Joint Audit and Accuracy of the Auditor's Report
An Empirical Study

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Abstract

This study examines the effects of a joint audit on auditor's report consensus and accuracy. We investigate whether a joint audit, particularly the report issued, improves an audit's quality. We measure the audit's quality using the degree of auditor consensus in the auditor's report. We also use an expected opinion, which we believe is appropriate in the defined circumstances, as a scale for the measurement of the report's accuracy. Participants in the study were statutory auditors from Austria and Germany. At present, manners of improving audit quality and auditing decisions are being intensively discussed in the European Union and everywhere in the world. The joint audit approach is a very current topic in this discussion. Regulators and standard setters are extensively examining the benefits of various audit approaches. Nevertheless, in most countries, the joint audit approach is still utilised on a voluntary basis and is not very common. Our study provides evidence that auditors who use a joint audit approach achieve higher consensus and greater accuracy. In light of current discussion on improving the quality of audits by implementing new methods and regulations, these results are significant for both auditing practice and audit research. Despite this importance, there are very few studies and little research on improving quality through the use of a joint audit approach. Our results demonstrate the need for further investigation of the determinants of audit performance when using a joint audit approach. Using a case study research design and an interview, we draw conclusions and discuss necessary future research.

Keywords: Audit quality, Auditor's report, Consensus, Empirical study, Joint audit

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1. Introduction and Background

Criticism of the audit profession that resulted from the recent spate of business and financial scandals has had a major impact on regulators' activities worldwide. Auditing

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failures have produced significant changes to auditing methods. One recent audit trend is an increased focus on strengthening audit quality, especially in terms of improving the auditor's report (consistent with Benston and Hartgraves, 2002; Francis, 2004; Knechel, 2009).

The auditor's role, position and liability and the rules governing audits within the European Union have been subject to differing regulations in the member states. The increasing number of significant financial failures has led to a call for the harmonisation of audit regulations. Even before the audit directive[1] – a result of the harsh criticism of the audit profession in general and the Sarbanes-Oxley Act in the U.S. – several European Union-level regulations existed. In an effort to address essential concerns, the European Commission issued the audit directive, which achieves only minimum harmonisation at the European Union level because member states are allowed to add national stipulations. In addition to many new regulations, such as audit reporting or transparency report requirements, national and international standard setters and legislators continue to attempt to find new methods[2] of improving the audit process and the audit report.

The recent scandals have demonstrated that auditor independence is a very important factor for audit quality. Auditor independence can be defined as an auditor's freedom from those pressures and other factors that compromise or can reasonably be expected to compromise an auditor's ability to formulate unbiased audit judgments. The Sarbanes-Oxley Act and the European Commission's directive[3] prohibit an auditor or an audit firm from performing an audit if there is any direct or indirect financial, business, employment or other relationship, including the provision of additional non-audit services, between the auditor, audit firm or network and the audited entity that would cause an objective, reasonable and informed third party to conclude that the auditor's or audit firm's independence is compromised. If auditor's (or audit firms) independence is threatened by self-review, self-interest, advocacy, familiarity, trust or intimidation, safeguards must be applied to mitigate these threats. If the threats are still significant despite safeguards and independence is compromised, the auditor or audit firm may not perform the audit.

For example, obligatory internal or external rotations are methods of improving audit quality. Internal rotation is widely used around the world. However, the European Commission explicitly rejected the concept of external rotation up to the last year[4] because there appear to be no indications that it would improve audit quality. An analysis revealed that external rotation is considered a quality safeguarding measure in only a few states, whereas internal rotation is common in most countries. There is no scientific evidence that rotation duty influences the auditor's quality and judgment, and any discussion is based

[1] Therefore, see European Union, 2006, as well as the European Green Paper "Audit Policy: Lessons from the Crisis", published in October 2010.

[2] For examples of new audit approaches – Fee, 1996; Ferlings et al., 2007; Ferlings et al., 2007a.

[3] For further details, see European Union, 2006.

[4] Since November 2011 there are two new proposals for strengthen the audit, see *European Commission* KOM (2011) 778/2 and KOM (2011) 799/4

on suppositions. There is still little empirical and scientific research proving that rotation obligation has a positive influence on audit quality and the auditor's report.

Another method of improving audit process quality is to perform audits in compliance with the International Standards on Auditing (ISAs). ISA 220 and International Standard on Quality Control (ISQC) 1 stipulate that audits and audit firms shall be subject to a system of quality assurance, which will also result in higher audit quality. Under ISQC 1, an audit firm has an obligation to establish a system of quality control designed to provide it with reasonable assurance that the firm and its personnel comply with professional standards and regulatory and legal requirements and that the auditor's reports that the firm or engagement partners issue are appropriate in the circumstances. According to ISA 220, the engagement team should implement quality control procedures that are applicable to the individual audit engagement. For audits of listed entities' financial statements, ISQC 1 and ISA 220 further require that audit firms establish an engagement quality review that provides an objective evaluation of the engagement team's significant judgments and the conclusion reached in formulating the report.

These examples represent some of the policies that have resulted from the current audit and auditor regulations. In addition to many other regulations, such as those that require audit reporting and transparency reports, national and international standard setters and legislators are constantly searching for new methods to improve the quality of financial statement. The objective of all these new policies is to strengthen audit quality and the auditor's report by implementing new regulations concerning the auditor's independence (for example rotation) and the audit process[5].

Joint audits are also being discussed in this context, but the joint audit approach is not mandatory in most European Union member states. In the recent European Green Paper[6] the joint audit approach is one of the proposals to strengthen the statutory audit. Even if the two November 2011[7] proposals for regulation of the quality of public-interest entity audits and a directive to enhance the single market for statutory audits do not mandate joint audit standardisation, they are highly recommended by the European Commission. In France, all publicly listed companies that prepare consolidated (group) financial statements are required to be jointly audited by two independent auditors. Therefore, the question regarding whether a joint audit can be seen as a quality improvement measure arises. The term "joint audit" is used to describe a situation in which two auditors who are collectively assigned to plan and perform the audit, including the interpretation of the results of audit procedures, complete the engagement and issue an audit opinion. In the current literature, the term "audit group" is used when two auditors appear to jointly resolve a specific problem, for example. However, this concept is not equivalent to a joint audit. The aim of this research project is to determine whether a joint audit contributes

[5] For example, the adoption of the ISAs or the implementation of a quality assurance system.

[6] Especially in the Green Paper "Audit Policy: Lessons from the Crisis" (published in October 2010).

[7] For the new proposals, see European Commission KOM (2011) 778/2 and KOM (2011) 799/4.

to audit quality. To address this question, a case-based empirical study, combined with an interview and observation, is used. This methodology is chosen because case study research is extremely useful for raising questions, highlighting issues, developing and testing theory, and providing guidance for solving problems (consistent with Dopuch et al., 1989; Cooper and Morgan, 2008). Prior studies have revealed that cases can be selected for the purpose of understanding discontinuity and disequilibrium, whereas studies employing large samples tend to assume temporal stability and emphasise equilibrium. This difference implies a crucial advantage of the use of case studies (Cooper and Morgan, 2008; Yin, 1989; Schön, 1983). For example, Schön (1983) argues that case studies are valuable to the "entire process of reflection in action, which is central to the "art" by which practitioners sometimes address situations of uncertainty, instability, uniqueness and value conflict".

2. Related Research

All new regulations and standards worldwide have the aim of improving audit quality (FRC, 2006) and, consequently, the audit report. However, the joint audit approach is rarely mentioned in this context[8]. In the literature to date, the joint audit has only been mentioned in cases in which the auditors needed to possess specialised knowledge. In these cases, auditors with different areas of expertise are responsible for different parts of an audit. Whether a joint audit, in which both auditors have the same qualifications and are jointly responsible for the audit, increases audit quality has not yet been empirically tested.

