DOES CONSIDERING KEY AUDIT MATTERS AFFECT AUDITOR JUDGMENT PERFORMANCE?

Nicole V. S. Ratzinger-Sakel *, Jochen C. Theis **

* Chair for Auditing and Accounting, Hamburg Business School, University of Hamburg, Germany
** *Corresponding author*, Chair for Accounting and Auditing, Mercator School of Management, University of Duisburg-Essen, Germany
Contact details: Chair for Accounting and Auditing, Mercator School of Management, University of Duisburg-Essen, Lotharstr. 65, 47057 Duisburg, Germany

OPEN ACCESS

How to cite this paper: Ratzinger-Sakel, N. V. S., & Theis, J. C. (2019). Does considering key audit matters affect auditor judgment performance? [Special issue]. *Corporate Ownership & Control, 17*(1), 196-210. http://doi.org/10.22495/cocv17i1siart4

ISSN Online: 1810-3057
ISSN Print: 1727-9232

Received: 17.10.2019
Accepted: 3.12.2019

JEL Classification: M42
DOI: 10.22495/cocv17i1siart4

Abstract

This study examines the impact of considering key audit matters (KAM) on auditor judgment performance. This study uses a 2×2 between-subjects experiment based on a goodwill impairment testing case with 73 auditors. The two independent variables KAM consideration (present vs. absent) and client pressure (high vs. low) are manipulated. As dependent variables, skeptical judgment and action as different facets of auditor judgment performance are used. The results suggest that auditors exhibit significantly less skeptical judgment when KAM consideration is present than when KAM consideration is absent. This implies that, when considering KAM, auditors are more willing to acquiesce to their clients' desired accounting treatments due to moral licensing. By showing that KAM consideration leads to less skeptical judgment, it can be documented that the new KAM reporting requirement, intended to improve the communicative value of the auditor's report for users (IAASB, 2012), comes at the expense of auditor judgment performance. As in every experiment, the risk that the results are case-specific has to be acknowledged.

Keywords: Key Audit Matters, Client Pressure, Auditor Judgment Performance, Motivated Reasoning, Goal Commitment, Moral Licensing

Authors' individual contribution: Conceptualization – N.V.S.R.-S. and J.C.T.; Metodology – N.V.S.R.-S. and J.C.T.; Formal Analysis – J.C.T.; Investigation – N.V.S.R.-S. and J.C.T.; Resources – N.V.S.R.-S.; Writing – Original Draft – N.V.S.R.-S. and J.C.T.; Writing – Review & Editing– N.V.S.R.-S. and J.C.T.

Acknowledgements: We thank Anna Gold, the participants of workshops at the University of Central Florida, Orlando, the USA, and the University of Duisburg-Essen, Duisburg, Germany, as well as the participants of the 2017 International Symposium on Audit Research (ISAR), held in Sydney, Australia, the 2017 European Auditing Research Network Symposium, held in Leuven, Belgium, and the 2018 American Accounting Association Auditing Section Midyear Meeting, held in Portland, the USA, for their helpful comments on earlier versions of this paper.

1. INTRODUCTION

The new IAASB International Standard on Auditing ISA 701 requires the disclosure of key audit matters (KAM), i.e., "matters that, in the auditor's professional judgment, were of most significance in the audit…" (IAASB, 2015a, paragraph 8), which can be seen as one of the most prominent changes of the auditor's report for decades. There is some evidence regarding the effect of a KAM section within the three following domains relevant for the present study: auditor liability (Backof, Bowlin, & Goodson, 2014; Kachelmeier, Schmidt, & Valentine, 2015; Brown, Majors, & Peecher, 2015; Gimbar, Hansen, & Ozlanski, 2016a; Brasel, Doxey, Grenier, & Reffett, 2016; Vinson, Robertson, & Cockrell, 2018); aggregated capital market reactions (Lennox, Schmidt, & Thompson, 2016; Gutierrez, Minutti-

Mezza, Tatum, & Vulcheva, 2018); and individual capital providers' decisions or assessments (Christensen, Glover, & Wolfe, 2014;[1] Köhler, Ratzinger-Sakel, & Theis, 2016; Boolaky & Quick, 2016; Carver & Trinkle, 2017).

Not only lacking research evidence[2] but also seemingly rather unattended by the IAASB,[3] is the possibility that requiring auditors to determine and report on KAM has side effects (PCAOB, 2016) and leads to changes in auditor behavior with an effect on auditor judgment performance and/or audit quality. Consequently, the aim of this study is to assess the potential impact of considering KAM on auditor judgment performance. To address this aim, we use implications of the moral licensing theory, which suggests that disclosure might exacerbate biases because providers of information feel more comfortable with providing biases when information addressees have been forewarned about an estimates' potential inaccuracy (Griffin, 2014; Asbahr & Ruhnke, 2019). In addition, client pressure as a considerable threat to auditor judgment performance is included in investigating the impact of considering KAM on auditor judgment performance.

The study is carried out using a 2×2 between-subjects experiment based on a goodwill impairment testing case for the fictitious German electronics manufacturer Alpha.[4] In the experiment with 73 experienced auditors from two 'Big 4' audit firms in Germany, the two independent variables KAM consideration (present vs. absent) and client pressure (high vs. low) are manipulated. As dependent variables, two facets of auditor judgment performance are captured: skeptical judgment and skeptical action. In this regard, the design of our experiment allows us to assess whether the manipulations improve or impair auditor judgment performance, as we seeded several issues which suggest that the recoverable amount is overstated.[5] As a consequence, more conservative assessments and hence, more skeptical judgments and actions, tend to be more appropriate and constitute better auditor judgment performance (see also Griffith, Hammersley, Kadous, & Young (2015) for a comparable approach).[6]

With regard to the independent variable KAM consideration, the results suggest that auditors exhibit significantly less skeptical judgment when KAM consideration is present than when KAM consideration is absent. This implies that, when considering KAM and due to moral licensing, auditors are more willing to acquiesce to their client's desired accounting treatments (hypothesis *H1*). While the results support *H1* with regard to skeptical judgment on the 10 percent significance level in the main analysis, even stronger evidence for the outlined association can be documented based on the estimation of a structural equation model (SEM) when testing mechanisms. The respective results also continue to hold if participants who failed the KAM consideration manipulation check question are included ($n = 107$) and if only the most experienced auditors are considered ($n = 42$), as outlined in the additional analyses. With regard to the independent variable client pressure, the results show that auditors' reaction to the client pressure manipulation is rather weak and insignificant (based on ANOVAs). In an overall picture, if at all, auditors seem to become slightly more skeptical in their judgments and actions when client pressure is high. This direction of the effect would be contrary to hypothesis *H2* which is derived from motivated reasoning theory and might suggest that a reasonableness constraint has been triggered. Tests of mechanisms, based on the estimation of the SEM, further support this conclusion.

To the best of our knowledge, this is one of the first studies that examines the potential impact of considering KAM on auditor judgment performance. By showing that KAM consideration leads to less skeptical judgment, the study documents that the new KAM reporting requirement, intended to improve the communicative value of the auditor's report for users (IAASB, 2012), comes at the expense of auditor judgment performance. It seems as if auditors who consider KAM feel morally licensed to acquiesce to clients' desired accounting treatments. This finding is of interest to auditors and regulators, as well as users and prepares, by highlighting unintended consequences of KAM reporting.

The remainder of this study is structured as follows. In Section 2, the paper's hypotheses are developed, using moral licensing theory as well as the implications of motivated reasoning and goal commitment. Section 3 describes the experimental design, task, independent and dependent variables, as well as the participants. Section 4 reports the results as well as tests of mechanisms and additional analyses, and Section 5 concludes.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1. Moral licensing

With regard to the first independent variable KAM consideration, the hypothesis is derived based on moral licensing literature. This literature argues that disclosure might exacerbate biases, "because information providers are more comfortable providing biases when information recipients have been forewarned about the estimates' potential inaccuracy" (Griffin, 2014, p. 1173; Cain, Loewenstein, & Moore, 2011; Boiney, Kennedy, & Nye, 1997). This effect has in particular been shown in contexts that involve conflicts of interest (Jamal, 2012). Previous studies have shown that when people act in a way that increases their sense of their own ethicality, they feel "licensed" to act in a self-serving or even unethical manner (Jamal, 2012;

[1] The majority of these evidence is generated based on critical audit matters (CAM), the PCAOB's implementation of enhancing the auditor's reporting model. For the sake of consistency, the term KAM is used even if the original text refers to CAM, as CAM are considered to be conceptually equivalent to KAM.

[2] In this regard, Asbahr and Ruhnke (2019) examine whether reporting an accounting estimate as a KAM can influence auditor judgment.

[3] To the best of our knowledge, only the "Basis for Conclusions: Reporting on Audited Financial Statements – New and Revised Auditor Reporting Standards and Related Conforming Amendments" acknowledges the possibility that an additional focus on KAM "to be reported could indirectly result in an increase in professional skepticism and additional attention by the auditor on significant audit risks" (IAASB, 2015b, paragraph 8).

[4] We based our experimental material on the Trueblood Gator Electronics case study which is available online for teaching and academic research (Deloitte, 2016).

