Disclosure Checklists and Bias in Audit Judgments

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Abstract

The use of decision aids such as checklists in auditing is widespread and increasing. We argue that while checklists might improve auditing judgments in the domain for which they are developed, they can simultaneously decrease judgment and decision making performance in related but distinct domains. Specifically, we propose that the use of a disclosure checklist, which indicates whether a disclosure contains all the required elements but which is uninformative about the appropriateness of the accounting methods that are used, can bias auditors' judgments of the acceptability of aggressive reporting. Our data, collected using an experiment with experienced auditors of a Big Four company as participants, supports this prediction. Specifically, in line with theory that checklist use can induce automation bias, we find that auditors using a disclosure checklist are more lenient in their evaluation of aggressive reporting. Furthermore, we find that this effect is stronger for auditors who have been hired by a company's management board than for auditors who have been hired by an independent audit committee, which is consistent with theory that checklist use can also induce pro-client acceptability bias. We discuss the implications of these findings for research and practice.

Keywords: Auditor independence, Checklists, Decision aids, Professional skepticism, Judgment Bias.

Introduction

The use of checklists as decision-making aids is widespread in auditing. Formally structuring individuals' decision-making processes through the use of decision aids such as checklists can be an effective way of improving judgment and decision-making performance (Hales & Pronovost, 2006; Larrick, 2004; Stacey et al., 2011). Audit firms not only use checklists to point auditors' attention to internal control weaknesses or potential fraud cases but also to ensure that the accounting methods used by client firms are in line with relevant accounting standards (e.g., Dowling & Leech, 2007). One important type of checklist that is employed by many audit firms nowadays is a factual disclosure checklist that indicates whether all the required elements of a disclosure are present.[1]

While audit firms assume that the use of checklists will improve the quality of their audits by structuring individual auditors' decision-making processes, there are also concerns that checklist use might reduce audit quality. For example, responses to a recent green paper of the European Commission (European Commission, 2010) show that business professionals are concerned that audits have developed into a mechanistic check of whether applicable accounting standards are correctly applied. Specifically, the European Commission notes that business respondents expressed concern that "[…] auditors have increased their focus on checklists in order to meet the demand of audit inspection units. This situation can distort the quality because it has led to a 'perceived degeneration' of an audit into a review on IFRS compliance instead of providing a professional judgment. [...]" (European Commission, 2011, p. 11). In line with these concerns, some studies have found that evidence checklists can decrease individuals' judgment and decision-making performance. For example, Pincus

[1] The website of the Institute of Chartered Accountants in England and Wales (ICAEW) provides easy access to several examples of such disclosure checklists (http://www.icaew.com/en/library/subject-gateways/accounting-standards/ifrs-checklists-and-model-financial-statements).

(1989) and Asare and Wright (2004) found that auditors using 'red flag' risk checklists were less effective in identifying fraud than auditors not using such a checklist.

The recent concerns raised in response to the European Commission's green paper highlight the importance of more academic research into the potential detrimental consequences of checklist use. In this paper, we focus on one specific potential detrimental effect of checklist use: biased judgments in domains that are distinct from the domain about which the checklist is informative. Specifically, we examine if the use of a disclosure checklist, which requires auditors to indicate whether a specific disclosure has been made but is uninformative about the quality of the reporting method, affects auditors' judgments about the acceptability of aggressive reporting methods. We argue that aids such as checklists can be used by individuals to, consciously or unconsciously, justify questionable accounting practices. Following this reasoning, we suggest that auditors who are required to judge the appropriateness of an accounting method of dubious ethicality after using a disclosure checklist will be more likely to judge the method as appropriate than auditors not using such a checklist.

We furthermore argue that this effect will be stronger if auditors are hired by a firm's management board as opposed to an independent audit committee and consequently need to provide an opinion about an accounting treatment that is proposed by their client. Over the past decade, the responsibility for auditor appointment and remuneration has shifted from company executives to independent audit committees. This is both the case in countries with corporate governance systems with one-tier boards, such as the UK and the US and countries with two-tier boards such as Germany and the Netherlands (Collier & Zaman, 2005; Gendron & Bédard, 2006; Krishnan & Visvanathan, 2008). Yet, research suggests that the client firm's management board often remains an important party in the audit process. For example, in countries with a two-tier system, the management board is often still the party that formally

appoints and remunerates the auditor while in one-tier countries, in which this formal responsibility now lies with an audit committee, management is still seen as an important driving force behind auditor appointment and termination (Cohen, Krishnamoorthy & Wright, 2010; Dhaliwal, Lamoreaux, Lennox, & Mauler, 2012; Fiolleau, Hoang, Jamal, & Sunder, 2013). Consequently, there is variation in the extent to which auditors perceive the firm's management board, which has prepared the financial statements about which an opinion needs to be provided, as their client (Bazerman & Moore, 2011). We propose that the effect of checklist use on judgments of the appropriateness of dubious accounting methods is more positive for auditors who are hired by a firm's management board than for auditors who are hired by an independent audit committee. The reason is that checklist use can induce acceptability bias, such that auditors that are directly accountable to the auditee will be more likely to arrive at a favorable opinion about the auditee's proposed accounting methods.