No empirical studies of joint audits exist. Only the study "Assessing France's Joint Audit Requirement: Are Two Heads Better than One?" (this remark refers to Francis et al., 2006) has addressed the topic. This study was presented at the 2006 International Symposium of Audit Research. Its primary research question asked "whether higher quality auditing occurs in France when there is information asymmetry arising from the separation of ownership and control, as argued in agency theory literature and, secondly, whether auditor choice has an observable effect on the quality of reported earnings in France". The authors conclude that they do not know if the joint audit requirement in France is more efficient or effective than the standard audit approach used in the rest of the world (this remark refers to Francis et al., 2009).

Hardly any studies of joint audit effects exist, but many studies have demonstrated that group judgment is superior to that of individuals (for example, Einhorn et al., 1977; Solomon, 1987; Rutledge and Harrel, 1994; Maines, 1995; Gigone and Hastie, 1997). However, furthermore, there are numerous studies that examine group decision-making quality (versus individual decision-making quality) or various elements of group decision making per se in accounting settings (for example, Uecker, 1982; Trotman et al., 1983; Bloom et al., 1984; Daroca, 1984; Trotman, 1985; Kiesler and Sproull, 1992; Libby and Luft, 1993; Scott and Tiessen, 1999; Hunton, 2001; Kotchetova and Salterio, 2007). Most

[8] Consistent with IDW, 2002. First discussion in the Green Paper "Audit Policy: Lessons from the Crisis".

of the published research on audit judgment and decision making has utilised one or more of the "standard" theoretical frameworks employed in nonaudit judgment and decision making studies (for example, Choo, 1989; Choo and Trotman, 1991; Ashton and Ashton, 1995a; Gibbins and Swieringa, 1995; Libby, 1995; Messier, 1995; Solomon and Shields, 1995; Bonner et al., 1996). Because a joint audit entails a two-person decision, high audit process quality can be expected to have positive effects. We use multiperson information processing theory along with the evaluation criteria consensus and accuracy as the theoretical framework for our research[9].

Solomon (1982 and 1987) conducted a similar study. She investigated the extent to which individuals and groups of auditors assess similar subjective probabilities. Subjective probability judgments of financial statements account values provided by individual auditors were compared with those provided by three-member auditor groups interacting within different structures. Consensus, calibration, and extremeness were employed as evaluation criteria. The results were mixed, with group judgments consistently exhibiting greater consensus and extremeness and individual judgments exhibiting superior calibration. Although a variety of evaluation criteria is used, consensus has been one of the most common criteria in audit judgment and decision making studies. Consensus is a fairly quality surrogate for accuracy in accounting tasks (Davis et al., 2000; Keasey and Watson, 1989; Ashton, 1985).

Hasnah (1996) and Libby and Lewis (1982) state that certain criteria are needed to measure the accuracy of auditors' judgment. However, these criteria do not tend to exist in auditing. Because the auditors are required to possess particular qualifications and undergo similar training in the auditing field, they are expected to have similar opinions on certain matters. Thus, consensus is often used as a measurement of audit opinion accuracy (for example, see Haron et al., 2009; Pincus, 1990). Consensus can be measured by correlating the mean ratings of a pair of subjects at the same point in time. A high level of consensus may be used as a surrogate for the accuracy of a decision (Keasey and Watson, 1989). If the level of consensus among auditors is low, the authors conclude that the auditors' decisions are less accurate (Libby and Lewis, 1982).

The purpose of an audit is to enhance the degree of intended users' confidence in financial statements. This enhancement is achieved through the auditor's expression of an opinion regarding whether the financial statements are prepared, in all material respects, in accordance with an applicable financial reporting framework. In the case of most general purpose frameworks, that opinion regards whether the financial statements are presented fairly in all material respects or provide a true and fair view in accordance with the framework. Auditing standards require the auditor to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, as the basis for his or her opinion.

Because of our awareness of the presence of accounting fraud in our case materials, we also use an expected opinion, which we believe is appropriate in the defined circumstances,

[9] For other audit quality indicators, see Bedard et al., 2010.

as a scale for measuring report accuracy. Because the case includes fraud, we determined that a qualified audit report is accurate in the given circumstances.

Finally, we argue for accuracy and consensus in terms of auditors' frequent verification of their judgments and decisions through requests for advice from colleagues. For example, when evaluating a potential client, an auditor may ask another auditor or colleague for an opinion on the likelihood of the presence of material errors in the company's financial statements. If the two auditors disagree, they know that at least one of them is incorrect. However, if the two agree, they typically will presume that they are correct. Therefore, the requirement stated in the International Standard on Auditing (ISA) 220 constitutes another argument. For special engagements, this standard requires an engagement quality control review that provides an objective evaluation of the engagement team's significant judgments and the conclusion reached in formulating the report. The aim of this requirement is a third person's objective review and its assurance that all decisions are appropriate. A decision accepted by the auditor and the quality control reviewer is a good (better) decision.

Therefore, we use consensus and accuracy as criteria in our study.

In a joint audit, two auditors from different auditing companies share a mandate and must reach consensus regarding the audit opinion. They work together as the responsible auditor, according to the legal requirements. The audit's result is the two auditors' shared audit opinion. In practice, the company contracts two auditors, from different firms, who divide the auditing tasks and jointly review each other's work (consistent with IDW, 1999). In English-speaking countries, a joint audit can be understood differently: a joint audit can also be a cooperative effort between internal auditors and external auditors or between an auditor and a tax consultant (consistent with Moore and Hodgson, 1993). A joint audit is not comparable to an engagement quality review process because with the joint audit, the auditors originate from different auditing companies and the audit procedures are performed by both auditors. In contrast, the engagement quality reviewer is a partner, another person in the firm, or a suitably qualified external person, not part of the engagement team, who has sufficient and appropriate experience and authority to objectively evaluate the engagement team's significant judgments and the conclusions it reached in formulating the auditor's report.

It can be suggested that the joint audit approach strengthens the auditors' independence by providing further opportunities to express conflicting opinions (consistent with Rödl, 2002; Rufin, 2003; 2005). Joint audits may also improve the quality of the audit and the reports issued because of broader technical expertise. Joint audits can counteract companies' tendency to be aggressive towards their auditors. The quality of work may also be higher because one auditor might detect misstatements that the other auditor missed. Furthermore, the joint audit's preventive effect may have been underestimated until now. Another advantage of the joint audit could be that each of the auditors may have an area of internal specialisation. Increased quality assurance, as well as quality improvement, is likely to offset the higher costs (the use of two auditors results in more time for decision making) that a joint audit incurs. Increased costs are the most commonly cited objection to joint audits. Differences in the auditors' opinions can lead to disagreements and even block decision making in certain circumstances. The tendency to be insufficiently detailed if one auditor relies on the work of the other, although this practice is not allowed, constitutes a structural danger. Joint audits have only been used in a few countries, but they appear to be a logical solution, both technically and ethically. Although joint audits exist in both the UK and the U.S., they are currently mandatory only in France, for all publicly listed companies. They are still unusual in Austria and Germany, although a few major groups, such as banks and insurance companies, have been appointing two auditors through their own initiative for years. This scarcity is applicable in other European countries, where only some companies conduct joint audits. A joint audit is essentially conducted in the same manner as a single audit, but the monitoring process between the two auditors, as well as the discussion of audit findings, is of particular importance. Based on the literature review, we conclude that very little research exists on the joint audit and, as a result, that little is known about the impact of a joint audit on the audit process, the audit report, and audit quality, for example. Therefore, our research question arises as described below.

3. Study

3.1 Research Question

This research project examines the following question that arises when exploring this issue: *Does a joint audit lead to an auditor's report that is more accurate than that produced by a standard audit of financial statements?*[10]

The accuracy of the auditor's report is measured using the degree of consensus between auditors in the auditor's report. We do not discuss theories related to group decision making or, more specifically, the audit review process[11].