[5] As the experiment is conducted in the European normative environment, the case refers to IFRS in general and IAS 36 (IASB, 2016) in particular. This is reflected by the terms used in this paper with regard to goodwill impairment. See also further descriptions in the Section "Task".

[6] For more details, see Section 3.

Monin & Miller, 2001; Miller & Effron, 2010; Wilcox, Vallen, Block, & Fitzsimons, 2009). For example, in an accounting context, Jamal, Marshall and Tan (2016) find that disclosure of a conflict of interest increases bias in accountants' valuation estimates in favor of the client.

According to Jamal (2012), auditors might be particularly prone to moral licensing, as they face the conflict of interest of being charged with serving the public interest and being paid by their client at the same time. Griffin (2014) argues that, in an auditing setting, "moral licensing could mean that auditors will be more willing to acquiesce to their clients' desired accounting treatments, believing either that the disclosure provides a suitable defense for not requiring adjustments…, or that disclosure fulfills the auditors' fiduciary duty to ensure that the investing public has been informed" (Griffin, 2014, p. 1173).

Clearly, the disclosure of KAM usually does not represent the disclosure of a conflict of interest for the auditor as used in prior moral licensing studies. More specifically, the auditor would for example not utilize KAM communication to disclose the conflict of interest of being charged with serving the public interest and being paid by the client. However, KAM communication might very well function in accordance with the implications of moral licensing, when a KAM is understood to be a disclaimer with regard to the matters described. In fact, preliminary behavioral evidence on the effect of KAM on auditor liability from the perspective of users of the independent auditor's report suggests that KAM sections regarding subsequent litigation either reduce or do not influence (perceived) auditor liability (Gimbar et al., 2016a).

Recapitulating the theoretical implications of moral licensing, it seems reasonable to assume that auditors will exhibit less skeptical judgment and action when they consider KAM. Hence, the following hypothesis *H1* is stated:

H1: Auditors will exhibit less skeptical judgment and skeptical action when KAM consideration is present than when KAM consideration is absent.

2.2. Motivated reasoning and goal commitment

With regard to the second independent variable client pressure, the hypothesis is derived based on motivated reasoning literature. This literature has found that individuals' decision processes are influenced by their goals and that "individuals committed to directional goals, or goals to reach a preferred conclusion, are more likely to reach their desired conclusion" (Kadous, Kennedy, & Peecher, 2003, p. 762; Kunda, 1990, 1999). Consistent with motivated reasoning, previous studies find that auditors tend to exploit ambiguity inherent in accounting standards to justify client-preferred accounting (Hatfield, Jackson, & Vandervelde, 2011; Ng & Tan, 2003; Lord & DeZoort, 2001; Salterio & Koonce, 1997), when they have this respective directional goal (Hackenbrack & Nelson, 1996; Kadous et al., 2003). Kadous et al. (2003) furthermore argue that auditor acceptance of client-preferred accounting increases with goal commitment, i.e., auditors' tendency of having directional goals to support client management's accounting choices and engaging in directional processing and find that performing a quality assessment (as required by, e.g., SAS No. 90) (AICPA, 2000) amplifies this effect. Consequently, with regard to the experiment, goal commitment would have a positive effect on auditors' assessment of the likelihood that the recoverable amount is reasonable (hence, leads to less skeptical judgment) and a negative impact on the assessment of the likelihood to require an adjustment of the recoverable amount (hence, leads to less skeptical action).

When client management exerts pressure on auditors, "audit partners and senior managers… may have a bias towards accepting management's perspective" (PCAOB, 2011, p. 7). How far client pressure might, in fact, impair auditor judgment performance, depends on several factors. Koch and Salterio (2015) argue that auditors who face very salient pressure to accept the client's aggressive accounting, likely "default to ingrained professional responses to deal with such challenges" (Koch & Salterio, 2015, p. 11; Bauer, 2015; Teoh, 1992). Respective professional responses include, inter alia, developing an independent view or challenging management's conclusions (PCAOB, 2011, p. 7). The application of ingrained professional responses is especially probable under circumstances where client pressure triggers the so-called reasonableness constraint (Boiney et al., 1997). The "reasonableness" criteria relate to the idea that auditors (or individuals in general) do not boundlessly follow directional goals, but rather as long as they can construct a case for themselves that makes them believe that an impartial third party would perceive the auditor as acting in a professional manner when evaluating client accounting. The "constraint" may be triggered if auditors feel challenged in their professional self-image, i.e., if they perceive a very high level of client pressure (Koch & Salterio, 2017; Kadous et al., 2003).[7]

However, if client pressure is more subtle, auditors might have a greater focus on their commercial self-interest to maintain a solid and long-lasting relationship with the client. This, in turn, might lead auditors towards interpreting contextual facts so that the accounting preferred by the client seems acceptable (Koch & Salterio, 2015; Hackenbrack & Nelson, 1996), i.e., motivated reasoning. While client management may exert economic pressure upon the auditor by threatening to reduce audit/non-audit fees or to switch the auditor (Windsor & Kavanagh, 2012), client management's (perceived) bargaining power will depend on the (economic) relevance the client has for the (engagement) auditor (or audit firm).

Based on the foregoing theoretical deliberations and in line with prior studies it is predicted that client pressure increases goal commitment and, consequently, auditor acceptance of client-preferred accounting. With regard to the dependent variables and drawing from the general effect of goal

[7] Koch and Salterio (2017) furthermore argue that the effect high or explicit client pressure has on auditor judgment is an on-average effect which is contingent on an auditor's perception of client pressure salience.

commitment, the following hypothesis *H2* is formally stated:

H2: Auditors will exhibit less skeptical judgment and skeptical action when client pressure is high than when client pressure is low.

Including client pressure in the investigation of the effect of KAM consideration on auditor judgment performance is highly relevant. As outlined above, client pressure has been identified to pose a considerable threat to auditor judgment performance by previous literature. This is because auditors may have a bias towards accepting management's perspective under client pressure, despite ingrained professional responses such as developing an independent view or challenging management's conclusions.

If a moral licensing effect makes auditors more willing to acquiesce to their clients' desired accounting treatments, because they believe either that the KAM disclosure provides a suitable defense for not requiring adjustments, or that the KAM disclosure fulfills the auditors' fiduciary duty to ensure that the investing public has been informed, any counterbalancing effect ingrained professional responses might have had regarding the negative impact of client pressure on auditor judgment performance likely vanishes. Consequently, assuming that auditors are more willing to acquiesce to their client's preferred accounting treatments when considering KAM due to a moral licensing effect (*H1*), KAM consideration likely amplifies the effect high client pressure has on auditor judgment performance. Combining the implications of *H1* and *H2*, the following hypotheses *H3* for the interaction effect is formally stated:

H3: When KAM consideration is present, the effect high client pressure has on skeptical judgment and skeptical action is amplified.

2.3. Potential mediators

The mechanisms through which KAM consideration (present vs. absent) and client pressure (high vs. low) affect the dependent variables (skeptical judgment and skeptical action) are also investigated. Firstly, (self-assessed) work effort as a potential mediator is included in the analysis related to KAM consideration. To control for differences in effort exerted by participants is very important because of two reasons. Firstly, the effort has been found to positively affect auditor judgment performance (Libby & Luft, 1993; Libby & Lipe, 1992; Cloyd, 1997) and hence, differences in effort exerted might explain results. Secondly, systematic differences in effort exerted related to the independent variable KAM consideration might help to shed light on the mechanisms through which KAM consideration affects the dependent variables. In particular, it is argued that if the KAM consideration present condition was associated with less work effort, this would be indicative of a moral licensing effect: auditors feel licensed to exert less effort and have less motivation to conduct a thorough audit. Work effort is measured by asking participants for a self-assessment of how hard they worked on the provided case (on an 11-point Likert scale with endpoints labeled as "not at all hard" and "extremely hard").

Secondly, goal commitment is also included as a potential mediator with regard to client pressure. To measure goal commitment, the scale used by Kadous et al. (2003) is applied, which requires participants to provide agreement ratings on different goals. The scale had been refined and validated by Klein, Wesson, Hollenbeck, Wright, and DeShon (2001) and is based on a more comprehensive scale developed by Hollenbeck, Williams, and Klein (1989). Due to time constraints and in line with previous literature, participants are only confronted with the one directional goal relevant from a motivated reasoning perspective in an auditing context: to justify client-preferred accounting. More specifically, the goal to "build a justifiable case for characterizing Alpha's estimation of the recoverable amount to be acceptable in the circumstances" is provided and participants' agreement ratings on the five items shown in Table 1 are captured (Kerler & Brandon, 2010).[8] Figure A.1 (see Appendix) shows the outline of the structural equation model (SEM) that is estimated in order to investigate the mechanisms through which client pressure and KAM consideration affect the dependent variables.

