such as the models by Altman (1968); Ohlson (1980) or Zmijewski (1984) due to data availability.

<sup>14</sup> See e.g. IFAC Code of Ethics, Sec. 290.151 and §§ 319, 319a German Commercial Code.



influence inherent and control risk. Secondly, some of our variables might be affected by measurement error, since the factor is rated by the auditor himself. Measurement error might apply to the quality of the client's management, entity-level controls (in terms of their effectiveness), the overall rating of the internal control system, and the client's economic situation. For example, the auditor, when evaluating the quality of the client's management may have been inclined to rate those clients as "high quality" that yield more easily to the auditor's proposed adjustments, while clients that do not might be viewed as "low quality", as these clients do not readily agree with the auditor's judgment. Conversely, auditors may have been generally reluctant to rate their client's management quality, entity-level controls or internal control system as 'very poor'. However some of the auditor's evaluations can be substantiated: e.g., the client's economic situation is rated by the auditor as weak or very weak in 53 audit engagements; 35 of which showing a loss and 32 a decline in revenues in their audited financial statements.

Thirdly, we examined data from one Big 4 audit firm in Germany. We do not know whether our findings can be extended to other accounting firms, especially non-Big 4 firms. While the audit approaches of the Big 4 firms are similar to a large degree (Lemon/Tatum/Turley (2000); Ballou/Earley/Rich (2004), 83 f.; Knechel (2007), 393 ff.), evidence exists that smaller audit firms' audit approaches are somewhat different (see Blokdijk et al. (2006)). Thus, care must be exercised when extending our findings to non-Big 4 firms.

## **6 SUMMARY AND CONCLUSIONS**

Based on a large sample of 255 firms with a total of 1.158 audit differences we analyze which parameters determine the auditor's decision to book or waive an audit adjustment. Although there are already a number of studies analyzing the determinants of that decision, our study contributes to the literature in a number of ways. Firstly, in achieving a  $R^2$  of over

0.50, our model can explain the majority of the variance associated with the auditor's decision. In addition, based on the goodness-of-fit-test we conducted, our model can predict the auditor's decision very well. Secondly, since previous studies are all based on a sample of firms where financial statements and audits are prepared and carried out in a US environment, the question is interesting whether previous findings can be extended to other accounting standards and International Standards on Auditing. Also, given the huge changes of the audit environment during the last decades, even findings with a US-background may not hold today. Indeed, we find that only some factors previously found to influence the auditor's decision still do so today. Conversely, our study indicates that other factors do not seem to be influential nowadays.

As in prior studies, we found the nature of the adjustment (prior-period difference, subjective difference) to be associated with a lower likelihood of being corrected. We also found evidence of auditor conservatism, as the auditor is much more likely to correct income-increasing differences (by having income-decreasing adjustments booked). Also, our findings are similar to those of Braun (2001): Individual differences with higher amounts are more likely to be booked than a higher number of differences with smaller amounts. Consistent with Joe et al (2008), we find a strong internal control system to be associated with a higher likelihood of being waived.

Conversely, we cannot confirm an influence of other factors. In particular, contrary to Joe et al. (2008), we cannot find client tenure to have an impact on the auditor's decision. Client tenure might thus be an interesting subject of futures studies. Also, it might be interesting to analyze whether our (contradicting) findings might be attributed to differences in the audit regime between the US (prior studies) and other parts of the world. For example, there are some major differences between ISA and PCAOB standards, such as how to assess and respond to risk (for further details see MARC (2009), 7 f.).

We also looked at factors that previous studies had disregarded so far. Interestingly, while some factors that arguably might influence the decision to book or waive do in fact not, we found a number of 'new' parameters that seem to influence that decision. For example, an accounting-based management remuneration scheme and the level of competition in the client's line of industry arguably both influence the client's motivation and incentive for earnings management (and maybe even fraudulent earnings manipulation). Both factors substantially contribute to the inherent risk of the audit engagement. In addition, the level of competition in the client's line of industry is associated with the auditor's litigation and reputation risk. A high or increasing level of competition also increases the likelihood of a client breakdown and the likelihood of the auditor finding himself in a position to justify his audit opinion and certainly his decision to waive audit adjustments. Yet, we did not find evidence to suggest that those factors influence the auditor's decision.