3.2 Hypothesis Development

In a joint audit, important decisions cannot be made by a single auditor; this method reduces the risk of mistakes. Concentrating the attention of two auditors shall increase both problem solving efficiency and the quality of the results. The auditor's responsibilities must not be separated, and one auditor is not allowed to rely on the other's work. Therefore, an essential characteristic of the joint audit is the auditors' provision of intensive mutual supervision.

Together, the auditors should plan and perform an audit with an attitude of professional scepticism, recognising that circumstances may exist that cause the financial

[10] This research project was accepted as a dissertation at Innsbruck University (Severus, 2007).

[11] For examples of such theory development, see Trotman et al., 1983; Guzzo and Salas, 1995; Rich et al., 1997a; 1997b; Gibbins and Trotman, 2002.

statements to be materially misstated. Furthermore, both auditors should plan and perform the audit in a manner that reduces audit risk to an acceptably low level that is consistent with the objective of an audit and plan the audit in a manner that allows the engagement to be performed effectively. Planning an audit involves the establishment of an overall audit strategy for the engagement and development of an audit plan to reduce audit risk to an acceptably low level. The audit strategy establishes the scope, timing and direction of the audit and guides the development of the more detailed audit plan. Planning also involves both auditors and other key members of the engagement team so that their experience and insight can be beneficial and the effectiveness and efficiency of the planning process can be enhanced. During the audit planning process, the extent, nature and timing of audit procedures will also be discussed. According to the high degree of supervision, these activities in the joint audit process should be of higher quality. As a result, we expect that the high degree of mutual supervision during the joint audit should lead to higher opinion consensus. Thus, our first hypothesis is as follows:

H_I: Ceteris paribus, mutual supervision leads to no difference between a joint audit and a standard audit in terms of audit opinion consensus.

The second fundamental characteristic of the joint audit is the possibility and the necessity of intensive discussion between the auditors regarding audit findings. Both auditors should perform procedures to obtain sufficient appropriate audit evidence that the work of the other auditor is adequate for the audit's purposes. Before the auditors' report and their joint opinion is issued, through review of the audit procedures performed and documentation, as well as discussion with the other auditor, both auditors should be satisfied that sufficient, appropriate audit evidence has been obtained in support of the conclusions reached and the issuance of the auditor's report. The auditors should both obtain sufficient, appropriate audit evidence (also, from the work that the other performs) for the drawing of reasonable conclusions on which to base their joint audit opinion. Therefore, a high degree of communication between the auditors involved and intensive discussion of audit findings might be necessary. Because of the intensive exchange of audit findings and high degree of discussion between the auditors involved, the audit process and the audit report issued should be of a higher quality. Therefore, we expect that a higher consensus in the audit opinion should be reached when a joint audit approach is used. Therefore, our second hypothesis is as follows:

H_{II}: Ceteris paribus, intensive discussion of audit findings leads to no difference between a joint audit and a standard audit in terms of audit opinion consensus.

The first hypothesis refers to the effects that a joint audit has on the audit opinion because of a more qualitative audit planning process and evidence-gathering process. The second hypothesis examines the effects that the necessity of jointly issuing an audit opinion has on the audit report.

3.3 Research Design and Adopted Methodology

The empirical research was conducted through the use of a case-based experimental study in combination with an observation and an interview. It is very difficult to explore the impact of a joint audit on audit opinion if one considers the entire audit process. Therefore, we developed a specific case study, which allows for exact understanding of the auditors' discussion and communication process and allows for the assessment of the detected audit findings' effects on audit opinion.

Before we conducted the research, we performed a pre-test (test run). A pre-test was necessary, especially so that we could test our questionnaire and our observation guideline. Using the pre-test, we gained useful insight into the documents used for our case-based research and were afforded the opportunity to clarify ambiguities in the different formulations and technical issues. After the pre-test, we discussed criticism and suggestions for improvement and included useful suggestions in our final research. The pre-test was performed with 10 participants, who did not participate in the final study.

Because of the methodology's complexity, only the use of a small examination group is possible. In our case-based study, the participating auditors were divided into two groups. The single auditor group consisted of twenty-three auditors. Twelve auditors participated in the joint audit group. The auditors were employed by different audit companies. In total, thirty-five auditors participated in the study. The auditors were given a case study that included a short financial statement (a consolidated balance sheet and consolidated statements of income). In the case study, a summary of the audit decisions made during the financial statement audit was provided. The case focuses on the audit work performed with regard to the sales/accounts receivable cycle. Among other increases, the represented information revealed a high increase in sales. The purpose of the summarised information was to develop the auditor's ability to recognise problems and provide solutions related to audit risk procedures, audit planning, internal control, materiality, and audit evidence. The auditors were then asked to assess the audit work performed and identify deficiencies. The study utilised only one case study but was performed in two manners.

- In the first group (single study), the individual auditors had to provide their own opinion on the basis of the information in the case study. On an answer sheet, they also had to mark the information that they would have discussed if the audit had been a joint audit.
- In the second group (joint study), two auditors worked together. They had to discuss the audit process steps that were included in the case study, and they had to explain which audit procedures and audit evidence they would or would not have used. Through this method, we observed the mutual supervision, discussion and corporation exhibited between the two participating auditors. On the basis of the case study and the discussion, each pair then had to jointly decide which opinion is appropriate. Their answer sheet was slightly different because they had

to define the extent of their discussion concerning mutual supervision. As part of the observation, they were also asked about their personal opinions. We were interested in differences between the personal opinions and the joint opinions of joint audit group members. With regard to this issue, the effect on the consensus criterion can be better assessed.

The difference between the two studies is that in the single auditor group, each of the auditors had to formulate his or her personal opinion and, in the joint audit group, two auditors had to formulate an opinion together. These two studies provide information on whether the results that auditors arrive differ according to whether they utilise a standard audit or a joint audit. Finally, we expected the auditors to judge the given information in the form of a modified audit opinion. The case study was designed in such a manner that we believe that a qualified audit opinion should have been issued. Additionally, drawing on the literature, in accordance with a general understanding of an accurate opinion,[12] we determined that an opinion appears to be appropriate when most of the auditors come to the same conclusion (consensus).

After the case study, members of both groups were asked to provide some demographic data, including audit experience, qualifications, size of the firm for which they work and previous experience in joint auditing. The purpose of the interview was to obtain information on the auditors' perceptions of and experiences with joint audits. We needed this additional information to verify the results of the case study and the interview. In addition to the case-based study and the interview, an observation was conducted. The observation provides information in addition to the results of the case-based study and the interview. We intensively observed the discussion between the auditors and their cooperation. The evaluation of the results of the case-based study and the interview, according to our two hypotheses, are provided below.

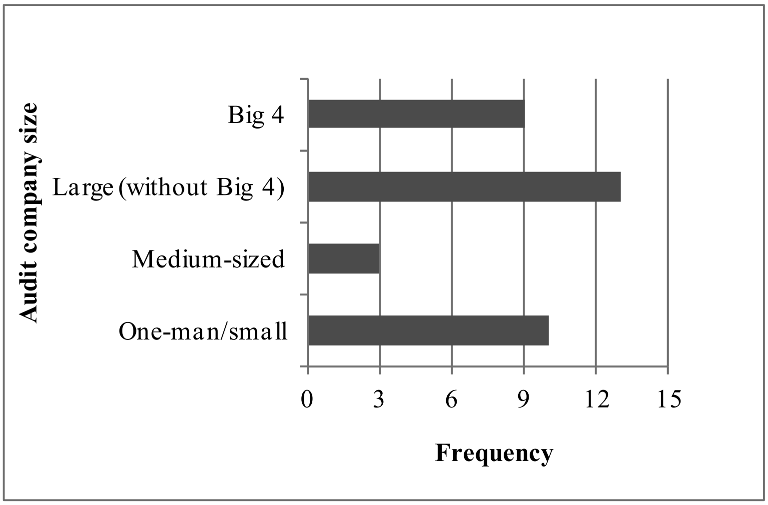
3.4 Results

3.4.1 Sample and Descriptive Analysis

Before the results of statistical analyses are provided, the sample used for the study is illustrated and initial descriptive analyses are conducted. As stated above, thirty-five auditors participated in the study. The study was conducted in 2007. The participating auditors were from audit companies of various sizes in Austria and Germany. More than half of the auditors were working for Big 4 or other large audit companies.