Table 1. Goal commitment measurement

<table>
<tr><th colspan="3">Goal commitment question and goal</th></tr>
<tr><td colspan="3">There are several plausible goals that you could have had while considering Alpha's estimation of the recoverable amount. Please indicate how important the following goal was to you by rating the extent to which you agree or disagree with each statement for the following goal.
Goal: Build a justifiable case for characterizing Alpha's estimation of the recoverable amount to be acceptable in the circumstances.</td></tr>
<tr><th>Variable in SEM</th><th>Item to provide agreement rating</th><th>Response scale</th></tr>
<tr><td>X_1</td><td>I thought this was a good goal to shoot for.</td><td rowspan="5">Disagree completely = 1

Agree completely = 5</td></tr>
<tr><td>X_2</td><td>I was strongly committed to pursuing this goal.</td></tr>
<tr><td>X_3</td><td>It was hard to take this goal seriously.</td></tr>
<tr><td>X_4</td><td>Quite frankly, I didn't care if I achieved this goal or not.</td></tr>
<tr><td>X_5</td><td>It wouldn't have taken much to make me abandon this goal.</td></tr>
</table>

3. RESEARCH METHODOLOGY

3.1. Experimental design and participants

A paper-and-pencil based 2×2 between-subjects experimental design[9] is used and the two independent variables KAM consideration (present vs. absent) and client pressure (high vs. low) are manipulated.[10] The experiment is conducted with 73 experienced auditors of two German 'Big 4' audit

[8] With regard to the five items, high ratings on items x_1 and x_2 and low ratings on items x3-x5 correspond with high goal commitment.
[9] To ensure that participants could not revise previously given answers when working on subsequent parts of the experimental materials, the materials were split up to four envelopes which had to be opened and sealed in a specific sequence.
[10] The design of the experiment meets the requirements for using human subjects in the experimental laboratory at the university where one of the authors is located. The use of human subjects was also approved by the audit firms.

firms.[11] The 73 auditors in the sample possess average work experience in the audit profession of 5.97 years (SD = 5.09; median = 5), with 26 of the participants being certified auditors. 21.43 percent/18.57 percent of the participants are consultants/senior consultants, 40.00 percent/4.29 percent of the participants are managers/senior managers, and 15.71 percent of the participants are directors or partners. 32.82 percent of the participants are female.[12] For our experiment, we used elements from previous studies as outlined specifically throughout the paper at the respective passage (e.g., see the next sections about the independent and dependent variables). Inter alia, we derived our case materials from the Trueblood Gator Electronics case study which is available online for teaching and academic research (Deloitte, 2016; Griffith et al., 2015). We modified and merged the different elements and created a unique experiment to address our research question.

3.2. Task

Participants are provided with a comprehensive auditing case study.[13] The case study contained information on the fictitious German electronics manufacturer Alpha. Participants learned that Alpha is a German publicly traded corporation ("Aktiengesellschaft") listed in the German Prime Standard and that Alpha publishes group financial statements (in line with IFRS).[14] The case study furthermore contained specific information on Alpha's goodwill impairment analysis for the "Europe without Germany" cash-generating unit in line with IAS 36, including valuation schedules and detailed information on management's assumptions underlying the estimation of the value in use.

According to IAS 36, an asset is impaired when its carrying amount exceeds its recoverable amount (IASB, 2016, paragraph 8). The standard thereby defines the recoverable amount as the higher of an asset's or cash-generating unit's fair value less costs of disposal and its value in use (IASB, 2016, paragraph 18). Participants are informed that, on the basis of its own valuation, Alpha has estimated that the recoverable amount of all cash-generating units exceeded their respective carrying amount. Hence, goodwill impairment did not occur.

The participants were instructed to assume that they are the engagement partner[15] and in charge of the current audit of Alpha's group financial statements for the financial year ending on December 31, 2015,[16] and that they are planning to audit the current-year goodwill impairment analysis of the "Europe without Germany" cash-generating unit. Thereby, participants learned that their audit firm has also audited Alpha's group financial statements for the past two years.[17] Participants are informed that they had determined earlier that goodwill for the "Europe without Germany" cash-generating unit is a material account balance as of December 31, 2015, because it is quantitatively significant (280 million EUR) and qualitatively significant because its susceptibility to misstatement arising primarily from recent market declines.

Participants could understand from the provided materials that the carrying amount of the "Europe without Germany" cash-generating unit amounts to 730,000 TEUR, that the fair value less costs of disposal amount to 700,000 TEUR, and that the value in use amounts to 1,040,292 TEUR.[18] Participants were informed that Alpha's estimation of the fair value less costs of disposal is based on a competitor's recent purchase offer and that their team has already evaluated the appropriateness of the estimation. The intention was that participants do not further worry about the fair value less costs of disposal, but rather focus on Alpha's estimation of the recoverable amount. In this regard, participants were told that their team has only evaluated the mathematical accuracy of the model and that, consequently, their job will be to evaluate Alpha's assumptions underlying the estimation of the value in use of the "Europe without Germany" cash-generating unit and to form a preliminary conclusion about its reasonableness.

To determine the value in use, Alpha has used a discounted cash flow method (free cash flow

[11] Each of the two 'Big 4' audit firms reserved slots for the experiment on staff training days. The three sessions took place within several weeks around the turn of the year of 2016/17. Since ISA 701 is effective for audits of financial statements for periods ending on or after December 15, 2016, at that time, (senior) auditors should have had knowledge of, but limited experience with KAM. In fact, 80.85 percent of the participants indicated that they had heard about KAM before they participated in the experiment. The initial sample comprises 182 persons. Herein included are 25 IT staff who participated in one of the training days together with experienced auditors. Since they could not be excluded from participating in the experiment ex ante, their responses were deleted from the sample ex post. Furthermore, 52 participants were excluded who failed the manipulation check in the post experimental questionnaire related to the independent variable KAM consideration. Of the remaining participants, 32 participants were not considered who had not more than 6 months of or did not indicate their work experience in auditing (of those 32 participants, 15 did not provide their work experience in years).

[12] The failure rate on the manipulation check of 33.12 percent (= 52/157) is similar to those reported in prior literature (e.g., Kongsved, Basnov, Holm-Christensen, & Hjollund, 2007; Kaplan & Mauldin 2008).

[13] The experimental materials were based on the Trueblood Gator Electronics case study which is available online for teaching and academic research (Deloitte, 2016). Since the experiment was conducted in the European normative environment, the original (US-GAAP and US Auditing Standards based) case study had to be significantly adapted. The case study had been carefully reviewed and improved by two senior auditors of two 'Big 4' audit firms before the experiment was conducted.

[14] ISA 701 would require Alpha's group auditor to report on KAM for audits of financial statements for periods ending on or after December 15, 2016 (IAASB, 2015a).

[15] It has to be acknowledged that it might feel unnatural for participants below partner level to put themselves in this role. However, participants are asked at some point during their work on the case to assess the likelihood that they will communicate matters regarding Alpha's estimation of the recoverable amount for the "Europe without Germany" cash-generating unit in the separate Key Audit Matters section of the independent auditor's report with those charged with governance (depending on experimental condition). In practice, this constitutes a high-level assessment usually and ultimately done by the engagement partner, which makes it necessary that this role is assigned to the participants.

[16] While Alpha generally qualifies as a group for which the group auditor would have to report on KAM in line with ISA 701, reporting is only mandatory for audits of financial statements ending on or after December 15, 2016. However, voluntary earlier application of ISA 701 is possible (IAASB, 2015b, paragraph 7). This is important for the manipulation of the independent variable KAM consideration, as both the condition in which KAM consideration is present, as well as the condition in which KAM consideration is absent, is plausible for an audit of financial statements ending on December 31, 2015.

[17] Auditor tenure was outlined with purpose: providing no information on tenure, or setting tenure either very short (i.e., one year) or very long (i.e., many years) seems to bear the risk of inducing unintended biases (see comprehensive literature on auditor tenure (e.g., Knechel & Vanstraelen, 2007; Ghosh & Moon, 2005; Carcello & Nagy, 2004; Geiger & Raghunandan, 2002)). Instead, auditor tenure was set to be moderate and to be three years because Alpha's estimation of the value in use is based on free cash flows derived from audited financial statements for the financial years ending on December 31, 2013 and 2014, and the (unaudited) current financial statements for the financial year ending on December 31, 2015. Hence, participants should not worry much about the reliability of historical figures in Alpha's estimation, since their own audit firm has performed the audit.

[18] Since the fair value less costs of disposal falls below the value in use, it is the value in use that leads to the conclusion that an impairment of the cash-generating unit is not necessary.

approach). Alpha's projections of future revenue, operating expenses, capital expenditures, and the estimated weighted average cost of capital (WACC) are important drivers of the cash-generating unit's equity value (= value in use) (Griffith et al., 2015). For the purpose of the study, it was important that Alpha's goodwill impairment analysis of the "Europe without Germany" cash-generating unit bears the potential to qualify as a matter to be communicated as KAM. Hence, several issues were seeded that suggest that the recoverable amount is overstated. The model indicates a significant increase in revenue, EBITDA, and cash flows over the projected period (Deloitte, 2016). In particular, there is 1) a large growth in total revenue of 11.21 percent in 2017; and 2) the growth rate in the last projected period 2020 (5.07 percent) lies substantially above the expected long-term growth rate of 3.0 percent. Furthermore, 3) projected capital expenditures do not track the expected growth in revenue over the projected period, which would ordinarily be the case. Finally, 4) the working capital assumption for the projected periods is 0 percent, and working capital as a percentage of incremental revenue appears to be low based on current levels of working capital and revenue.[19] Each of the four issues ceteris paribus increases the estimated amount of the equity value of the cash-generating unit. It has to be emphasized that the seeded issues were not supposed to qualify as formal errors, but rather to make Alpha's hockey stick projections salient. While the goodwill impairment analysis should bear the potential to qualify as a matter to be communicated as KAM, it was necessary to avoid that participants think of it in terms of a modified or adverse opinion.