On the other hand, among the factors examined in previous studies, our study reaches some interesting findings. For one, we provide first evidence that qualitative materiality considerations not only influence the auditor's audit approach, but also his decision how to handle audit adjustments: Qualitative materiality considerations are associated with a higher likelihood of audit adjustments being booked. Second, strong entity-level controls, a factor that captures an important component of the internal control system, are – as a strong internal control system itself –, associated with the auditor's higher willingness to accept waived differences. Third, the quality of the client's management (i.e. its integrity and competence) is significantly associated with a higher likelihood of corrected differences. While this finding can easily be attributed to the intrinsic motivation of the management itself, we cannot rule out potential measurement error (see section 5.3). The quality of the client's management might thus be another fruitful area of future results, although objectively "rating" the management's quality is likely to pose significant methodical challenges. Interestingly, we identified a hard close approach as another influential factor. Highly significant, a hard close approach is associated with a very low likelihood of adjustments being corrected. A possible

explanation is that entities capable of preparing financial statements by way of a hard close approach typically have a strong internal control system which (over)compensates the increased complexity of a hard close approach. However, also the negotiation process between client and auditor might evidence different characteristics which could explain a different willingness of the auditor to waive adjustments in a hard close-type engagement. The particularities of the negotiation process associated with this kind of engagement might also be an interesting subject of future research.

Since our study is based on archival data, a fruitful area of future interest might be those factors that cannot be examined based on archival data, but which might nevertheless influence the auditor's decision to book or to waive. In particular, the personality traits of the engagement team, engagement leader or engagement partner might be interesting. The locus-of-control concept could be an operational way to capture personality traits. For example, Tsui/Gul (1996) found that the association between the auditor's locus of control and his response to clients' requests in an audit conflict situation is also influenced by ethical reasoning.

Another area that has previously not been looked into is the influence of whether materiality is evaluated using the rollover or iron-curtain-approach: ISA No. 450.A18 seems to allow both approaches, but requires one approach to be applied consistently. Conversely, SEC Staff Accounting Bulletin No. 108 and Proposed FASB Staff Position No. FAS 154-a take the view that a misstatement has to be booked if it is material *either* according to the rollover *or* the iron curtain approach. As the iron curtain approach considers the carry-over effects of differences rooted in prior-period financial statements, this approach might reduce the auditor's willingness to waive prior-period differences.

Fundamental to the auditor's decision to book or waive is the negotiation process preceding the (final) audit opinion, a process with strategic implications for both, auditor and client (see e.g. Hatfield et al. (2008)). A better understanding of this negotiation process might also be

helpful in better modeling the auditor's decision. Some evidence pointing in this direction already exists. For example, Ng/Tan (2003) in their experiment found evidence that different negotiation strategies of the *audit client* do influence the auditor's decision to book or waive. The study of Trotman/Wright/Wright (2005), 360, focusing on the negotiating tactics of the auditor, show that audit partners take more conservative decisions regarding the correction of audit differences than managers and other senior staff. However, it seems to be the individual's position within the audit firm's hierarchy (i.e. status) and not the level of personal experience that is decisive.

Also, cultural factors (see e.g. Chan/Lin/Mo (2003)) and the composition of the engagement team and existing expertise in the client's line of industry within the engagement team (see e.g. Owhoso/Messier/Lynch (2002)) might impact the auditor's ability to detect and his decision to book or waive audit differences. In addition, cognitive-oriented research designs might be fruitful (such as how knowledge on misstatements is organized, see e.g. Frederick/Heiman-Hoffmann/Libby (1994)).