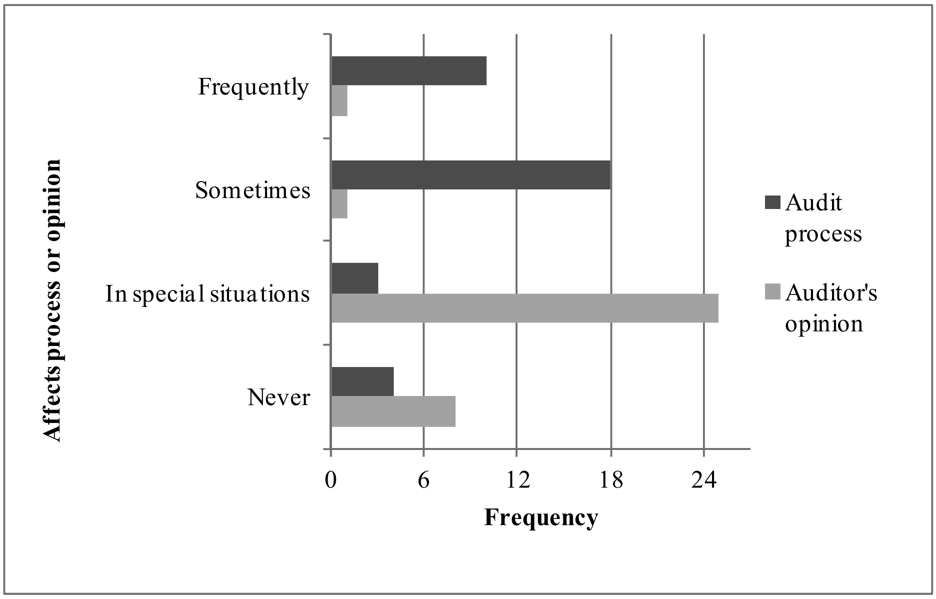
[12] For a general understanding of an accurate opinion see Davis et al., 2000.

Figure 1: Participating auditors were from audit companies of different sizes



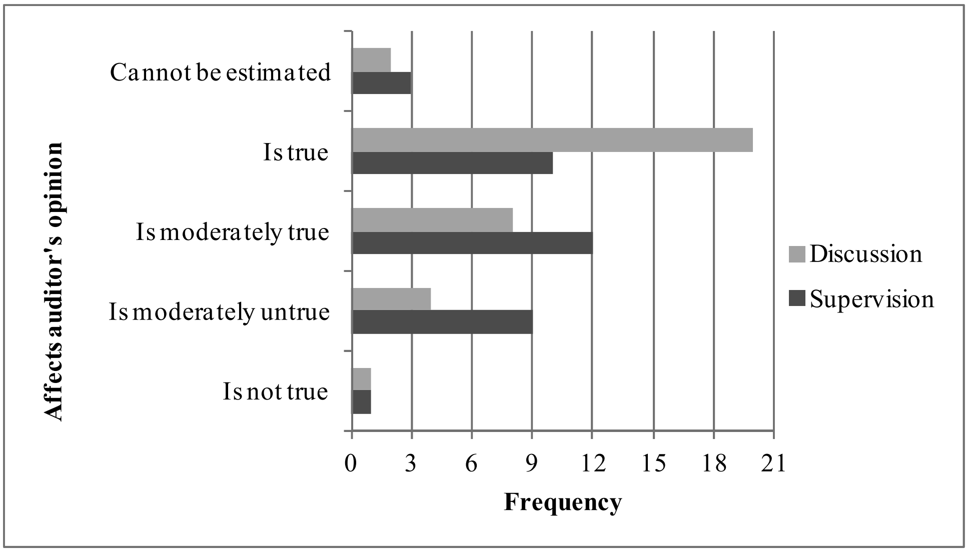
Only certified public accountants were allowed to participate in the study. The mean number of years of audit experience among the participating auditors was approximately fifteen, with a standard deviation of approximately nine years. The minimum amount of audit experience was three years; the maximum was forty. When asked about their previous joint auditing experience, nineteen of the auditors – more than half of all participants – said that they had already conducted a joint audit, although it is not mandatory in Austria or Germany. Only sixteen of the participating auditors have never conducted a joint audit before. Most of the auditors (53%) had a neutral attitude, stating that their experience in joint auditing was neither positive nor negative. Only 20% had a negative attitude. The reasons for the negative attitudes were different in nature. The most common causes of the negative attitudes were the increased costs of joint auditing and the high discussion level between the auditors that is required. In this context, the analysis of responses to the assertion that a joint audit costs more than a standard audit of financial statements revealed that most of the participants (approximately 90%) expected higher costs if two auditors were involved in the audit process. Only 6% did not observe increased costs when conducting a joint audit. For most of the participants, the higher costs are economically justifiable. Responding to questions on the interview, approximately 80% of the participants said that a joint audit sometimes (51%) or frequently (29%) influences the audit process. Most of the interviewed auditors stated a belief that a joint audit very often influences the manner of auditing. In contrast, an influence on the auditor's opinion is primarily observed only in special situations (72%). The following figure illustrates the auditors' points of view.

Figure 2: Effect of a joint audit on audit process and auditor’s opinion



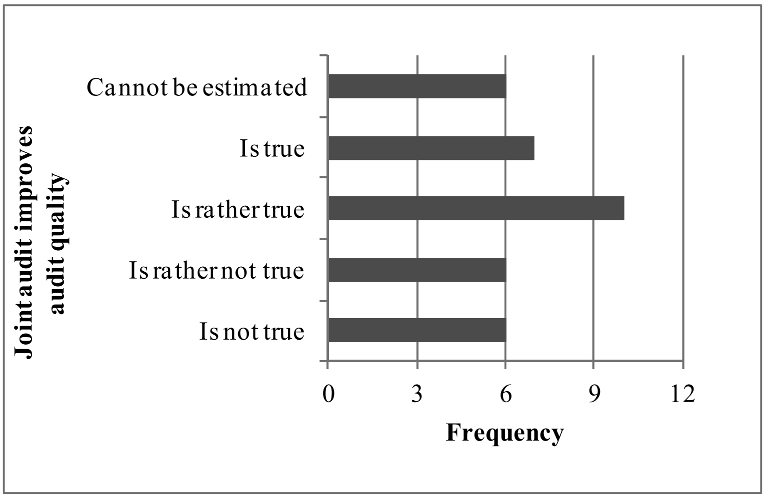
Frequent discussions and a high degree of communication are typical characteristics of a joint audit. Approximately 66% of the participating auditors stated that discussion and communication were high for all audits, not only in special cases. Approximately 30% of the interviewed auditors observe high levels of discussion and communication during a joint audit in special cases. Whether the high discussion and communication levels of a joint audit are viewed as positive or negative is illustrated in the next figure. Most of the participants agreed with the assertion that the mutual supervision of the audit planning process and the audit procedures in a joint audit improves the quality (accuracy) of the issued audit opinion. Most participants also agreed that the discussion between the auditors in a joint audit has a positive influence on the audit process and the audit report issued. The following figure presents and compares the effects of discussion and supervision on the auditor’s opinion.