We test our predictions with an experiment involving 55 experienced auditors working for a Big Four auditing firm in the Netherlands. Participants in the experiment were provided with an audit case in which they had to rate the appropriateness of the accounting methods of a fictitious company. These methods were designed to be indicative of aggressive earnings management without explicitly violating any of the applicable accounting standards (IFRS). Our first manipulation is checklist use. Half of the participants were required to complete an IFRS disclosure checklist before providing their judgment, whereas the other half did not use a checklist. Our second manipulation is client type. Specifically, we manipulate whether the auditor's client is the management board or an independent audit committee (cf. Koch *et al*., 2012).

In support of our hypotheses, we find that the use of a disclosure checklist increases auditors' acceptance of aggressive accounting methods and that this effect is stronger when the auditors' client is the management board as opposed to the audit committee. Our study

contributes to the literature in the following ways. First, the findings of our study contribute to our understanding of the role of (unconscious) biases as a potential threat to auditor independence and the mechanisms that can be employed to reduce this threat (Bazerman et al., 1997, 2002; Bazerman & Moore, 2011). Our paper extends this literature by providing evidence that the use of decision aids such as checklists can strengthen biases and decrease auditors' professional skepticism. Specifically, we show that checklist use can have spillover effects on judgments in areas other than the one about which the checklist is supposed to be informative. While the extant accounting literature shows that checklists can increase (e.g., Bonner, Libby, & Nelson, 1996; Eining, Jones, & Loebbecke, 1997) or decrease (e.g., Asare & Wright, 2004; Pincus, 1989) the decision-making performance of auditors in areas such as fraud risk assessment, it is silent on the effects of the use of such decision aids on unconscious judgment biases. Next, our study adds to the existing literature on the effects of client characteristics on auditors' judgments (e.g., Joe, Wright, & Wright, 2011; Koch et al., 2012; Windsor & Ashkanasy, 1995) by showing that while client type (management or audit committee) may not have a direct effect on auditors' perceptions of the appropriateness of accounting methods, it could nonetheless affect such perceptions in interaction with audit process variables such as the use of a decision aid. Finally, our study examines auditor independence in a European two-tier board setting while most of the existing evidence comes from North American one-tier corporate governance systems. One additional benefit is that the two-tier board setting allows us to realistically manipulate client interests in our experiment without explicitly mentioning the clients' preferences and thus risking the possibility of inducing a demand effect.

This paper proceeds as follows. In the next section we provide an overview of the relevant literature and we develop our hypotheses. In the third section we describe the experimental research method. This section is followed by a section summarizing the

findings of the experiment. In the fifth and final section we discuss our conclusions, the study's limitations and avenues for future research.

Theory and hypotheses development

According to the IFAC International Ethics Standards Board of Accountants (IESBA)' *Code of Ethics for Professional Accountants*, auditor independence requires a state of mind that allows auditors to exercise objectivity and professional skepticism. Objectivity is defined in the Code as a fundamental principle 'to not allow bias, conflict of interest or undue influence of others to override professional or business judgments' (IFAC, Section 100.5b). Professional skepticism 'is indicated by auditor judgments and decisions that reflect a heightened assessment of the risk that an assertion is incorrect, conditional on the information available to the auditor' (Nelson, 2009, p.4). A professionally skeptical attitude is an important requirement for objectivity because human judgment is notoriously sensitive to conscious and unconscious biases. The reason is that humans have cognitive limitations (i.e. they are 'boundedly rational').

Several studies show that decision aid use can improve auditors' judgment and decision-making performance. For example, Bonner et al. (1996) found that a checklist that facilitated knowledge retrieval improved auditors' probability estimates. Similarly, Kochetova-Kozloski, Messier, and Eilifsen (2011) found that a decision aid that framed probabilities differently improved auditors' fraud assessments. Also, Bierstaker and Thibodeau (2006) found that auditors using an internal control questionnaire identified more internal control weaknesses than auditors who did not use such a questionnaire, and Lowe and Reckers (2000) found that a decision aid that forces auditors to think about the potential harmful consequences of a positive audit opinion was effective in motivating auditors to require a write-down of obsolete inventory against the explicit wish of a client.