## FIGURES AND TABLES

		Mean size of corrected adjustments / uncorrected (waived) adjustments in relation to overall audit materiality			
Number of adjustments per client	n	all adjustments	Adjustments affecting profit or loss		
			Offset*	Adjustments that, when booked, increase profit or loss (i.e. underlying misstatement decreased profit or loss)*	Adjustments that, when booked, decrease profit or loss (i.e. underlying misstatement increased profit or loss)*
	255	6.71 / 1.37	1.66 / 0.23	1.52 / 0.40	2.27 / 0.46
0	78	--	--	--	--
> 0	177	9.67 / 1.99	2.40 / 0.33	2.19 / 0.57	3.27 / 0.67
1	36	0.16 / 0.26	0.11 / 0.16	0.01 / 0.18	0.10 / 0.13
2-3	45	4.40 / 1.16	3.09 / 0.52	1.00 / 0.29	3.08 / 0.61
4-6	42	3.79 / 0.75	0.98 / 0.33	1.03 / 0.30	1.08 / 0.45
7-9	20	4.65 / 1.61	2.02 / 0.30	1.27 / 0.61	2.36 / 0.55
10-14	16	19.65 / 5.38	2.40 / 0.31	0.74 / 2.25	3.10 / 2.27
15+	18	52.31 / 7.86	8.95 / 0.22	14.49 / 1.19	16.43 / 1.14

\* The column „offset“ was calculated as follows: For each client/audit, the income-increasing and income-decreasing adjustments (for corrected and uncorrected adjustments, respectively) were summed up and the resulting absolute amount was divided by the client/audit-specific materiality. The results for the individual clients/audits have then been summed up and divided by the number of clients/audits. The columns „income-increasing“ (only the income-increasing adjustments were summed up) and „income-decreasing“ (only the income-decreasing adjustments were summed up) were calculated in the same way. This method, however, does not allow for the „offset“ income-affecting adjustments to be calculated based on the income-increasing and income-decreasing adjustments in the other columns in the table.

Table No. 1: Number and mean size of corrected and uncorrected adjustments (in relation to materiality) by number of adjustments per client

Adjustment, materiality, client or financial statement characteristic (total number of observations = 1,158)		Total (corrected and uncorrected) adjustments		Corrected adjustments		Uncorrected (waived) adjustments	
		number	mean size in relation to audit materiality	number	mean size in relation to audit materiality	number	mean size in relation to audit materiality
Subjective adjustment ( <i>SUBJECTIVE</i> )	+	173	1.80	80	3.39	93	0.44
	-	985	1.82	587	2.53	398	0.77
Adjustment rooted in prior period ( <i>PRIOR-PERIOD</i> )	+	20	0.47	6	0.97	14	0.26
	-	1,138	1.84	661	2.65	477	0.72
Individually significant adjustment ( <i>SIGNIFICANT</i> )	+	467	4.34	341	5.05	126	2.46
	-	691	0.11	326	0.11	365	0.11
Corrected adjustments for this client do, in aggregate, decrease income ( <i>OVERALL INCREASING</i> )	+	526	2.40	450	2.61	76	1.14
	-	632	1.33	217	2.68	415	0.63
Qualitative materiality threshold ( <i>QUALITATIVE MATERIALITY</i> )	+	112	6.38	72	8.70	40	2.20
	-	1,046	1.33	595	1.90	451	0.58
Internal control system, - (very poor), - (strong), + (strong), ++ (very strong) ( <i>INTERNAL CONTROL SYSTEM</i> )	--	26	0.71	26	0.71	0	-
	-	329	2.29	261	2.32	68	2.18
	+	591	2.00	297	3.47	294	0.51
	++	212	0.73	83	1.25	129	0.40
Entity-level controls, - (very poor), - (strong), + strong), ++ (very strong) ( <i>ENTITY-LEVEL CONTROLS</i> )	--	0	--	0	-	0	-
	-	363	3.01	308	3.08	55	2.61
	+	576	1.51	286	2.49	290	0.55
	++	219	0.66	73	1.34	146	0.32
Quality of client's management (integrity and competence), -- (very low), - (low), + (high), ++ (very high) ( <i>QUALITY</i> )	--	0	-	0	-	0	-
	-	89	3.82	82	4.14	7	0.12
	+	591	2.10	314	3.05	277	1.02
	++	478	1.10	271	1.70	207	0.32
Hard close ( <i>HARD CLOSE</i> )	+	164	1.46	53	3.77	111	0.36
	-	994	1.88	614	2.54	380	0.81
Accounting-based remuneration scheme ( <i>REMUNERATION</i> )	+	470	1.37	212	2.66	258	0.31
	-	688	2.13	455	2.62	233	1.15
Competition within client's line of business, -- (strongly decreasing), - (decreasing), + (increasing), ++ (strongly increasing) ( <i>COMPETITION</i> )	--	1	0.68	0	-	1	0.68
	-	86	4.45	69	5.49	17	0.24
	+	847	1.74	484	2.38	363	0.89
	++	224	1.12	114	2.02	110	0.18
Client tenure (in years) ( <i>CLIENT TENURE</i> )	1	0	-	0	-	0	-
	2	69	1.36	36	2.34	33	0.29
	3-5	403	1.02	223	1.61	180	0.30
	> 6	686	2.33	408	3.22	278	1.03
Client (financial and overall economical) situation, -- (very weak), - (weak), + (healthy), ++ (very healthy) ( <i>CLIENT'S ECONOMIC SITUATION</i> )	--	66	3.07	37	1.84	29	4.63
	-	262	2.09	194	2.71	68	0.35
	+	433	1.46	232	2.49	201	0.27
	++	397	1.82	204	2.87	193	0.72