It is important to underline that the experimental design allows drawing a (careful) conclusion with regard to whether the manipulations improve or impair auditor judgment performance. As several issues were seeded that suggest that the recoverable amount is overstated, more conservative assessments and hence, more skeptical judgments and skeptical actions, tend to be more appropriate and represent better auditor judgment performance (see also Griffith et al. (2015) for a comparable approach).

3.3. Independent variables

The impact of the two independent variables KAM consideration and client pressure on auditor judgment performance is investigated. The following manipulations are implemented in the introductory part of the case study, where participants receive rather general information on Alpha and their own role. Most importantly, participants receive the treatment before they work on the task.

The independent variable KAM consideration is manipulated as follows. While it can be assumed that senior auditors have either received training on or are at least informed about KAM, more junior auditors may not have the same knowledge. As a consequence, levels of knowledge might differ between participants.[20] Hence, a reminder on KAM requirements in the KAM consideration present condition is included. There, first of all participants are provided with the following very basic information on KAM:

"Furthermore, assume that you are required to communicate key audit matters (KAM) in a separate section of the independent auditor's report under the heading "Key Audit Matters" in line with ISA 701. KAM are those matters that, in the auditor's professional judgment, were of most significance in the audit of the financial statements and are selected from matters communicated with those charged with governance, but are not intended to represent all matters that were discussed with them."[21]

Then, participants also learn: "At some point during your work on this case you will be asked to assess the likelihood that you will communicate matters regarding Alpha's estimation of the recoverable amount for the "Europe without Germany" cash-generating unit in the separate Key Audit Matters section of the independent auditor's report."

Hence, in this condition, participants consider whether it is likely that the evaluation of Alpha's assumptions underlying the estimation of the value in use of the "Europe without Germany" cash-generating unit and forming a preliminary conclusion about its reasonableness is a KAM or not. As a post-experimental question, later participants' assessment of the likelihood that they will communicate matters regarding Alpha's estimation of the recoverable amount for the "Europe without Germany" cash-generating unit in the separate Key Audit Matters section of the independent auditor's report is indeed captured.

Designing the condition in which participants should not consider KAM (KAM consideration absent condition) is more challenging. Since KAM are not mandatory for financial statements for the financial year ending on December 31, 2015, an auditor working through the case study would not naturally consider KAM if the case study was silent on KAM. However, just being silent on KAM in the condition in which auditors should not consider KAM, did not seem appropriate. Rather participants' attention was drawn to the extant communication requirements of ISA 260 and it is assumed that the participants will neglect any potential consideration of KAM. Instead, therefore participants are instructed as follows:

"Furthermore, assume that you are required to provide those charged with governance with timely observations arising from the audit that are significant and relevant to their responsibility to oversee the financial reporting process in line with ISA 260. Matters to be communicated include, e.g., the auditor's views about significant qualitative aspects of the entity's accounting practices,

[19] As already outlined before, the case study was carefully reviewed and improved by two senior auditors of two 'Big 4' audit firms before the experiment was conducted. In particular, the senior auditors confirmed that the seeded issues should be potentially identifiable by the participants. However, they argued that the salience of issues 1 and 2 is greater than the salience of issues 3 and 4. Furthermore, the senior auditors confirmed that the (final) case study is very realistic.

[20] For, example, it is likely that a (senior) auditor who is mostly auditing larger listed clients, has deeper insights into KAM than a (senior) auditor who is mainly working for smaller non-listed clients. In fact, participants' prior knowledge on KAM was controlled (see also footnote 10).

[21] The wording of this passage is derived from ISA 701, (IAASB, 2015a, paragraph 9).

significant difficulties, if any, encountered during the audit, and other matters, if any, arising from the audit that, in the auditor's professional judgment, are significant to the oversight of the financial reporting process."[22]

Then, participants also learn: "At some point during your work on this case you will be asked to assess the likelihood that you will communicate matters regarding Alpha's estimation of the recoverable amount for the "Europe without Germany" cash-generating unit with those charged with governance."

Again, as a post-experimental question, participants' assessment of the likelihood that they will communicate matters regarding Alpha's estimation of the recoverable amount for the "Europe without Germany" cash-generating unit with those charged with governance are later indeed captured.

Hence, in the condition in which auditors should not consider KAM, they are confronted with the well-known standard requirement to communicate relevant matters with those charged with governance in line with ISA 260 "Communication with those charged with governance" (IAASB, 2015c).[23] Because KAM are selected from the matters communicated with those charged with governance (IAASB, 2015a, paragraph 8), in both conditions the salience of and the perceived risk associated with the goodwill impairment issue at hand should be rather similar.[24] Consequently, as intended, observed differences in auditor judgment performance should relate to an aspect that distinguishes KAM requirements from the requirement to communicate with those charged with governance: *publicly* communicating matters that, in the auditor's professional judgment, were of most significance in the audit to *external* users of the independent auditor's report.

Intentionally, KAM *consideration*, as opposed to the act of reporting KAM itself, is manipulated out of several reasons. Firstly, telling participants that the matter at hand qualifies as a KAM that has to be reported should significantly impact their judgments and should preclude assessments representing low levels of skeptical judgment and skeptical action. Secondly, the definition of KAM suggests that the decision to report a matter at hand in the independent auditor's report as a KAM should rather be the outcome of performing the audit and the result of auditor's professional judgment (IAASB, 2015a, paragraphs 8, 9), instead of providing the underlying assumption for the audit. Thirdly, it seems reasonable to assume that KAM do not only affect auditor judgment in cases where KAM are de facto reported but already when auditors just *consider* reporting KAM. That is because *considering* KAM involves taking the act of reporting into account, which should be sufficient to activate the respective cognitive processes in line with the theoretical argumentation.

The salience of the KAM consideration manipulation is captured with a manipulation check question in the post-experimental questionnaire. Participants are simply asked to select what task was part of the case study from four provided options. Two of the options relate to realistic, but for the experiment irrelevant, audit tasks (issuance of a going-concern opinion, assessment of the work of the internal audit function), while one option relates to the communication of matters as KAM/with those charged with governance, respectively. Only those participants are included in the final analysis that were able to correctly indicate the task they faced.

The independent variable client pressure is manipulated to be either high or low. In line with Hatfield et al. (2011), the manipulation contains the two different components, client importance and client opposition to making audit adjustments. When client pressure is manipulated to be low, the participants are informed that:

"Alpha is one of several larger clients you are in charge of as an engagement partner. Consequently, only a limited amount of your time will be dedicated to serving this client in the current year. Last year's audit has shown that, in general, Alpha's CFO is not opposed to making audit adjustments".

In comparison, when client pressure is manipulated to be high, the participants are informed that:

"Alpha is the only larger client you are in charge of as an engagement partner. Consequently, a significant amount of your time will be dedicated to serving this client in the current year. Last year's audit has shown, that, in general, Alpha's CFO is rather opposed to making audit adjustments."

Similar to Hatfield et al. (2011), the study did not intend to understand which of the two components of client pressure (client importance and client opposition) drives the construct, as this would be of minor relevance for the study. Consequently, to keep the number of required participants low, low/high client importance was not combined with high/low client opposition in the experiment (Hatfield et al., 2011).

In order to test for the effectiveness of the client pressure manipulation, participants were asked for their agreement ratings for the following three statements (on 5-point Likert scales with endpoints labeled as "agree completely" and "disagree completely") (Hatfield et al., 2011) in the post-experimental questionnaire: 1) "Alpha is important to me as a client"; 2) "If I required an accounting adjustment from Alpha's CFO, s/he would heavily complain"; 3) "While considering Alpha's estimation of the recoverable amount, I felt pressure to avoid requiring an accounting adjustment from Alpha's CFO". A significant difference in the expected direction in the mean assessments between the two client pressure

[22] The wording of this passage is derived from ISA 260 (IAASB, 2015c, paragraphs 16, 21).

[23] Please note that ISA 260 was revised in connection with the introduction of KAM. The revision mainly relates to the fact that KAM are selected from the matters communicated with those charged with governance. While the revision of ISA 260 and the introduction of KAM should lead to more intense communication between the auditor and those charged with governance, the revision of ISA 260 does not affect the manipulation.

[24] Participants were asked to indicate the likelihood that they will communicate matters regarding Alpha's estimation of the recoverable amount for the "Europe without Germany" cash-generating unit in the separate key audit matters section of the independent auditor's report/with those charged with governance on a 11-point Likert scale with endpoints labeled as "not at all likely" and "extremely likely". Mean responses for the KAM consideration present/absent conditions are 6.86 and 7.07, respectively, and do not differ significantly. This also suggests that auditors do not exhibit a general reluctance to report on KAM, which could have had implications for the interpretation of the results.

conditions (low vs. high) for the second question only (one-tailed *t*-test, $p = 0.069$) was found. Hence, empirical evidence for successful manipulation of the client pressure component client opposition can be documented. Since there are no significant differences between groups for the other client pressure-related manipulation check questions, it is necessary to acknowledge that the client pressure manipulation might be weaker than intended. While the utilized client pressure manipulation has been very successful in prior studies, because of the described findings, it might be fruitful for further research to develop an understanding of the conditions under which this client pressure manipulation works well.