Yet, there is also research that suggests that decision aids do not always improve auditors' judgment and decision-making performance. For example, Eining et al. (1997) found that auditors who used a checklist were not better able to assess the probability of management fraud than auditors who did not use such a checklist.[2] Some authors even found a negative effect of decision-aid use on the quality of audit judgments. For example, Pincus' (1989) results indicated that auditors who were required to use a red flag questionnaire were less likely to correctly identify a fraud case. In a similar vein, Asare and Wright (2004) established that auditors who used a standard risk checklist were less effective in identifying fraud. Mock and Turner (2005) also found some anecdotal evidence that points in this direction. Finally, Ashton (1990) found that auditors using a decision aid achieved lower classification accuracy in a repetitive decision task (classifying bonds).

We propose that decision aids will not only affect judgments and decisions in the domain for which they are developed, but can also have spillover effects on judgments and decisions in other domains. Specifically, we propose that the use of a disclosure checklist will affect auditors' judgments about the acceptability of aggressive reporting methods. Disclosure checklists are used by audit firms from all over the world including the Big Four (e.g., Dowling & Leech, 2007). Typically, they ask auditors to check whether specific elements are disclosed in a firm's financial statements. Importantly, compliance with such a checklist does not mean that the accounting methods used in these financial statements provide a true and fair view of the financial position of a company and the results of its operations and its cash flows. Instead, compliance with a disclosure checklist merely indicates that all the elements that *should* be disclosed *are* indeed disclosed. Using a disclosure checklist therefore should not alter an auditor's opinion about the appropriateness of an aggressively income increasing or income decreasing accounting method. Yet, we argue

[2] In the study of Eining et al. (1997), auditors using a more advanced expert system *did* exhibit the ability to better discriminate between fraud and non-fraud settings.

that checklist use can increase auditors' willingness to accept such aggressive accounting methods.

First, disclosure checklists can have a direct positive effect on the perceived acceptability of questionable accounting practices because checklist use discourages critical thinking. Judging the acceptability of a proposed accounting treatment requires a self-structured approach and deep cognitive processing of the provided information cues. However, checking the boxes in a disclosure checklist leads auditors into a mode of thinking that is characterized by reduced professional skepticism as it allows them to arrive at an opinion about the proposed accounting methods without investing much cognitive effort (cf. Asare & Wright, 2004). Evidence for this reasoning comes from both the auditing and the human-computer interaction literature.

The audit literature suggests that judgments become less extreme when non-diagnostic evidence is presented in addition to diagnostic evidence. First identified by Nisbett, Zukier and Lemley (1981), this is generally known as the dilution effect. For example, Hackenbrack (1992) found that auditors' fraud-risk assessments became less extreme when they were provided with a mix of diagnostic and nondiagnostic evidence, as opposed to diagnostic evidence only. Hoffman and Patton (1997) and Glover (1997) confirmed this finding and further established that accountability pressure was unable to mitigate the dilution effect. Finally, Waller and Zimbelman (2003) present archival evidence that is consistent with the existence of a dilution effect, as it shows that auditors underweighted (relative to a regression model) a crucial information cue when predicting misstatements in financial statements. In the same vein, we suggest that to the extent that decision aids such as checklists provide topical but irrelevant information cues, they can moderate auditors' assessments of ambiguous situations. Specifically, we predict that auditors

who first establish that a disclosure contains all the required elements will be less likely to conclude that the accounting methods used in the disclosure are inappropriate.

Next, in the human-computer interaction literature, Alberdi, Strigini, Povyakalo, and Ayton (2009) and Skitka, Mosier, and Burdick (1999, 2000) report evidence of what they call 'automation bias'. Automation bias exists when individuals rely too much on advice provided by decision aids. According to these authors, overreliance on decision aids can induce two types of errors: *errors of commission* and *errors of omission*. Errors of commission occur when decision makers follow automated advice even in the face of more valid or reliable indicators suggesting that the automated aid is wrong. Errors of omission happen when decision makers do not take appropriate action despite non-automated indications of problems, because the automated tool did not prompt them (Skitka et al., 1999). In summary, automation bias consists either of *undue compliance with* a decision aid or of *undue reliance on* a decision aid (Alberdi et al., 2009).

When judging the appropriateness of the accounting methods in a company's financial statements, an automation bias can occur as auditors focus their attention on the cues that are listed in the checklist and exclude other cues (cf. Asare & Wright, 2004; Pincus, 1989). If the checklist indicates that all the elements that should be disclosed *are* indeed disclosed, auditors might therefore be unconsciously driven towards the biased conclusion that the accounting method *per se* is appropriate. We summarize the above discussion in the following hypothesis:[3]

H1. Auditors who use a disclosure checklist judge aggressive accounting methods as more acceptable than auditors who do not use such a checklist.

[3] Note that our study focuses on settings in which all the elements that should be disclosed under the relevant accounting standards are indeed disclosed.