Table No. 2: Number and mean size of total, corrected and uncorrected adjustments (in relation to materiality) by adjustment, materiality, client or financial statement characteristic

<b>Explanatory variable</b>	<b>Variance Inflation Factor</b>
<i>SUBJECTIVE</i>	1.0153
<i>PRIOR-PERIOD</i>	1.0258
<i>SIGNIFICANT</i>	1.0797
<i>OVERALL INCREASING</i>	1.0911
<i>QUALITATIVE MATERIALITY</i>	1.0950
<i>INTERNAL CONTROL SYSTEM</i>	3.5793
<i>ENTITY-LEVEL CONTROLS</i>	3.3436
<i>QUALITY</i>	1.5375
<i>HARD CLOSE</i>	1.0602

Table No.3: Variance inflation factors for the explanatory variables



<b>Explanatory variable</b>	<b>Odd Ratio Estimate</b>	<b>Standard Error</b>	<b>p</b>
<i>SUBJECTIVE</i>	0.594**	0.2186	0.017
<i>PRIOR-PERIOD</i>	0.259**	0.6172	0.029
<i>SIGNIFICANT</i>	3.013***	0.1664	<0.0001
<i>OVERALL INCREASING</i>	12.301***	0.1736	<0.0001
<i>QUALITATIVE MATERIALITY</i>	1.548*	0.2564	0.088
<i>QUALITY</i>	2.271***	0.1558	<0.0001
<i>ENTITY-LEVEL</i>	0.440***	0.1942	<0.0001
<i>INTERNAL CONTROL SYSTEM</i>	0.696*	0.1886	0.054
<i>HARD CLOSE</i>	0.267***	0.2325	<0.0001

\* = significant at the 10 %-level, \*\* = significant at the 5 %-level, \*\*\* = significant at the 1 %-level

adjusted  $R^2 = 0.51$

Hosmer/Lemeshow's goodness-of-fit = 0.71

Table No. 4: Parameter estimates (odd ratios) and standard errors for explanatory variables

<b>Control variable</b>	<b>p</b>
<i>REMUNERATION</i>	0.192
<i>COMPETITION</i>	0.141
<i>CLIENT TENURE</i>	0.485
<i>CLIENT'S ECONOMIC SITUATION</i>	0.250