3.4. Dependent variables

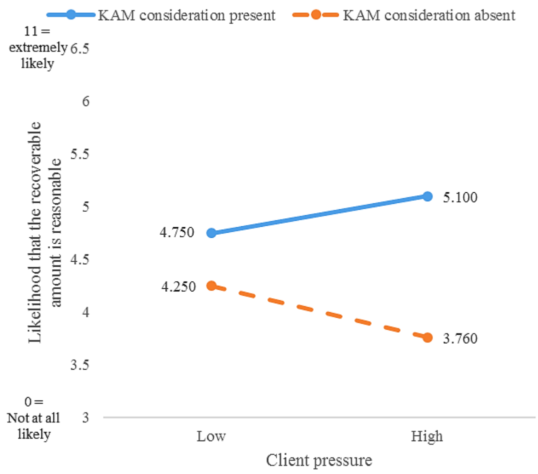
Two facets of auditor judgment performance are captured with the dependent variables. Firstly, participants are asked to assess the reasonableness of Alpha's estimation of the recoverable amount for the "Europe without Germany" cash-generating unit (Griffith at al., 2015). Answers were to be provided on an 11-point Likert-scale with endpoints labeled as "not at all likely/extremely likely to be reasonable". In terms of professional skepticism, this first dependent variable would relate to skeptical judgment (Nelson, 2009). Secondly, participants are asked to indicate the likelihood that they will require Alpha to adjust the estimation of the recoverable amount (an 11-point Likert-scale with endpoints labeled as "not at all likely/extremely likely" was provided for responses). The second dependent variable would relate to skeptical action in terms of professional skepticism (Nelson, 2009). It is important to capture these two distinct aspects of auditor judgment performance (Shaub & Lawrence, 2002), because "skeptical judgments need to reach a threshold to create action, and incentives associated with budget, time pressure, peer and superior, or client can prevent action" (Nelson, 2009, p. 16). To avoid the possibility that consistent response patterns for the dependent variables (i.e., low values for skeptical judgment and skeptical action) are observed just because participants inattentively select the same response option on the scale for both questions, the questions are phrased so that low/high values on the scale represent more skeptical judgment/action (see questions and endpoints above).

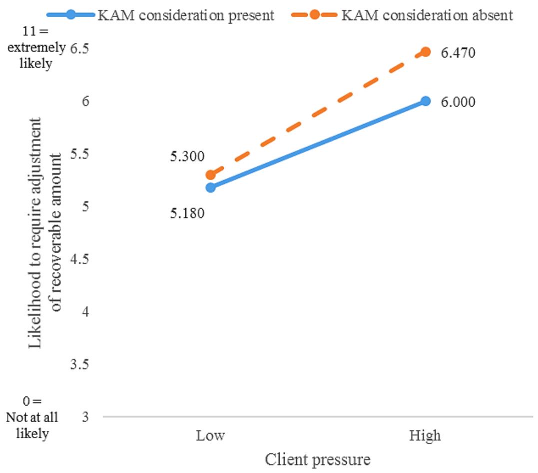
4. RESULTS

4.1. Tests of hypotheses

Figure 1 outlines the descriptive results for the dependent variables.[25] Descriptive results suggest that auditors assess the likelihood that the recoverable amount is reasonable to be substantially higher when they consider KAM. Accordingly, a marginally significant direct effect of KAM consideration ($p = 0.0875$) on the dependent variable skeptical judgment is confirmed by an ANOVA (see Figure 1 and Table 2).

Figure 1. Descriptive results for dependent variables





However, no significant differences between groups for the dependent variable skeptical action can be found (ANOVAs regarding this variable are not tabulated). Consequently, as for skeptical judgment, *H1* can be supported: auditors exhibit significantly less skeptical judgment when KAM consideration is present than when KAM consideration is absent. This suggests that, when considering KAM and due to moral licensing, auditors are more willing to acquiesce to their clients' desired accounting treatments, believing either that KAM communication provides a defense for not requiring adjustments, or that KAM communication fulfills the auditors' fiduciary duty to ensure that the investing public has been informed. Hence, the findings imply that when auditors consider KAM, auditor judgment performance is impaired.

[25] Observations are distributed across cells as follows: 16, 20, 20, and 17 in the KAM present/client pressure low, KAM present/client pressure high, KAM absent/client pressure low, and KAM absent/client pressure high condition. Since experimental materials were randomly handed out to participants, as expected, no systematic differences between groups with regard to individual characteristics (age, gender, experience, etc.) can be found.

Table 2. ANOVA results for dependent variable skeptical judgment

Source	*Partial SS*	*df*	*MS*	*F*	*Prob > F*
Model	18.6104	3	6.2035	1.22	0.3075
KAM consideration	15.2189	1	15.2189	3.00	0.0875
Client pressure	0.0827	1	0.0827	0.02	0.8987
Interaction term	3.1525	1	3.1525	0.62	0.4329
Residual	349.6089	69	5.0668		
Total	368.2192	72	5.1142		
Number of observations = 73			R-squared = 0.0505		
			Adj. R-squared = 0.0093		

Furthermore, descriptive results suggest that auditors' reaction to the client pressure manipulation is rather weak. Although participants who consider KAM tend to assess the likelihood that the recoverable amount is reasonable to be marginally higher when client pressure is high, in an overall picture, if at all, auditors seem to become slightly more skeptical in their judgments and actions when client pressure is high. This direction of the effect would be contrary to the *H2* and might suggest that a reasonableness constraint has been triggered. Auditors who perceive very salient client pressure might feel challenged in their self-image as independent professionals, making them become more skeptical in their judgments and actions (Koch & Salterio, 2017; Kadous et al., 2003; Bauer, 2015, Teoh, 1992).

However, in separate ANOVAs for both dependent variables, no significant differences between groups related to the client pressure manipulation can be found (see Table 2 for more details with regard to skeptical judgment). Consequently, neither can *H2* be accepted nor can evidence for a significant contrary effect indicative of a reasonableness constraint be provided. The results could suggest that the relatively experienced auditors in the sample are quite immune to client pressure. However, it has to be underlined that the success of the client pressure manipulation is uncertain. While the results for the manipulation check questions (see Section "Independent variables") might suggest that the client pressure manipulation is weaker than intended, a possibly triggered reasonableness constraint would instead lead to the conclusion that the pressure was too salient. Finally, no significant interaction effect between the two independent variables KAM consideration and client pressure can be found. Consequently, *H3* cannot be supported (see Table 2; ANOVA results for the dependent variable skeptical action are not tabulated).

4.2. Tests of mechanisms

In addition, the mechanisms through which KAM consideration and client pressure affect the dependent variables (skeptical judgment and skeptical action) are investigated. Mainly, two factors as potential mediators are of interest: work effort and goal commitment. Figure A.2 (see Appendix) shows the path coefficients and the respective significance levels[26] for the SEM that was estimated ($n = 70$).[27]

As can be seen from Figure A.2 (and Table 3), consideration of KAM significantly increases participants' assessment of the likelihood that the recoverable amount is reasonable ($p = 0.039$, coef. = 1.124), which is indicative of a moral licensing effect, and again supports *H1*. The SEM now additionally sheds light on the mechanism being at work: consideration of KAM significantly reduces the work effort exerted by participants ($p = 0.016$, coef. = -1.286), which is again indicative of a moral licensing effect as auditors seem to feel licensed to exert less effort and seem to have less motivation to conduct a thorough audit. In this regard, it can be ruled out that the effect is due to differences in group composition: no systematic, statistically significant differences between groups with regard to individual characteristics (age, gender, experience, etc.) of the participants can be found.

Table 3. Summary of results

Construct[*]	*Predictor*	*Path coefficient*	*z*	*P >|z|*	*[95 % confidence interval]*	
Likelihood that recoverable amount is reasonable (skeptical judgment)	Client pressure	0.0449	0.09	0.931	-0.9695	1.0592
	KAM consideration	1.1239	2.06	0.039	0.0542	2.1936
	Goal commitment	0.8795	1.01	0.310	-0.8200	2.5789
	Work effort	-0.0706	-0.61	0.541	-0.2967	0.1555
Liquelihood to require adjustment (skeptical action)	Client pressure	0.9067	2.30	0.022	0.1331	1.6802
	KAM consideration	0.3139	0.73	0.464	-0.5254	1.1533
	Skeptical judgment	-0.6232	-6.80	0.000	-0.8028	-0.4436
	Goal commitment	-1.4053	-1.77	0.077	-2.9642	0.1536
	Work effort	0.2327	2.64	0.008	0.0602	0.4053
Goal commitment	Client pressure	0.0600	0.6	0.547	-0.1352	0.2554
Work effort	KAM consideration	-1.2857	-2.41	0.016	-2.3334	-0.2380
Likelyhood ratio test of model vs. saturated: chi² (26) = 31.10, Prob > chi² = 0.2246						
Overall equation-level goodness of fit: $R^2 = 0.2090$						

Note: [*]measurement level has been omitted for clarity.