In addition, we also expect checklist use to induce an acceptability bias. Such a bias would exist if auditors, using a disclosure checklist, were more likely to arrive at an opinion that seems more acceptable to their client than auditors not using a checklist. The acceptability bias was first identified by Tetlock (1985), who argued that individuals are often driven by a desire to make judgments and decisions of which they are reasonably confident that they will be acceptable to whomever they feel they are accountable to. As Tetlock (1985, p. 311) argues: "[…] often the most socially acceptable option is obvious, likely to come to mind quickly and likely to be bolstered by supportive arguments readily available in the environment […]". Evidence indeed shows that people unconsciously interpret information in a self serving manner, such that for example two individuals who receive the same information make different predictions about a third person's behavior depending on their formal relation to this person (e.g., Babcock & Loewenstein, 1997, Babcock, Loewenstein, Issacharoff, & Camerer, 1995). There is much debate about whether auditors' judgments are biased towards favoring the interests of their clients (e.g., Bazerman & Moore, 2011; Amir, Guan, & Livne, 2010). However, empirical studies directly examining the effects that clients have on audit judgments are relatively scarce and have not produced conclusive evidence. Buchman, Tetlock, and Reed (1996) found some evidence that auditors who were accountable to a representative of a client firm issued different opinions than auditors who were accountable to audit partners. However, knowledge of a client's disclosure preference by itself did not influence auditors' view on the appropriateness of a specific disclosure. Moore, Tanlu, and Bazerman (2010) performed an experiment in which they manipulated the type of client. In their study, professional auditors were either told that they had been hired as an external auditor by the client firm or by a potential outside investor. They found that auditors who were acting on behalf of the client firm appeared more willing to accept the firm's aggressive accounting than those who were hired by the outside investor. Koch et al.

(2012) found mixed evidence regarding the effect of client identity on auditors' judgments. Half of their auditor participants were told that a firm's management had hired them and that it would miss earnings forecasts, forfeit bonuses, and face the risk of dismissal when opting for a more conservative accounting treatment. The other half was informed that they had been hired by the firm's oversight board, whose members were described as facing litigation risk in case of aggressive financial reporting and as being in favor of limited possibilities for dividend payouts in order to ensure the firm's viability. Next, the participants were asked to provide an audit opinion on the firm's financial statements which contained some aggressive reporting. Koch et al. (2012) established that client identity as such had no impact on auditors' opinion. However, they also found that auditors who experienced high client retention pressure were more likely to accept aggressive reporting methods if they were hired by the management board than if they were hired by oversight board. Finally, a recent archival study of Dhaliwal et al. (2012) shows that companies in which managers have more influence on auditor selection have a lower earnings response coefficient, but not a significantly higher propensity to beat analysts' earnings forecasts.

In summary, despite claims by Bazerman et al. (1997, 2002) and others that auditor independence is 'impossible', the extant empirical literature is inconclusive about whether or not audit opinions are influenced by auditors' unconscious pro-client biases. Even if auditors are not immune to the effects of such bias, their relatively high standards of personal or professional ethics (e.g., Jeffrey, 1993; Jeffrey & Weatherholt, 1996) and their focus on professional skepticism and independence fostered during education and on-the job training (e.g., Cohen, Pant, & Sharp, 2001; Gendron, Suddaby, & Lam, 2006; Ponemon, 1992) might provide powerful factors counteracting these effects. This implies that certain triggers might be necessary for otherwise dormant cognitive biases to take over and impact negatively on auditors' independence.

The use of a disclosure checklist could be such a trigger for an auditor who needs to judge the acceptability of a dubious accounting method used in a company's financial statements. Thus, if a checklist explicitly indicates that a disclosure contains all the required elements, otherwise skeptical auditors might not only be more likely to judge the used accounting method as more appropriate *per se*, but might also be more likely to reach a conclusion that is in line with the interests of their client. Assuming that a company's management board generally prefers auditors to provide a favorable opinion about the accounting methods used in the financial statements, a stronger influence of the management board on the hiring and firing of the auditor will be associated with a stronger increase in auditors' willingness to accept aggressive accounting in financial statements after using a disclosure checklist.[4] This reasoning is in line with Kadous et al. (2003) who argued (and found) that pro-client accountability bias was higher when auditors could retain a sense of objectivity. A satisfactory score on a disclosure checklist provides auditors with a justification for a favorable opinion and can (unconsciously) bias their professional judgment in the direction that is favored by management. To examine this prediction, we investigate the effect of checklist use on the evaluation of aggressive reporting in two contrasting settings: one in which the auditor is hired by the firm's management board and one in which the auditor is hired by an independent audit committee (cf. Koch et al. 2012). Our prediction is that checklist use will have a more positive effect on auditors' judgment of the appropriateness of aggressive accounting methods in the former case than in the latter case. We test the following formal hypothesis:

[4] Following Moore et al. (2010) and Koch et al. (2012) we designed our experiment to test whether auditors that are provided with the same financial statements reach different conclusions when they feel accountable to different types of clients. Like Koch et al. (2012) we exploit the opportunity that is provided by the corporate governance regime in a Western European country which allows external auditors to be hired by either a company's management board or an audit committee consisting of members of the supervisory board. However, it is important to emphasize that our theoretical expectations extend to situations in which client influence on the hiring and firing of external auditors is not a dichotomous variable but a continuous one. As for example Cohen et al. (2010) and Dhaliwal et al. (2012) clearly show, even in the post-SOX era management influence on auditor selection decisions is often substantial and varies cross-sectionally.