Table No. 5: p-values for the control variables

## REFERENCE LIST

- Altman, E. I. 1968. Financial Ratios, Discriminant Analysis and the Prediction of Corporate Bankruptcy. *The Journal of Finance* 23 (September): 589-609.
- Antle, R., and B. Nalebuff. 1991. Conservatism and Auditor-Client Negotiations. *Journal of Accounting Research* 29 (Supplement), 29, 31-54.
- Ballou, B., and C. E. Earley, J. S. Rich. 2004. The impact of strategic-positioning information on auditor judgements about business-process performance, *Auditing: A Journal of Practice & Theory* 23 (2): 71-88.
- Blokdiik, H., and F. Driehuisen, F., D. A. Simunic, M. T. Stein. 2006. An Analysis of Cross-Sectional Differences in Big and Non-Big Public Accounting Firms' Audit Programs, *Auditing: A Journal of Practice & Theory* 25 (1): 27-48.
- Braun, K. W. 2001. The disposition of audit-detected misstatements: An examination of risk and reward factors and aggregation effects, *Contemporary Accounting Research* 18 (1): 71-99.
- Brown, H.L., and A.M. Wright. 2008. Negotiation Research in Auditing. *Accounting Horizons* 22 (1): 91-109.
- Carcello, J. E., and Z.-V. Palmrose. 1994. Auditor Litigation and Modified Reporting on Bankrupt Clients, *Journal of Accounting Research* 32 (Supplement): 1-30.
- Deis Jr., D. R., and G. A. Giroux, G. 1992. Determinants of Audit Quality in the Public Sector. *The Accounting Review* 67 (3): 462-479.
- Eilifsen, A., and W. F. Messier. 2000. The incidence and detection of misstatements: A review and integration of archival research, *Journal of Accounting Literature* 19: 1-43.
- Fernández-Laviada, A., and J. Montoya del Corte, F.J. Martínez García. 2009. Qualitative Materiality Factors in the new International Standard on Auditing 450: An Exploratory Study in Spain, working paper presented at the 5<sup>th</sup> European Auditing Research Network Symposium, Valencia, 29<sup>th</sup>-31<sup>st</sup> October 2009.
- Frederick, D. M., and V. B. Heiman-Hoffman, R. Libby. 1994. The Structure of Auditors' Knowledge of Financial Statement Errors, *Auditing: A Journal of Practice and Theory* 13 (1): 1-21.
- Hatfield, R. C., and R. W. Houston, C.M., Stefaniak, S., Usrey. 2008. The effect of magnitude of client reporting difference and order of multiple issues on auditor-client negotiations, working paper, Alabama.
- Hocking, R. R. 1996. *Methods and Applications of Linear Models. Regression and the Analysis of Variance*. New York and others: John Wiley & Sons, Inc.
- Hosmer, D. W., and S. Lemeshow. 1989. *Applied Logistic Regression*. New York and others: John Wiley & Sons, Inc.
- Houghton, C. W., and J. A. Fogarty. 1991. Inherent risk, *Auditing: A Journal of Practice & Theory* 10 (1): 1-21.