Figure 3: Discussion and Supervision affect the auditor's opinion



A more detailed analysis of the effect of discussion and supervision on the auditor's opinion, as viewed by the participating auditors, is shown in figures 6 and 8. The analysis of the assertion that a joint audit is a suitable quality assurance instrument demonstrates that the participants' views varied widely.

Figure 4: Joint audit improves audit quality



The descriptive results have demonstrated that the participating auditors observe some positive effects when conducting a joint audit. Next, we want to analyse if there is indeed a positive effect.

3.4.1 Statistical Analysis

Nonparametric tests were computed to test the following two-tailed hypothesis.

H_o:	Mutual supervision leads to no difference between a joint audit and a standard audit in terms of audit opinion consensus.
H_1:	Mutual supervision leads to a difference between a joint audit and a standard audit in terms of audit opinion consensus.

The results of the tests are discussed in the following portion of the paper.

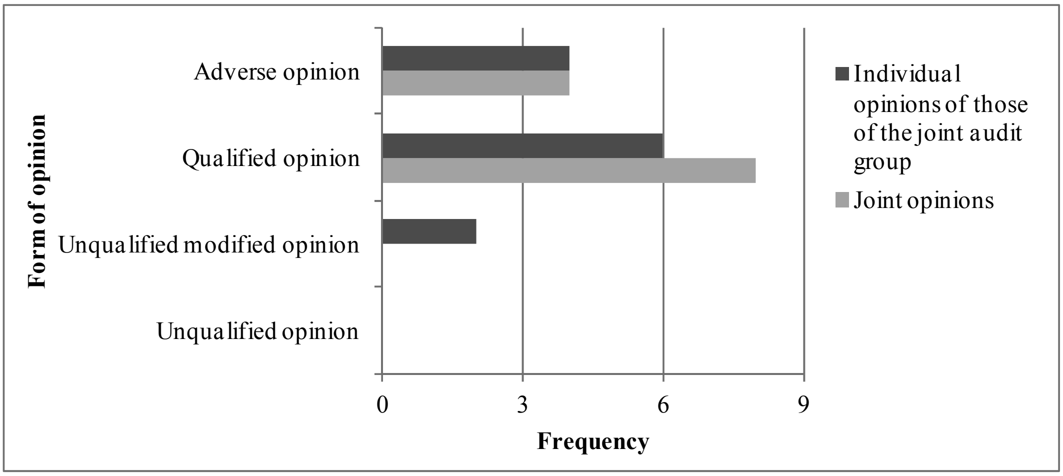
The auditors in both groups were provided with the same information, but the joint auditors also possessed a shared responsibility. This shared responsibility was intensively noted to the auditors at the beginning of the case study. We have observed that the auditors demonstrated strong supervision of one another. Because of these monitoring activities between the joint auditors, the auditors' opinion was expected to be characterised by a higher degree of consensus. We use a between-subjects design, and the subjects are not matched across conditions. The dependent variable (audit opinion) is ordinal scaled, and the independent variable (auditor) has only two levels (joint/single). Therefore, a Mann-Whitney U test is appropriate. The results demonstrate that there are highly significant differences between the mean rank of the single auditors' opinions and the joint auditors' opinions. The joint audit group assessed the information on audit planning and audit procedures in the specific case study much more critically than the single auditor group, and there is much less variety in opinion in the joint audit group. The mean rank of the single auditor group is 14.00; that of the joint audit group is 25.67. Therefore, the joint audit group has judged the information in the case study considerably more critically than the single audit group. The joint auditors have more often issued a modified report. Given that a greater consensus is a generally accepted indicator of an accurate audit opinion, we can state that mutual supervision of audit performance improves the quality of the audit and of the opinion because there is significantly less variety in the audit opinions. Because the exact p-value is lower than the specified level, we can reject the H_0 Hypothesis. Thus, we have sufficient evidence to conclude that the mutual supervision in a joint audit leads to a higher audit opinion consensus. Because we use consensus as a substitute criterion for accuracy, our evidence supports the assumption that a joint audit leads to a more accurate audit opinion.

Using a Kruskal-Wallis test, we investigated further to determine if the auditor's personal opinions had the same rank distribution in the joint opinion. We found that the rank distribution is not the same and that there are significant differences in the rank distribution.

These differences signify that there is further evidence in support of the rejection of the H_0 Hypothesis, in favour of the alternative hypothesis (H_1).

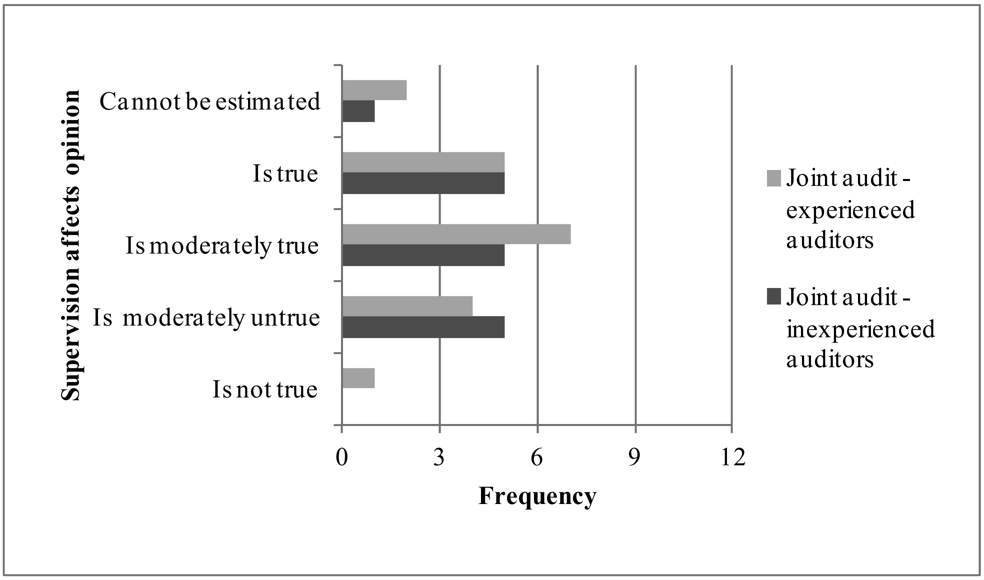
In a joint audit, personal opinions are normally reflected in the joint opinion. To determine if there were any differences between the personal and joint opinions, we asked for personal opinions during the interview. We used a cross tabulation to investigate whether the personal opinions of the joint audit group participants were reflected in the joint opinion. We again found a significant correlation between the personal opinions issued and the joint opinion. The following figure illustrates the change in the diversity of the opinions. The diversity of the personal judgments is greater. When formulating a joint opinion, the form of an unqualified opinion was no longer used. This result was produced by intensive discussion of the audit findings.

Figure 5: From the personal opinion to the joint decision (opinion)



Finally, the assertion that mutual supervision of the audit judgments in a joint audit improves the quality of an audit and the audit opinion issued was analysed in more detail through the use of an interview. The analysis demonstrated that more than 60% of the participants who had already been involved in a joint audit considered the mutual supervision to have a positive influence on the audit process and the audit opinion. The following figure presents and compares the results in terms of the joint audit-experienced auditors' and joint audit-inexperienced auditors' assertions.

Figure 6: Auditor's opinion is affected by supervision



In addition to mutual supervision, we expected communication between auditors and discussion of audit findings to have a positive effect on opinion accuracy. Supervision was measured during the case study when the auditors discussed risk procedures, internal controls and audit findings. The final discussion between the auditors concerning the audit opinion was investigated during a designated phase at the end of the case study.