H2. The effect of checklist use on auditors' judgments of the appropriateness of aggressive accounting methods is more positive for auditors who are hired by a firm's management board than for auditors who are hired by an independent audit committee.

Experimental design and method

Experimental Design

We test our hypotheses using an experiment with a 2 × 2 between-subjects factorial design. The dependent variable is the participants' assessment of the acceptability of two accounting methods (one aggressively income decreasing method related to impairment and one aggressively income increasing method related to construction contracts) under the applicable accounting standards (IFRS). We manipulated client type by varying whether the auditor was hired by management or by an independent audit committee. Checklist use was manipulated by requiring the participants in half of the conditions to use a factual IFRS disclosure checklist before assessing the methods' acceptability whereas the participants in the other conditions could not use such a checklist.

Participants

The participants in our experiment were 55 auditors from two offices of a Big Four auditing firm from the same region in the Netherlands. Table 1 contains demographic information about the participants in our sample. As is clear from this table, most participants worked at the staff or senior staff level and have several years of work experience.

Procedures

The auditors participated during work hours in a room in one of the offices. On average it took them about twenty-five minutes to complete all the materials. The participants received a package consisting of a set of instructions and two envelopes. The first envelope contained two separate audit cases and the second envelope contained an exit questionnaire with manipulation checks, questions about the participants' beliefs and work methods while working on the audit cases and demographics. Participants could only open the second envelope after having returned the case materials to the first envelope and having sealed this envelope.

The instructions emphasized that the cases were *not* intended as a test of the participants' knowledge of IFRS but that, instead, they were ambiguous by design and that there was not one single correct answer. It was also emphasized that all answers would be treated strictly anonymously. Before they began with the first case, participants were asked to consider how they would inform their client in case of a material misstatement and to write down, in a few bullet points, some considerations and consequences that would play a role in their decision to inform the client. We included this task to focus the participants' attention, to enhance their involvement in the case scenario and to reinforce our client type manipulation.

Case materials and independent and dependent variables

To mitigate the effects of idiosyncrasies in the audit case and to enhance the generalizability of our findings we follow Koch et al. (2012) and provide the participants in our experiment with two cases. Both cases describe an accounting treatment in the annual report of fiscal year 2010 of a fictitious firm ('A&C IND'). The participants were asked to assume the role of external auditor of A&C IND, which was described as a 'renowned

company' and one of the auditor's 'major clients'. Their task was to carefully read the two cases (which included a description of the setting and extracts from the preliminary financial statements) and to rate the acceptability of the described accounting treatments. The first case describes an accounting method to decrease current period income (i.e. to build a cookie-jar reserve) through the treatment of an impairment loss on a patent. The second case deals with a current period income increasing method of revenue recognition related to a construction contract. The accounting methods described in both cases would generally be perceived as quite aggressive. However, the cases were designed to be ambiguous and to incorporate elements that required subjective estimation (cf. Bazerman et al., 2002). Importantly, the described accounting treatments did not explicitly violate any of the relevant accounting standards. The cases were developed in close cooperation with experienced accounting and auditing practitioners and the instrument was pretested with several experienced auditors, which led to a number of minor alterations. The research instrument is included in the appendix.

The first manipulation involves the use of a checklist. In the checklist conditions, participants were required to go through a factual IFRS disclosure checklist before rating the acceptability of the accounting method in A&C IND's preliminary financial statements. This checklist asked them to indicate (*Yes, No, N/A*) whether a specific disclosure is made in the annual report. In the no checklist conditions, participants did not have the checklist available and rated the acceptability of A&C IND's accounting methods immediately after reading the description of these methods. The checklist for the first case (impairment of patent) contained fourteen elements and the checklist for the second case (construction contract) contained eleven elements. The checklists were extracted from an actual IFRS checklist that is used in practice. Importantly, the checklists focus on whether specific elements are disclosed in the financial statements but they do not provide any indication about the accuracy of the content

of these disclosures. Therefore, the number of items checked on the list is not informative about the acceptability of the proposed accounting method. The checklists were constructed in such a way that all the relevant items listed were actually disclosed in both cases.[5]

The second manipulation was the type of client. Because the Netherlands is a country with a two-tier board structure, auditors are in some cases hired and paid by the firm's management board and in other cases by the firm's supervisory board. The instructions and the case materials consistently specified that the client who had hired the auditor and to whom the auditor would have to communicate their findings was either A&C IND's management board or an independent audit committee consisting of members of A&C IND's supervisory board. Unlike Koch et al. (2012), we did not describe the two client types as having specific preferences for aggressive or conservative financial reporting. We made this design choice to mitigate potential validity threats posed by demand effects and hypothesis guessing.