Furthermore, the SEM reveals that the client pressure manipulation has a significant positive impact on the likelihood that the auditors require an adjustment of the recoverable amount ($p = 0.022$, coef. = 0.907), which is in line with the descriptive results outlined above. Hence, high client pressure is associated with more skeptical action, which is indicative of a reasonableness constraint being triggered for the participants. Koch and Salterio (2017) argue that the effect high or explicit client pressure has on auditor judgment is an on-average effect which is contingent on an auditor's perception of client pressure salience. In other words, the observable direction of the effect depends on whether the reasonableness constraint is triggered on average, or not. Taking furthermore into account that the observation of a reasonableness constraint

[26] The asterisks indicate significance levels as follows (two-tailed tests): *** 1 percent significance level; ** 5 percent significance level; * 10 percent significance level. For the variables constituting the latent variable goal commitment, see also Table 1. All reported p-values are based on a two-tailed test.
[27] Standard linear SEM (maximum likelihood) was estimated using STATA software. Due to missing values for variables that are included in the SEM, the *n* is smaller than the *n* reported for the tests of hypotheses.

implies *salient* client pressure, it does not seem very reasonable anymore to assume that the client pressure manipulation was too weak. Instead, it seems reasonable to believe that the client pressure manipulation triggered the reasonableness constraint for a substantial proportion of participants, but worked as intended for others, leading to the rather small *on-average* effect that is found.

In line with the theoretical implications outlined in the hypotheses development section, goal commitment has a significantly negative effect on the likelihood that the auditor requires an adjustment of the estimation of the recoverable amount ($p = 0.077$, coef. = -1.405) and a positive (albeit non-significant) effect on participants' assessment of the likelihood that the recoverable amount is reasonable ($p = 0.310$, coef. = 0.880). However, no significant effect of the client pressure manipulation on goal commitment can be found ($p = 0.547$, coef. = 0.060), which is consistent with the rather small on-average effect client pressure has on the dependent variables, as argued likely due to a reasonableness constraint.

Finally, not surprisingly, the path coefficient between skeptical judgment and skeptical action is highly significant (and negative, which makes perfect sense if the response scales underlying the variables are considered, see Section "Dependent variables"; $p = 0.000$, coef. = -0.623). In line with the implications of previous studies, the work effort exerted by the auditor significantly improves judgment performance, as it has a significantly positive impact on the likelihood that the auditor requires an adjustment of the estimation of the recoverable amount ($p = 0.008$, coef. = 0.233), and a (albeit non-significant) negative impact on the assessment of the likelihood that the recoverable amount is reasonable ($p = 0.541$, coef. = -0.071).

With a total of 70 observations, existing rules of thumb for the minimum sample size in structural equation modelling are not met (e.g., 10 observations per indicator) (Nunnally, 1967; Kahai & Cooper, 2003), or even stricter sample size requirements (see Westland (2010) for an overview). More generally, when sample sizes are under 100, nonconvergence and improper values might be a problem. However, sample sizes as small as $n = 50$ can produce reliable results under certain conditions (Hoyle & Gottfredson, 2015) in SEM, and previous studies have worked with sample sizes comparable to or smaller than the sample size in this study (van Raaij & Schepers, 2008; So & Bolloju, 2005; Venkatesh & Davis, 2000; Yoo & Alavi, 2001). Especially when the estimation converges – as in the present case – concerns shift to the evaluation of fit (Hoyle & Gottfredson, 2015). The likelihood ratio chi-square test that compares the present model to a saturated model that has no degree of freedom is insignificant ($p = 0.2246$), which suggests that the present model might fit the data well. The overall equation-level goodness of fit R^2 is 0.209.[28] As a significant amount of observations is lost based on a manipulation check question (as outlined before), observations deleted for the described main analyses are included and the SEM is rerun for the additional analyses in the following section in order to mitigate a potential sample size concern.

4.3. Additional analyses

Additional analyses were conducted to validate the results as well as the conclusions. Given the high complexity of the case, all described analyses were repeated with the most experienced auditors in the sample only. More specifically, if only participants with work experience in auditing above the median work experience in the sample (five years) are considered, the results and implications discussed for the tests of hypotheses generally do not change. Rather, the direct effect KAM consideration has on skeptical judgment becomes stronger and more significant ($p = 0.01$, $n = 42$). Unfortunately, the SEM does not converge for this partitioning of the sample because of the small n.

If instead those participants who possess not more than six months of work experience in auditing are added to the sample, response patterns in the tests of hypotheses as well as mechanisms remain largely consistent, but significances diminish. Given the fact that the case actually requires a certain level of skills and knowledge in auditing, it is not very surprising that including a considerable proportion of rookies and interns in the analyses induces noise.

As outlined before, a number of observations are lost by excluding those participants from further analyses who fail to indicate what task related to the KAM consideration manipulation was part of the case study. As participants tend to exert less effort in a post-experimental questionnaire, especially when the case itself was challenging, failure to state whether they had to consider KAM, or not, might rather be indicative of inattentiveness, than of the ineffectiveness of the manipulation. Consequently, all participants that failed the respective manipulation check question (and have more than six months of work experience in auditing) were included in the sample and all analyses were rerun. Response patterns in the tests of hypotheses remain consistent ($n = 107$). In fact, the direct effect KAM consideration has on skeptical judgment becomes more significant ($p = 0.054$).

Including more observations in the analyses is, in particular, relevant with regard to the SEM that is estimated for the tests of mechanisms to increase the power of the results. Repeating the analyses with the above described sample ($n = 101$)[29] reveals that the signs of all relevant path coefficients correspond with those reported in Table 3. While it is again found that consideration of KAM significantly increases participants' assessment of the likelihood that the recoverable amount is reasonable ($p = 0.019$, coef. = 1.027), and that work effort exerted by the auditor significantly improves judgment performance, as it has a significantly positive impact on the likelihood that the auditor requires an adjustment of the estimation of the recoverable amount ($p = 0.01$, coef. = 0.223), significances diminish for other path coefficients and fall short of

[28] Also the root mean square error of approximation (RMSEA) of 0.053 (lower/upper bound of 0.000/0.113; 90 percent confidence interval) and the comparative fit index (CFI) of 0.962 both indicate good model fit.

[29] Due to missing values for variables that are included in the SEM this n is smaller than the n reported for the tests of hypotheses.

a 10 percent significance level ($p = 0.163$ for the path coefficient between consideration of KAM and work effort; $p = 0.232$ for the path coefficient between goal commitment and skeptical action; all results described in this section are untabulated).

The intention behind the comprehensive additional analyses is: 1) to underline that the main effects of KAM consideration described in this paper are robust to meaningful partitioning of the full sample; and 2) to make transparent that the tests of mechanisms tend to be sensitive to sample composition. However, while more restrictive sample composition in the main analyses generates significant results, a sample dilution (i.e., the inclusion of less experienced auditors/auditors that fail the manipulation check question) generally does not change the observable pattern in mechanisms, but rather leads to diminishing significances for some path coefficients.

5. CONCLUSION

With a 2×2 between-subjects experiment with 73 experienced auditors from two 'Big 4' audit firms in Germany, the question of how considering KAM affects auditor judgment performance was addressed. The two independent variables KAM consideration (present vs. absent) and client pressure (high vs. low) were manipulated and their impact on the dependent variables, two different facets of auditor judgment performance (skeptical judgment and skeptical action), was investigated.

The main results are presented below. Firstly, a significant direct effect of KAM consideration on the dependent variable skeptical judgment can be observed. However, no significant differences between groups for the dependent variable skeptical action can be found. Consequently, as for skeptical judgment, *H1* can be supported: Auditors exhibit significantly less skeptical judgment when KAM consideration is present than when KAM consideration is absent. Hence, the findings suggest that when auditors consider KAM, auditor judgment performance is impaired.

Secondly, in the test of hypotheses, no significant differences between groups related to the client pressure manipulation can be found for both dependent variables. Consequently, there is no evidence that auditors exhibit less skeptical judgment and action when client pressure is high than when client pressure is low (*H2*). Rather, in an overall (descriptive) picture, auditors seem to become slightly *more* skeptical in their judgments and actions when client pressure is high. This might suggest that a reasonableness constraint has been triggered. Tests of mechanisms, based on the estimation of the SEM, further support this conclusion.

Furthermore, the mechanisms through which KAM consideration and client pressure affect the dependent variables were investigated, whereby the focus was on the two factors work effort and goal commitment as potential mediators. In this regard, it is shown that consideration of KAM significantly increases participants' assessment of the likelihood that the recoverable amount is reasonable, which is indicative of a moral licensing effect, and again supports *H1*. The SEM additionally sheds light on the mechanism being at work: Consideration of KAM significantly reduces the work effort exerted by participants, which is again indicative of a moral licensing effect as auditors seem to feel licensed to exert less effort and seem to have less motivation to conduct a thorough audit.

Overall, the findings suggest that KAM reporting requirements might have side effects. By showing that KAM consideration leads to less skeptical judgment, it is documented that the new KAM reporting requirement, intended to improve the communicative value of the auditor's report for users (IAASB, 2012), comes at the expense of auditor judgment performance. It seems as if auditors who consider KAM feel morally licensed to acquiesce to clients' desired accounting treatments. This finding is of interest to auditors and regulators, as well as users and prepares, by highlighting unintended consequences of KAM reporting.