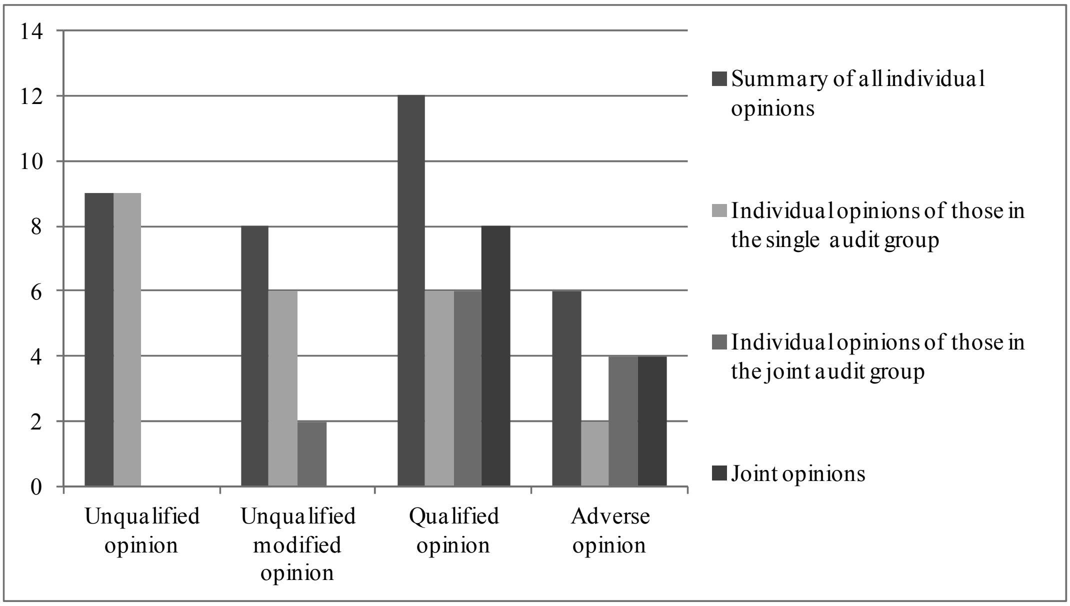
The results of the tests of our second hypothesis are discussed below:

H_0:	Intensive discussion on audit findings leads to no difference between a joint audit and a standard audit in terms of audit opinion consensus.
H_1:	Intensive discussion on audit findings leads to a difference between a joint audit and a standard audit in terms of audit opinion consensus.

We again use a Mann-Whitney U test to determine whether there are highly significant differences in the mean rank between the groups. The results demonstrate very significant differences in audit opinion between the joint audit group and the single audit group. We observed the discussions in the joint audit group and could perceive that these discussions lead to a more critical assessment of the case study information than that observed for the single auditor group. We further find that there was less variety in audit opinions for the joint audit group.

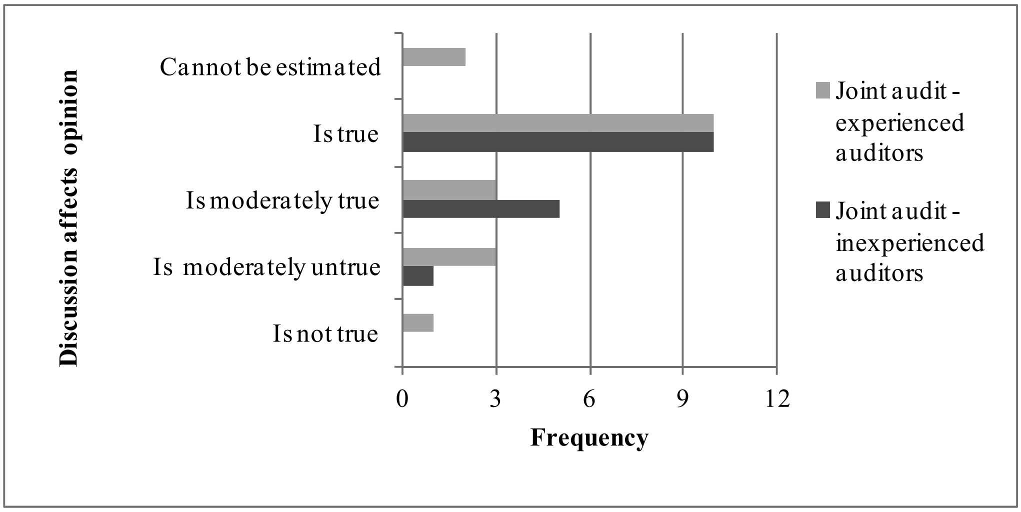
Next, we wanted to determine whether there was any relationship between level of coordination (discussion) and quality of joint opinion. To reach this determination, the level of coordination was assessed twice: once by the participants and once by the study observer. The coordination levels that the joint auditors mentioned and that the observer assessed were identical. Because of the joint audit group's small size, we were not able to analyse this result statistically with correlation coefficients. However, we can perceive that 67% of the joint auditors issued an audit opinion (qualified opinion), which is the opinion that we defined as correct. The next figure illustrates the variety of opinions in the study. As can be observed, the highest consensus is reached in the joint audit group.

Figure 7: Illustration of the variation in auditors' opinions



The results demonstrate that communication at the end of the audit process and discussion of audit findings leads to a more accurate audit opinion. Finally, the assertion that the communication between the auditors involved and the discussion of audit findings in a joint audit improves the quality of the audit opinion was analysed in more detail. We use the interview to analyse this aspect. The results reveal that more than 60% of the participants with experience in joint auditing believe that communication between auditors and discussion of audit findings have a positive effect on the accuracy of the audit opinion. The following figure presents and compares the results for the joint audit-experienced and joint audit-inexperienced auditors regarding this assertion.

Figure 8: Auditor's opinion is affected by discussion



Based on these results, the communication between the auditors and the discussion of audit findings can be viewed to constitute a factor that strengthens the audit report's accuracy.

A limitation of our study can be observed in the small group of participants and the case materials that were used. We believe that case research allows and encourages us to consider our research question, whereas it may not be considered when using other research approaches. We are confident that case research can enhance research on auditing.

Prior studies have demonstrated that case study research is extremely useful but has a number of limitations, as with other research streams (Pentland, 1993). For example, the data are not as extensive as might be desired. There is an increasingly frequent tradition of the use of case studies on audit work and audit firms' operation (for example, Covaleski et al., 1998; Dirsmith and Covaleski, 1985).

Our research focuses primarily on the manner in which an audit is produced. Therefore, a smaller number of participants is appropriate because of the high effort that this research method necessitates. In accordance with former studies, we state that for an initial study on joint audits with a highly elaborate research design, the number of thirty-five participants is all that is possible.

4. Conclusions and Future Research

Auditor reputation has reached a critical point worldwide. There is currently a significant amount of discussion on improving the quality of audits, especially in terms of issued audit reports, through the implementation of new methods and regulations. National and international suggestions regarding reorganisation of auditing focus on ensuring that auditors are independent of their clients, are highly qualified and perform their work in accordance with high technical standards.

The auditor's judgment process has been subjected to extensive study since Ashton's seminal work in 1974. In general, the results of audit judgment research are consistent with those of prior psychological research. The literature review revealed that much of this research suggests that audit judgment can be improved through the use of decision aids. The purpose of our research was to analyse the effect of a joint audit on the auditor's report. The area of study concerning the joint audit is relatively untouched, in contrast to that concerning general group decision making in accounting, and there has been little empirical research on the joint audit. As Francis et al. (2009) acknowledged in their paper, "…we do not know if the joint audit requirement in France is more efficient or effective than the single audit approach used in the rest of the world".