To assess the dependent variable in our study, we asked participants to rate the acceptability of the accounting methods in the preliminary financial statements of the case firm on an eleven-point Likert-scale (*fully unacceptable* - *fully acceptable*). They provided separate ratings for each of the two cases. This method to assess the dependent variable is comparable to the methods employed in existing vignette studies (e.g., Moore et al. 2010).

[5] The checklist for the first case contained one item (IAS 36.130e) that is irrelevant and the checklist for the second case contains three items that are irrelevant (IAS 18.14a, b, and c). For these items the box *N/A* should be checked instead of the box *Yes*. Including a few irrelevant items should reduce participants' tendency to mechanically tick the *Yes* boxes and thus works against us finding support for hypothesis 1.

Results

Manipulation checks

We checked whether our manipulations were successful by analyzing to what extent participants agreed with two statements in the exit questionnaire. First, manipulation of checklist use was checked by assessing participants' agreement with the statement "In the A&C IND case, I made use of a checklist" using a seven-point Likert-scale with anchors "I totally disagree" (1) and "I totally agree" (7). The mean score was higher in the checklist ('LIST') conditions (Mean = 6.30, SD = 0.72) than in the no-checklist ('NOLIST') conditions (Mean = 2.36, SD = 1.73). This difference is statistically significant ($t = 10.96$, $p < 0.001$). Moreover, a full-factorial ANOVA with the manipulations as factors reveals only a significant main effect of checklist use and no significant interaction. Thus, the manipulation of checklist use was effective.[6]

The manipulation of client type was checked with the statement: "In the A&C IND case, I was hired by the audit committee". Subjects indicated their level of agreement with this statement on a seven-point Likert-scale with anchors "I totally disagree" (1) and "I totally agree" (7). The mean score was higher in the audit committee ('AUD') conditions (Mean = 6.25, SD = 1.08) than in the management ('MAN') conditions (Mean = 2.37, SD = 1.50). Again, this difference is statistically significant ($t = 11.07$, $p < 0.001$). Also for this second manipulation check, a full-factorial ANOVA with the two manipulations as factors and the manipulation check as dependent variable reveals only a significant main effect for client

[6] The data furthermore show that all participants in the LIST conditions did actually use the checklists and indicated whether the specified items were disclosed. Of the fourteen items in the checklist for the first case (impairment of patent) participants on average indicated that 2.15 (SD = 2.30) items were *not* disclosed. Of the eleven items in the checklist for the second case (construction contract) participants on average found 2.78 (SD = 2.82) items were *not* disclosed. Notably, the number of undisclosed items according to the participants' filled out checklists is not correlated with the acceptability ratings of the accounting methods (i.e. the DVs). Neither is the number of times a "No" box was ticked correlated with age, experience, gender or rank (all $p > 0.1$). Importantly, the number of checklist items flagged as (not) disclosed is also not significantly different in the management and the audit committee conditions.

type and no significant interaction. This indicates that in general our manipulation of client type was successful.[7]

Hypotheses Tests

In Table 2 and Figure 1 we present descriptive statistics on the dependent variables. We denote the rated acceptability of the accounting treatment in case 1 as DV1 and the rated acceptability of the accounting treatment in case 2 as DV2. As is clear from this table and figure, the patterns of the mean values of DV1 and DV2 across conditions are very similar. In fact, as expected, there is a significantly positive correlation between the two DV's (Pearson $r = 0.329$, $p < 0.05$; Spearman's $\rho = 0.311$, $p < 0.05$). As is clear from Table 2, for both DV's the mean value is lowest in the NOLIST-MAN condition and highest in the LIST-MAN condition, while the means in the AUD conditions are somewhere in between.

We test our hypotheses using a two-factor MANCOVA. First, using a criterion of $z = |2.5|$, we established that there were no univariate outliers. Also, examination of Mahalanobis Distance values using a criterion of $\alpha = 0.001$ (critical $\chi^2 = 13.816$) revealed no multivariate outliers. A Levene test indicates that the assumption of equality of variance across conditions is not violated ($W = 1.96$, $p > 0.1$ for DV1; $W = 0.04$, $p > 0.1$ for DV2). In addition, Box's test of the equality of the covariance matrices indicates that the assumption of equal covariance in each treatment condition was not violated (Box's $M = 10.27$, $F = 1.06$, $p > 0.1$).