Of course, the study is not without limitations. First of all, we have to acknowledge that our client pressure manipulation might not have worked as intended, although it has been very successful in prior studies. It might be fruitful for further research to develop an understanding of the conditions under which this client pressure manipulation works well. Second, with a total of 70 observations that were used to estimate the SEM in the tests of mechanisms, existing rules of thumb for the minimum sample size in structural equation modelling are not met. However, as argued, previous studies have worked with sample sizes comparable to or smaller than the sample size in this study. Finally, as in every experiment, the risk that the results are driven by the specific design and content of the case has to be acknowledged. Hence, an interesting avenue for future research might be to look at the effects of KAM consideration on auditor judgment performance in the context of auditing a variety of complex estimates.

REFERENCES

1. American Institute of Certified Public Accountants (AICPA). (2000). *Statement on auditing standards No. 90*. Retrieved from AICPA website: https://www.aicpa.org
2. Asbahr, K., & Ruhnke, K. (2019). Real effects of reporting key audit matters on auditors' judgment and choice of action. *International Journal of Auditing*, *23*(2), 165-180. https://doi.org/10.1111/ijau.12154
3. Backof, A., Bowlin, K., & Goodson, B. (2014). *The importance of clarification of auditors' responsibilities under the new audit reporting standards*. https://doi.org/10.2139/ssrn.2446057
4. Bauer, T. D. (2015). The effects of client identity strength and professional identity salience on auditor judgments. *The Accounting Review*, *90*(1), 95-114. https://doi.org/10.2308/accr-50863

5. Boiney, L. G., Kennedy, J., & Nye, P. (1997). Instrumental bias in motivated reasoning: More when more is needed. *Organizational Behavior and Human Decision Processes*, *72*(1), 1-24. https://doi.org/10.1006/obhd.1997.2729
6. Boolaky, P. K., & Quick, R. (2016). Bank directors' perceptions of expanded auditor's reports. *International Journal of Auditing, 20*(2), 158-174. https://doi.org/10.1111/ijau.12063
7. Brasel, K., Doxey, M. M., Grenier, J. H., & Reffett, A. (2016). Risk disclosure preceding negative outcomes: The effects of reporting critical audit matters on judgments of auditor liability. *The Accounting Review*, *91*(5), 1345-1362. https://doi.org/10.2308/accr-51380
8. Brown, T., Majors, T. M., & Peecher, M. E. (2015). *The influence of evaluator evidence, a judgment rule, and critical audit matters on assessments of auditor legal liability* (Working paper, University of Illinois at Urbana-Champaign).
9. Cain, D. M., Loewenstein, G., & Moore, D. A. (2011). When sunlight fails to disinfect: Understanding the perverse effects of disclosing conflicts of interest. *Journal of Consumer Research*, *37*(5), 836-857. https://doi.org/10.1086/656252
10. Carcello, J. V., & Nagy, A. L. (2004), Audit firm tenure and fraudulent financial reporting. *Auditing: A Journal of Practice & Theory*, *23*(2), 55-69. https://doi.org/10.2308/aud.2004.23.2.55
11. Carver, B. T., & Trinkle, B. S. (2017). *Nonprofessional investors' reactions to the PCAOB's proposed changes to the standard audit report*. https://doi.org/10.2139/ssrn.2930375
12. Christensen, B. E., Glover, S. M., & Wolfe, C. J. (2014). Do critical audit matter paragraphs in the audit report change nonprofessional investors' decision to invest? *Auditing: A Journal of Practice & Theory*, *33*(4), 71-93. https://doi.org/10.2308/ajpt-50793
13. Cloyd, C. B. (1997). Performance in tax research tasks: The joint effects of knowledge and accountability. *The Accounting Review*, *72*(1), 111-131.
14. Deloitte. (2016). *The Trueblood case studies*. Retrieved from https://www2.deloitte.com/us/en/pages/about-deloitte/articles/trueblood-case-studies-deloitte-foundation.html
15. Geiger, M. A., & Raghunandan, K. (2002). Auditor tenure and audit reporting failures. *Auditing: A Journal of Practice & Theory*, *21*(1), 67-78. https://doi.org/10.2308/aud.2002.21.1.67
16. Ghosh, A., & Moon, D. (2005). Auditor tenure and perceptions of audit quality. *The Accounting Review*, *80*(2), 585-612. https://doi.org/10.2308/accr.2005.80.2.585
17. Gimbar, C., Hansen, B., & Ozlanski, M. E. (2016a). The effect of critical audit matter paragraphs and accounting standard precision on auditor liability. *The Accounting Review, 91*(6), 1629-1646. https://doi.org/10.2308/accr-51382
18. Gimbar, C., Hansen, B., & Ozlanski, M. E. (2016b). Early evidence on the effects of critical audit matters on auditor liability. *Current Issues in Auditing*, *10*(1), A24-A33. https://doi.org/10.2308/ciia-51369
19. Griffin, J. B. (2014). The effects of uncertainty and disclosure on auditors' fair value materiality decisions. *Journal of Accounting Research*, *52*(5), 1165-1193. https://doi.org/10.1111/1475-679X.12059
20. Griffith, E. E., Hammersley, J. S., Kadous, K., & Young, D. (2015). Auditor mindsets and audits of complex estimates. *Journal of Accounting Research*, *53*(1), 49-77. https://doi.org/10.1111/1475-679X.12066
21. Gutierrez, E., Minutti-Mezza, M., Tatum, K. W., & Vulcheva, M. (2018). Consequences of adopting an expanded auditor's report in the United Kingdom. *Review of Accounting Studies, 23*(4), 1543-1587.
22. Hackenbrack, K., & Nelson, M. W. (1996). Auditors' incentives and their application of financial accounting standards. *The Accounting Review*, *71*(1), 43-59.
23. Hatfield, R. C., Jackson, S. B., & Vandervelde, S. D. (2011). The effects of prior auditor involvement and client pressure on proposed audit adjustments. *Behavioral Research in Accounting*, *23*(2), 117-130. https://doi.org/10.2308/bria-10064
24. Hollenbeck, J. R., Williams, C. R., & Klein, H. J. (1989). An empirical examination of the antecedents of commitment to difficult goals. *Journal of Applied Psychology, 74*(1), 18-23. https://doi.org/10.1037/0021-9010.74.1.18
25. Hoyle, R. H., & Gottfredson, N. C. (2015). Sample size considerations in prevention research applications of multilevel modeling and structural equation modeling. *Prevention Science, 16*(7), 987-996. https://doi.org/10.1007/s11121-014-0489-8
26. International Accounting Standards Board (IASB). (2016). *International Accounting Standard 36: Impairment of assets*. Retrieved from IFRS website: www.ifrs.org
27. International Auditing and Assurance Standard Board (IAASB). (2012). *Improving the auditor's report*. Retrieved from IAASB website: https://www.ifac.org/system/files/publications/files/Auditor_Reporting_Invitation_to_Comment-final_0.pdf
28. International Auditing and Assurance Standard Board (IAASB). (2015a). *International standard on auditing 701. Communicating key audit matters in the independent auditor's report*. Retrieved from IAASB website: https://www.ifac.org/system/files/publications/files/ISA-701_2.pdf
29. International Auditing and Assurance Standard Board (IAASB). (2015b). *Reporting on audited financial statements – new and revised auditor reporting standards and related conforming amendments*. Retrieved from IAASB website: https://www.ifac.org/system/files/publications/files/Basis%20for%20Conclusions%20-%20Auditor%20Reporting%20-%20final.pdf
30. International Auditing and Assurance Standard Board (IAASB). (2015c). *International standard on auditing 260 (revised). Communication with those charged with governance*. Retrieved from IAASB website: https://www.ifac.org/system/files/publications/files/ISA-260-Revised_1.pdf
31. Jamal, K. (2012). Dysfunctional consequences of disclosure. *Accounting Horizons*, *26*(2), 381-383. https://doi.org/10.2308/acch-10262
32. Jamal, K., Marshall, E., & Tan, H.-T. (2016). Does disclosure of conflict of interest increase or decrease bias? *Auditing: A Journal of Practice & Theory*, *35*(1), 89-99. https://doi.org/10.2308/ajpt-51018
33. Kachelmeier, S. J., Schmidt, J. J., & Valentine, K. (2014). *The disclaimer effect of disclosing critical audit matters in the auditor's report* Retrieved from https://pdfs.semanticscholar.org/e3fc/9f2bf55ae08dd0ac0d3697db7b7321fb99c1.pdf