Examples of case study research in managerial accounting, auditing and financial accounting have illustrated the strengths of case studies for theory development and their potential in terms of the generation of new knowledge. Therefore, a case-based study was used to answer the following research question: "Does a joint audit lead to a more accurate auditor's report than that produced through the use of a standard financial statement audit?" In combination with a standardised interview and a close observation of the participants, the results of our case-based empirical study reveal that a joint audit has a positive influence on accuracy. The accuracy of the audit report was measured using the degree of consensus between auditors in terms of opinion. We also used an expected opinion as a scale for the measurement of the accuracy of the auditor's report.

However, much progress must still occur before sufficient evidence exists that supports a joint audit approach and answers the question regarding under which circumstances a joint audit is superior to a single audit. To move research towards this goal, our research provided evidence that, generally, two auditors working together issue more accurate opinion. Our results demonstrate that joint opinions are more conservative and are indicative of higher quality.

The group used in this empirical study was quite small and culled from the auditing profession in only Austria and Germany. Although audits in these countries are conducted in compliance with the principles of the International Standards on Auditing, there is a clear need for further research using larger, more representative groups and case studies that cover additional aspects.

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Appendix

Experiment instrument and case materials (summarised English translation)

PART I: INTRODUCTION

Company Background

JA Company was incorporated 10 years ago and is a wholesale distributor. JA Company is a growing company that produces special kitchens for commercial kitchens. In previous years, a financial statement audit was conducted. You have been the auditor for the JA Company since 2009. One focus of this year's risk-based audit (2010) is the audit of the sales/accounts receivable cycle.

Financial Data

The company's key financial data for 2009 and 2010 are summarised below (in Euros):

	2009	2010
Sales Revenues	179,886,000	**177,291,000**
Operating Expenses	43,851,000	**43,674,000**
Operating Income	18,372,000	**6,561,000**
Earnings Before Tax	22,317,000	**37,257,000**
Accumulated Profit	67,743,000	**75,081,000**
Profit	87,060,000	**112,668,000**
Total Assets	416,070,000	**526,428,000**

In the following case, a summary is provided of the audit decisions reached for the financial statement audit of JA Company for the fiscal year ending in 2010.

PART II: REQUIREMENTS

The annual audit of the JA Company for the year 2010 has been performed. It is now March 31, and all planned fieldwork has been completed. Assume that you are the auditor responsible and you have the following summarised information available. The aim of the case is to provide a judgment, or issue an audit opinion, for the 2010 financial statement audit.

Therefore, you must evaluate the audit testing process and the audit evidence gathered. Finally, you should make an assessment of the facts and provide your personal (and, if required, your joint) opinion. You can assume that sufficient audit evidence has been gathered. It is not possible to extend the audit evidence to obtain further audit evidence. Based on the given information, you shall form an opinion regarding whether the financial statement has been prepared in accordance with the applicable financial reporting framework in all material respects.

After the issue of your personal and, if required, your joint judgment, some aspects of the judgment process will be discussed through the use of a questionnaire.

Finally, please provide us with some demographic data and some facts regarding your experience so that conclusions on the results of this study can be drawn.

All information will be processed on a strictly anonymous basis.

PART III: OVERVIEW OF "JA" COMPANY AUDIT

Audit Planning

Planning of the audit involves establishment of the overall audit strategy for the engagement and the development of an audit plan. You and other key members of the engagement team have been involved in planning this audit. You have established an overall audit strategy that establishes the scope, timing and direction of the audit and that guides the development of the audit plan.

In establishing the overall audit strategy, you have:

- identified the engagement's characteristics;
- ascertained the reporting objectives of this engagement to plan the timing of the audit and the nature of the communications required;
- considered the factors that, in your professional judgment, are significant in directing the engagement team's efforts;
- considered the results of preliminary engagement activities and knowledge gained of other engagements performed; and
- ascertained the nature, timing and extent of resources necessary for the performance of the engagement.

Risk Assessment and Planning Materiality

Details regarding the activities of the JA Company, the company's past performance and economic conditions in which it operated are well known and have been assessed.

The JA Company's financial situation have grown rapidly. This growth has occurred because of a financial interest in an associated company during the last three years. The number of employees increased from 80 to 120. The accounting system and the organisation of the company are currently in accordance with the company's increased size. Therefore, an increased control risk can be assumed.

When determining the overall audit strategy, you have determined materiality for the financial statement as a whole and materiality levels for particular classes of transactions, account balances and disclosures, for which misstatements of lesser amounts than materiality for the financial statements as a whole can reasonably be expected to influence the economic decisions of users on the basis of this financial statement. The determination of materiality involved your professional judgment.

Materiality level for the financial statements as a whole is defined using 5% of earnings before tax:

2009: 1,115,850 Euro
2010: 1,862,850 Euro

Materiality level for particular classes of transactions, account balances and disclosures is defined using 50% of the materiality level for the financial statements as a whole:

2009: 557,925 Euro
2010: 931,425 Euro

Audit Evidence

Accounts Receivables

The major audit work in the accounts receivable area consisted of the confirmation of customer balances. At year-end, JA Company possessed receivables with a book value of 86.629.000 Euros. Based on preliminary estimates, a random sample of 56% of the book value was selected for positive confirmation.

	2009[13]	**2010**
Book value of all accounts receivables (balance per JA Company)	67,176,000	**86,629,000**
Audited sample (% of accounts receivables)	38,962,080 (58%)	**48,744,820 (56%)**
Balance per audit	38,955,256	**48,735,256**
Differences	6,823	**9,563**

The difference has been discussed with the company. The JA Company is not willing to adjust these differences.

[13] For better information, the sample size and the results of the previous audit are provided.

Furthermore, the accounts receivables include accounts receivables from subsidiaries companies, which have a value of 58,653,000 Euros. Of this amount, 53,653,000 Euros (2009: 26,869,000) are apportioned to trade account receivables and 5,000,000 Euros (2009: 5,000,000) to loans.

In addition to the audited 48,744,820, additional 36,000,000 accounts receivables from subsidiaries companies are audited in connection with the audit of sales transactions.

Sales Transactions

In terms of sales transactions, invoices were randomly selected and audited:

	2009	**2010**
Book value of sales transactions	179,886,000	**177,291,000**
Audited sample (% of sales transactions)	73,834,900 (41%)	**79,241,401** **(45%)**
Balance per audit	73,702,665	**79,089,808**
Differences	132,235	**151,593**

The difference has been discussed with the company. The JA Company is not willing to adjust these differences.

The audit of two additional revenue allocations (not included in the audit sample) regarding affiliated companies, dated on 27.12.2010 and each having a value of 18,000,000, have demonstrated that the claim in this respect on the balance sheet is not accurate, and a need for adjustment is communicated.

This difference has been discussed with the company. The JA Company has fully adjusted these differences.

Provisions

The audit of the provisions has revealed that the account "Other provisions" contains an indemnity bond of 50.000 Euros for a bank loan from a subsidiary company. However, at the time of the audit, the subsidiary company had met all of its obligations on time and in full.

Furthermore, the audit team observed that a currently pending liability case by a customer at 1,752,800 Euros is not considered in the provisions. There is conflicting information from the JA Company management regarding whether a judge will grant the claim substantially. There are no disclosures in the appendix in this regard.

Both audit adjustments have been discussed with the company. The JA Company is not willing to adjust these differences or to disclose these facts.

Other Audit Evidence

The audit of all other classes of transactions, account balances and disclosures have provided confirmatory evidence for the reported values. Only small and negligible adjustments have been observed and are recorded in the summary of audit differences.

Going Concern

In evaluating management's assessment, the audit team has considered whether management's assessment includes all relevant information of which the audit team is aware as a result of the audit. For this evaluation, an automatic early warning system was used. Therefore, the probability of insolvency will be classified as low, medium, high or very high.

According to the audit, the audit team has evaluated the management's assessment of the entity's ability to continue as a going concern and has judged that going concern is very likely. The early warning system indicates that there is a very low probability that the entity's continuation as a going concern will not occur.