In the MANCOVA, participant gender and years of work experience as auditor were included as control variables. The results are summarized in Table 3. From this table it is

[7] Despite the general effectiveness of the manipulations, seven participants answered one of the two manipulation check questions incorrectly. Of these seven participants, four indicated that they at least somewhat agreed with the statement that they had used a checklist, while they were actually in a NOLIST condition. One possibility is that these participants were well aware that they did not use a provided IFRS disclosure checklist but that in deciding about the acceptability of the described accounting methods they used a self-developed (mental) checklist. We retain the data from these participants for our hypotheses tests. However, if we test the hypotheses excluding these seven cases the results are inferentially identical.

clear that there is a significant interaction effect of checklist use and client type on the combined dependent variable (Pillai's Trace = 0.170, F = 4.902, p = 0.012). There is also a significant main effect of checklist use (Pillai's Trace = 0.296, F = 10.105, p < 0.001) but not of client type (Pillai's Trace = 0.011, F = 0.275, p = 0.761). These findings provide support for both H1 and H2. The variance explained by checklist use and the interaction effect is substantial (partial η^2 for checklist use is 0.296 and partial η^2 for the interaction is 0.170). There is no significant effect of the covariates gender or experience (both $p > 0.05$) [8].

We continue our analysis by examining the univariate results for the two separate dependent variables. These results can be found in Table 4 and are illustrated in figures 2 and 3. As is clear from Table 4, the results for the separate dependent variables DV1 and DV2 are very similar and mirror the results obtained with the combined dependent variable in the multivariate test. Thus, there are significant main effects of checklist use for both DV's (F = 12.815, p = 0.001 for DV1; F = 10.783, p = 0.002 for DV2). On average, the acceptability of the used accounting methods is rated higher by auditors that used a checklist (M = 6.22, SD = 2.06 for DV1; M = 5.78, SD = 1.89 for DV2) than by auditors that did not use a checklist (M = 4.21, SD = 2.10 for DV1; M = 4.21, SD = 1.81 for DV2). There are also significant client type × checklist use interaction effects for both DV's (F = 5.549, p = 0.023 for DV1; F = 5.905, p = 0.019 for DV2) indicating that the difference in acceptability ratings between the NOLIST and the LIST conditions is significantly larger for auditors accountable to the firm's management board than for auditors accountable to the independent audit committee.

In summary, our results suggest that auditors are more likely to accept aggressive accounting after having used a disclosure checklist and that this effect is significantly stronger if their client is the management board instead of an audit committee. Thus, auditors' willingness to accept aggressive accounting is particularly high if they are hired by managers

[8] The results are qualitatively similar if we run an ANCOVA with the average of the scores on DV1 and DV2 (i.e. [DV1 + DV2]) / 2) as dependent variable.

who have proposed these accounting methods and if they have completed a factual checklist listing the required elements in the disclosure.

Additional analyses

Although our theory is about bias that affects auditors' judgments at the unconscious level, we did include some items in the exit questionnaire to attempt to get a better understanding of the participants' thoughts and perceptions and of the processes driving our results. Table 5 lists these items and their mean scores in each condition. The table also indicates whether these means are significantly different. First, we find that participants in all four conditions felt reasonably able to make an objective, balanced judgment of the case company's accounting (item 1) and generally felt comfortable with their judgment (item 2). The mean scores on these two items do not differ significantly between conditions. The scores on item 3 moreover indicate that, on average, participants in all four conditions looked critically at the proposed accounting treatments.

One interesting finding is that participants in all four conditions tended to disagree with - or be neutral about - the statement "I gave some thought to which party appointed and remunerated me while judging the acceptability of A&C IND's FY2010 accounting" (item 4). This is in line with our finding that client type by itself did not influence the auditors' judgments. Moreover, the mean score on this item is significantly lower in the NOLIST-MAN condition than in the NOLIST-AUD condition. This suggests that in absence of a formal disclosure checklist, the participants gave more thought to who was their client if their client was the independent audit committee instead of the firm's management. In the checklist conditions there was no such effect of client type. This is consistent with our reasoning that providing auditors with a factual checklist moves them to a "compliance mode" characterized by less critical thinking and reduced professional skepticism.

Another noteworthy finding is that for participants in the AUD conditions, but not the MAN conditions, checklist use is associated with a significantly reduced level of agreement with the statement "I used a structured approach to judge the acceptability of A&C IND's FY2010 accounting" (item 5). While we can only speculate about the potential explanations for this finding, we do note that it is consistent with our reasoning that the use of a checklist can interfere with the self-structured approach that an auditor usually takes when making a critical judgment about a proposed accounting treatment. Participants in the MAN conditions, where a potential for pro-client bias exists, might have experienced the checklist as less interfering than the participants in the AUD conditions where there was no potential for this bias and participants involved in a deeper level of critical thinking.