- Icerman, R. C., and W. A. Hillison. 1991. Disposition of audit-detected errors: some evidence on evaluative materiality, in: *Auditing: A Journal of Practice & Theory* 10 (1): 22-34.
- Joe, J. and A. Wright, S., Wright, S. 2008. The impact of changes in the reporting environment on the disposition of proposed audit adjustments, working paper.
- Kinney, W. R. 2000. Information quality assurance and internal control for management decision making. Boston: McGraw Hill.
- Knechel, W. R. 2007. The business risk audit: Origins, obstacles and opportunities. *Accounting, Organizations and Society* 32 (4/5): 383-408.
- Knechel, W. R., and S. E. Salterio, N. Kochetova-Kozloski. 2010. The effect of benchmarked performance measures and strategic analysis on auditors' risk assessments and mental models, *Accounting, Organizations and Society* 35 (3): 316-333.
- Köhler, A. G., and K.-U. Marten, R., Quick, K. Ruhnke. 2007. Audit regulation in Germany, in *Auditing, Trust and Governance*, edited by Quick, R., and S. Turley, M. Willekens, 110-143, London and New York: Routledge Chapman & Hall.
- Kreutzfeldt, R. W., and W. Wallace. 1986. Error characteristics in audit populations: Their profile and relationship to environmental factors, *Auditing: A Journal of Practice & Theory* 6 (1): 20-43.
- Lemon, W. M., and K. W. Tatum, W. S. Turley. 2000. Developments in the audit methodologies of large accounting firms, Caxton Hill, Hertford: Stephen Austin & Sons Ltd.
- Libby R., and W. R. Kinney. 2000. Does mandated audit communication reduce opportunistic corrections to manage earnings to forecasts?, *The Accounting Review* 75 (4): 383-404.
- Maastricht Accounting, Auditing & Information Management Research (MARC). 2009. Evaluation of the differences between International Standards on Auditing (ISA) and the standards of the US Public Company Accounting Oversight Board (PCAOB), Final Report of a Study Commissioned by Internal Market and Services DG of the European Commission, EU Project No MARKT/2007/15/F LOT 2.
- Menard, S. 1995. Applied Logistic Regression Analysis, Thousand Oaks (CA): Sage.
- Messier, W. F., and A. Eilifsen, L. A. Austen. 2004. Auditor Detected Misstatements: Causes, Detection and the Effect of Information Technology, *International Journal of Auditing* 8 (3): 223-236.
- Nagelkerke, N. J. D. 1991. A note on a general definition of the coefficient of determination. *Biometrika* 78 (3): 691-692.
- Neter, J., and W. Wasserman, M. H. Kutner. 1990. Applied Linear Statistical Models. Regression, Analysis of Variance and Experimental Designs. Homewood, IL and Boston, MA: Richard D. Irwin, Inc.
- Ng, T. B. P. 2007. Auditors' decisions on audit differences that affect significant earnings thresholds, *Auditing: A Journal of Practice and Theory* 26 (1): 71-89.
- Ng, T. B. P., and H. T. Tan. 2003. Effects of authoritative guidance availability and audit committee effectiveness on auditors' judgements in an auditor-client negotiation context, *The Accounting Review* 78 (3): 801-818.

- O'Brian, R. M. 2007. A Caution Regarding Rules of Thumb for Variance Inflation Factors, *Quality & Quantity* 41 (5): 673-690.
- Ohlson, J. A. 1980. Financial Ratios and the Probabilistic Prediction of Bankruptcy. *Journal of Accounting Research* 18 (Spring): 109-131.
- Owhoso, V. E., and W. F. Messier, J. G. Lynch. 2002. Error Detection by Industry-Specialized Teams during Sequential Audit Review, *Journal of Accounting Research* 40 (3): 883-900.
- Ruhnke, K. 2009. Entdeckung von falschen Angaben in der Rechnungslegung durch den Abschlussprüfer – Bezugsrahmen, Einordnung empirischer Studien der Prüfungsdifferenzforschung und Forschungsperspektiven, *Journal für Betriebswirtschaftslehre* 5 (2/3): 61-94.
- Trotman, K. T., and A. M. Wright, S. Wright. 2005. Auditor Negotiations. An Examination of the Efficacy of Intervention Methods, *The Accounting Review* 80 (1): 349-367.
- Tsui, J. S. L., and F. A. Gul. 1996. Auditors' behavior in an audit conflict situation: A research note on the role of locus of control and ethical reasoning, *Accounting, Organizations and Society* 21 (1): 41-51.
- Wright, A. 1988. The impact of prior working papers on auditor evidential planning judgments, *Accounting, Organizations and Society* 13 (6): 595-605.
- Wright, A., and S. Wright. 1997. An examination of factors affecting the decision to waive audit adjustments. *Journal of Accounting, Auditing and Finance* 12 (Winter):15–36.
- Zmijewski, M. E. 1984. Methodological Issues Related to the Estimation of Financial Distress Prediction Models. *Journal of Accounting Research* 22 (Supplement): 59-82.