Management Discussion and Analysis

The management report is consistent with the financial statement. Other disclosures in the annual report do not provide a false impression of the company's situation.

Management Representations

A written representation from management and those charged with governance has been obtained. The management and those charged with governance believe that they have fulfilled their responsibility for the preparation of the financial statements and for the completeness of the information provided. The date of the written representation is the date on which the auditor received the financial statements for the audit.

Furthermore, as in the case, the JA Company does not desire the inclusion of attached corrections (adjustments to the financial statement).

PART IV: OPINION – SINGLE AUDIT

Based on the given information, please characterise your personal audit opinion:

unqualified opinion	*unqualified modified opinion*	*qualified opinion*	*adverse opinion*
❒	❒	❒	❒

In a few words, document the reasons for your decision.

Other comments:

PART V: OPINION - JOINT AUDIT
(Only relevant for those participants who participate in the joint audit study.)

Based on the given information, please characterise your joint audit opinion:

unqualified opinion	*unqualified modified opinion*	*qualified opinion*	*adverse opinion*
❐	❐	❐	❐

In a few words, document the reasons for your decision.

Other comments:

How did you formulate the joint judgment? Please indicate your personal opinion regarding the coordination effort.

Auditor 1:	**low**								**high**
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Coordination effort	◻	◻	◻	◻	◻	◻	◻	◻	◻

Auditor 2:	**low**								**high**
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**
Coordination effort	◻	◻	◻	◻	◻	◻	◻	◻	◻

PART VI: OBSERVATION FORM - FORMING A JOINT OPINION
(This form is only relevant for the study instructor.)

	low 1	2	3	4	5	6	7	8	high 9	n/a 0
Need for coordination and discussion effort										
• Audit Planning	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
• Risk Assessment	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
• Materiality Planning	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
• Accounts Receivables	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
• Sales Transactions	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
• Provisions	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
• Going Concern	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
• Management Discussion and Analysis	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
• Management Representations	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
• Company Growth	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
• Investment	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
• Operating Expenses	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
• Operating Income	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
• Earnings Before Tax	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
• Accumulated Profit	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
• Profit	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
• Total Assets	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐
• Other	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

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Exchange and discussion of findings in total	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Further audit procedures would have been established in the following areas:

• Audit Planning	❒ yes	❒ no
• Risk Assessment	❒ yes	❒ no
• Materiality Planning	❒ yes	❒ no
• Accounts Receivables	❒ yes	❒ no
• Sales Transactions	❒ yes	❒ no
• Provisions	❒ yes	❒ no
• Going Concern	❒ yes	❒ no
• Management Discussion and Analysis	❒ yes	❒ no
• Management Representation	❒ yes	❒ no
• Company Growth	❒ yes	❒ no

- Investment ❒ yes ❒ no
- Operating Expenses ❒ yes ❒ no
- Operating Income ❒ yes ❒ no
- Earnings Before Tax ❒ yes ❒ no
- Accumulated Profit ❒ yes ❒ no
- Profit ❒ yes ❒ no
- Total Assets
- Other ❒ yes ❒ no

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Notes:

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PART VII: QUESTIONNAIRE

Please comment on the following statements and questions:

1. A joint audit affects the audit process.
❒ never ❒ in special situations ❒ sometimes❒ frequently
If so/if not, why?

2. A joint audit affects audit opinion.
❒ never ❒ in special situations ❒ sometimes❒ frequently
If so/if not, why?

3. What do you believe is the probability of the emergence of a different audit opinion in a joint audit?
❒ not very often ❒ in given cases ❒ more often ❒ n/a

4. Do you think that you would perform further audit procedures simply because of the participation of a second auditor?
❒ no ❒ in given cases ❒ more often ❒ n/a

5. In reference to the case, what are the issues you would have discussed with a second auditor? Select the three most important issues for you.

- Audit Planning ❒
- Risk Assessment ❒
- Materiality Planning ❒
- Accounts Receivables ❒
- Sales Transactions ❒
- Provisions ❒
- Going Concern ❒
- Management Discussion and Analysis ❒
- Management Representation ❒
- Company Growth ❒
- Investment ❒
- Operating Expenses ❒
- Operating Income ❒
- Earnings Before Tax ❒
- Accumulated Profit ❒
- Profit ❒
- Total Assets ❒
- Other

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6. In reference to the case, suppose that you have audited the accounts receivables and, another auditor, the provisions. Do you think that, in practice, you would review the audit evidence gathered by the other auditor?

❒ no ❒ in given cases ❒ usually ❒ always

7. How do you assess the level of coordination effort between the two auditors in a joint audit?

❒ low ❒ medium ❒ high ❒ n/a

8. How do you assess the consequences of a joint audit for the overall review of an audit?

❒ improved ❒ neutral ❒ debased ❒ n/a

9. Is there is a danger of "free riders" in a joint audit?

❒ always ❒ in given cases ❒ not at all ❒ n/a

10. The constitution of auditors (Big 4, non-Big 4, small audit firms and so on) in a joint audit affects the audit opinion.
❒ always ❒ in given cases ❒ not at all ❒ n/a

11. An auditor's independence is higher in a joint audit.
❒ always ❒ in given cases ❒ not at all ❒ n/a

12. How relevant is the mutual review of one another's work in a joint audit?

13. Do you think that intensive discussion and communication effort exist in a joint audit?

14. In a joint audit, a multi-year audit plan with alternate audit areas should be complied with. Can you observe this requirement in practice?

15. What are your personal experiences with joint audits?

Final Judgment

16. A joint audit produces higher costs than a single audit.

❒ is not true ❒ is moderately untrue ❒ is moderately true ❒ is true ❒ cannot be estimated

17. The mutual review of the audit process in a joint audit strengthens the audit opinion.

❒ is not true ❒ is moderately untrue ❒ is moderately true ❒ is true ❒ cannot be estimated

18. The exchange of audit findings and communication between the auditors strengthen the audit opinion.

❒ is not true ❒ is moderately untrue ❒ is moderately true ❒ is true ❒ cannot be estimated

19. The complexity of audit fields has a positive influence on the effects of a joint audit.

❒ is not true ❒ is moderately untrue ❒ is moderately true ❒ is true ❒ cannot be estimated

20. A joint audit is a useful quality control measurement.

❒ is not true ❒ is moderately untrue ❒ is moderately untrue ❒ is true ❒ cannot be estimated

PART VIII: DEMOGRAPHIC DATA AND EXPERIENCE QUESTIONNAIRE

The following demographic data are collected to facilitate data sorting and statistical analysis. Participants in this study will be anonymous, and data pertinent to any specific personal or business identity will not be disclosed.

Gender

❒ male ❒ female

Nationality

❒ Austrian ❒ German ❒ Other Nationality_________

Location of audit firm headquarters

❒ Austria ❒ Germany ❒ Other Country _________

Size of audit firm

- ❒ one-man or small audit firm (1-2 auditors)
- ❒ medium-sized audit firm (3-5 auditors)
- ❒ large audit firm (more than 5 auditors, but not Deloitte Touche Tohmatsu, Ernst & Young, KPMG, PriceWaterhouseCoopers or a related company)
- ❒ Big 4 audit firm (Deloitte Touche Tohmatsu, Ernst & Young, KPMG, PriceWaterhouseCoopers or a related company)

For how many years have you been working in an audit firm? _________ years

For how many years have you been a certified public accountant? _________ years

Have you ever been a joint auditor or part of a joint audit team?

❒ yes ❒ no

If yes, how experienced are you in performing joint audits?

inexperienced						experienced
1	2	3	4	5	6	7
❒	❒	❒	❒	❒	❒	❒

Do you specialise in

a particular industry?

❒ yes _____________________

❒ no

a particular auditee size?

❒ yes ___________________

❒ no

Other comments:

Thank you for participating in this study.