34. Kadous, K., Kennedy, S. J., & Peecher, M. E. (2003). The effect of quality assessment and directional goal commitment on auditor's acceptance of client-preferred accounting methods. *The Accounting Review, 78*(3), 759-778. https://doi.org/10.2308/accr.2003.78.3.759
35. Kahai, S. S., & Cooper, R. B. (2003). Exploring the core concepts of media richness theory: The impact of cue multiplicity and feedback immediacy on decision quality. *Journal of Management Information Systems*, *20*(1), 263-299. https://doi.org/10.1080/07421222.2003.11045754
36. Kaplan, S. E., & Mauldin, E. G. (2008). Auditor rotation and the appearance of independence: Evidence from non-professional investors. *Journal of Accounting and Public Policy*, *27*(2), 177-192. https://doi.org/10.1016/j.jaccpubpol.2008.01.004
37. Kerler, W. A., & Brandon, D. M. (2010). The effects of trust, client importance, and goal commitment on auditors' acceptance of client-preferred methods. *Advances in Accounting, Incorporating Advances in Accounting*, *26*(2), 246-258. https://doi.org/10.1016/j.adiac.2010.04.003
38. Klein, H. J., Wesson, M. J., Hollenbeck, J. R., Wright, P. M., & DeShon, R. P. (2001), The assessment of goal commitment: A measurement model meta-analysis. *Organizational Behavior and Human Decision Processes*, *85*(1), 32-55. https://doi.org/10.1006/obhd.2000.2931
39. Knechel, W. R., & Vanstraelen, A. (2007). The relationship between auditor tenure and audit quality implied by going concern opinions. *Auditing: A Journal of Practice & Theory*, *26*(1), 113-131. https://doi.org/10.2308/aud.2007.26.1.113
40. Koch, C., & Salterio, S. E. (2015). *Effects of client pressure and audit firm management control systems on auditor judgments.* https://doi.org/10.2139/ssrn.2572486
41. Koch, C., & Salterio, S. E. (2017). The effects of auditor affinity for client and perceived client pressure on auditor proposed adjustments. *The Accounting Review*, *92*(5), 117-142. https://doi.org/10.2308/accr-51703
42. Köhler, A. G., Ratzinger-Sakel, N. V. S., & Theis, J. C. (2016). *The effects of key audit matters on the auditor's report's communicative value: Experimental evidence from investment professionals and non-professional investors.* https://doi.org/10.2139/ssrn.2838162
43. Kongsved, S. M., Basnov, M., Holm-Christensen, K., & Hjollund, N. H. (2007). Response rate and completeness of questionnaires: A randomized study of Internet versus paper-and-pencil versions. *Journal of Medical Internet Research*, *9*(3), e25. https://doi.org/10.2196/jmir.9.3.e25
44. Kunda, Z. (1990). The case for motivated reasoning. *Psychological Bulletin*, *108*(3), 480-498. https://doi.org/10.1037/0033-2909.108.3.480
45. Kunda, Z. (1999). *Social cognition: Making sense of people*. Cambridge, MA, the USA: The MIT Press. https://doi.org/10.7551/mitpress/6291.001.0001
46. Lennox, C. S., Schmidt, J. J., & Thompson, A. (2016). *Is the expanded model of audit reporting informative to investors? Evidence from the UK.* https://doi.org/10.2139/ssrn.2619785
47. Libby, R., & Lipe, M. G. (1992). Incentives, effort, and the cognitive processes involved in accounting-related judgments. *Journal of Accounting Research*, *30*(2), 249-273. https://doi.org/10.2307/2491126
48. Libby, R., & Luft, J. (1993). Determinants of judgment performance in accounting settings. Ability, knowledge, motivation, and environment. *Accounting Organizations and Society, 18*(5), 425-450. https://doi.org/10.1016/0361-3682(93)90040-D
49. Lord, A. T., & DeZoort, F. T. (2001). The impact of commitment and moral reasoning on auditors' responses to social influence pressure. *Accounting, Organizations and Society, 26*(3), 215-235. https://doi.org/10.1016/S0361-3682(00)00022-2
50. Miller, D. T., & Effron, D. A. (2010). Chapter Three – Psychological license: When it is needed and how it functions. *Advances in Experimental Social Psychology*, *43*, 115-155.
51. Monin, B., & Miller, D. T. (2001). Moral credentials and the expression of prejudice. *Journal of Personality and Social Psychology*, *81*(1), 33-43. https://doi.org/10.1037/0022-3514.81.1.33
52. Nelson, M. W. (2009). A model and literature review of professional skepticism in auditing. *Auditing: A Journal of Practice & Theory*, *28*(2), 1-34. https://doi.org/10.2308/aud.2009.28.2.1
53. Ng, T. B-P., & Tan, H.-T. (2003). Effects of authoritative guidance availability and audit committee effectiveness on auditors' judgments in an auditor-client negotiation context. *The Accounting Review*, *78*(3), 801-818. https://doi.org/10.2308/accr.2003.78.3.801
54. Nunnally, J. C. (1967). *Psychometric theory.* New York, the USA: McGraw Hill.
55. Public Company Accounting Oversight Board (PCAOB). (2011). *Concept release on auditor independence and audit firm rotation. Notice of roundtable* (PCAOB Release No. 2011-006). Retrieved from https://pcaobus.org/Rulemaking/Docket037/Release_2011-006.pdf
56. Public Company Accounting Oversight Board (PCAOB). (2016). *Proposed auditing standard: The auditor's report on an audit of financial statements when the auditor expresses an unqualified opinion and related amendments to PCAOB standards* (PCAOB Release No. 2016-003). Retrieved from https://pcaobus.org/Rulemaking/Docket034/Release-2016-003-ARM.pdf
57. Salterio, S., & Koonce, L. (1997). The persuasiveness of audit evidence: The case of accounting policy decisions. *Accounting, Organizations and Society*, *22*(6), 573-587. https://doi.org/10.1016/S0361-3682(97)00002-0
58. Shaub, M. K., & Lawrence, J. E. (2002). A taxonomy of auditors' professional skepticism. *Research on Accounting Ethics, 8*, 167-194.
59. So, J. C. F., & Bolloju, N. (2005). Explaining the intentions to share and reuse knowledge in the context of IT service operations. *Journal of Knowledge Management*, *9*(6), 30-41. https://doi.org/10.1108/13673270510629945
60. Teoh, S. H. (1992). Auditor independence, dismissal threats, and the market reaction to auditor switches. *Journal of Accounting Research, 30*(1), 1-23. https://doi.org/10.2307/2491089
61. Van Raaij, E. M., & Schepers, J. J. L. (2008). The acceptance and use of a virtual learning environment in China. *Computers & Education, 50*(3), 838-852. https://doi.org/10.1016/j.compedu.2006.09.001
62. Venkatesh, V., & Davis, F. D. (2000). A theoretical extension of the technology acceptance model: Four longitudinal field studies. *Management Science*, *46*(2), 186-204. https://doi.org/10.1287/mnsc.46.2.186.11926

63. Vinson, J., Robertson, J. C., & Cockrell, C. (2018). The effects of critical audit matter removal and duration on jurors' assessments of auditor negligence. *Auditing: A Journal of Practice & Theory.* Advance online publication. https://doi.org/10.2139/ssrn.3107107
64. Westland, J. C. (2010). Lower bounds on sample size in structural equation modeling. *Electronic Commerce Research and Applications, 9*(6), 476-487. https://doi.org/10.1016/j.elerap.2010.07.003
65. Wilcox, K., Vallen, B., Block, L., & Fitzsimons, G. (2009). Vicarious goal fulfillment: When the mere presence of a healthy option leads to an ironically indulgent decision. *Journal of Consumer Research*, *36*(3), 380-393. https://doi.org/10.1086/599219
66. Windsor, C., & Kavanagh, M. (2012). Auditor independence and client economic power: Qualitative evidence and propositions involving auditors' emotions and moral reasoning. In K. Chalmers, & D. Hay (Eds.), *Proceedings of the 2012 AFAANZ Conference* (pp. 1-38). Retrieved from https://eprints.usq.edu.au/21630/2/Windsor_Kavanagh_AFAANZ2012_PV.pdf
67. Yoo, Y., & Alavi, M. (2001). Media and group cohesion: Relative influences on social presence, task participation, and group consensus. *MIS Quarterly, 25*(3), 371-390. https://doi.org/10.2307/3250922

APPENDIX

Figure A.1. Structural equation model: outline

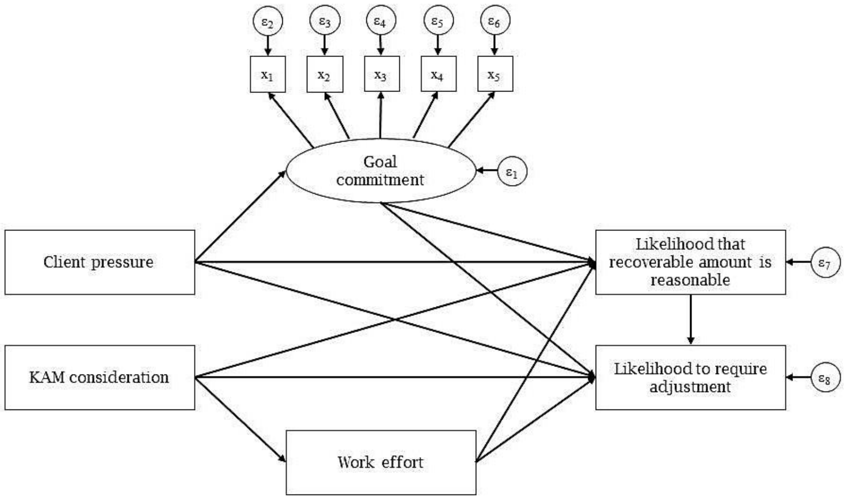


Figure A.2. Structural equation model: results