Finally, we find that, on average, the participants in each condition considered the described accounting methods to be slightly aggressive (item 6) and that the average scores on item 7 ("In my opinion, A&C IND's FY2010 accounting was ethical") are close to the theoretical mean. This latter finding confirms that we were successful in developing a case that was ambiguous and allowed for different opinions regarding the ethicality of the proposed accounting methods. We also find that auditors who did not use a checklist found the case company's accounting less ethical when their client was the firm's management board. Apparently, in absence of a checklist to fall back on, participants who were engaged by the firms' management board were relatively well aware of the dubious ethicality of the proposed accounting methods. Future research is needed to shed more light on why this awareness did not result in a lower willingness to accept these methods. Overall, we interpret the findings of the analysis of the exit questionnaire items as being in line with our experimental results and consistent with the hypothesized relationships.

Discussion and conclusion

Concerns have been expressed that the use of decision aids such as disclosure checklists could reduce the quality of audit judgments (e.g., European Commission, 2011). Following up on these concerns, this paper set out to investigate whether using a disclosure checklist affects auditors' judgments of the acceptability of aggressive reporting methods. We reasoned that checklist use could induce two types of biases. First, checklists could induce an automation bias such that auditors who first establish that all the elements that should be disclosed according to the checklist *are* indeed disclosed, automatically conclude that the accounting method *per se* is appropriate. In other words, explicitly establishing that a financial statement contains all the required elements could dilute auditors' judgment of the aggressiveness of the accounting methods that are used in this statement. Next, checklist use could also induce an acceptability bias, such that after using a checklist auditors are more likely to conclude that an aggressive accounting method is acceptable if they believe this is the conclusion preferred by their client. The reason is that a satisfactory score on a disclosure checklist provides a justification for accepting a client-preferred accounting method.

Our experimental results support this reasoning, as we find evidence that the use of a disclosure checklist affected the judgments of auditors evaluating hypothetical audit cases. Specifically, in support of the existence of automation bias, we find that auditors using such a checklist judged aggressive income increasing and decreasing methods as more acceptable than auditors who did not use such a checklist. Moreover, we find that the effect of checklist use on auditors' judgments of the appropriateness of aggressive accounting methods is more positive for auditors who are hired by a firm's management board than for auditors who are hired by an independent audit committee. This latter finding supports the existence of acceptability bias.

Our findings have at least three important implications for auditing practice. First, they clearly suggest that there are downsides to the use of disclosure checklists. Audit firms should take this into account when designing their audits. Of course, this does not mean that they should just banish the use of such checklists, as there is much evidence that checklists can also improve the quality of judgments and decisions. However, they should be aware that checklist use tends to induce biases and can have spillover effects on judgments in areas about which the checklist is uninformative. Another implication relates to our finding that while client type had no direct effect on auditors' acceptance of aggressive accounting, it did moderate the relationship between checklist use and aggressive accounting acceptance. This indicates that threats to auditor independence may be more subtle than has often been assumed. This finding is noteworthy given the inconclusiveness of research in this area and the fact that several studies have failed to establish relationships between client firm characteristics and audit outcomes (e.g., Ashbaugh, LaFond, & Mayhew, 2003). Finally, our findings also suggests that regulatory changes that strengthen the role of independent audit committees might be even more effective than already anticipated in reducing auditors' tendency to side with their clients. Not only does shifting the responsibility for hiring and firing of the auditor to another party than the management board that has produced the audited financial statements largely take away auditors' incentives to collude with management, it could also reduce unconscious acceptability bias that poses an additional threat to auditor independence.

Of course, the limitations of our study should be taken into account when drawing implications from its results. A first limitation pertains to the participants in our experiment, which all work for the same Big Four audit firm in the same region in the Netherlands. While we have no reason to believe that our participants are not representative for auditors from other firms or other geographical locations, we cannot

exclude the possibility that certain overlooked idiosyncrasies of our sample limit the generalizability of our findings. Another potential limitation is that our experiment used a fictitious case. We tried to reduce concerns associated with this limitation as much as possible by developing the case in close cooperation with auditing practioners and pre-testing it with auditors and accounting students. Nevertheless, the choice of specific elements in the scenarios (patents and construction contracts) might have influenced the results. We do note however that the results for the two scenarios are very similar and that our hypotheses are supported for both the patent impairment case, which described an accounting method that aggressively decreased current period earnings, and the construction contract case, which described an accounting method that aggressively increased current period earnings. Finally, a limitation of our study is that it focuses on settings in which the audited financial statements contain all the required elements. The current study does not necessarily allow us to draw conclusions about the effects of checklist use in settings in which the disclosure is relatively incomplete. Incomplete disclosures, however, are likely less common in practice, given managers' awareness of disclosure requirements.

Our study points to several avenues for future research. First, we believe more research is needed on the costs and benefits of decision aids in auditing settings. Given the increase in the use of disclosure checklists, we particularly call for more research on the effects of such checklists on auditors' judgment and decision making. Such future research could examine other potential moderators of the relation between checklists use and auditors' acceptance of aggressive reporting. For example, researchers could investigate how - if at all - this relationship is influenced by financial incentives (e.g., Falk, Lynn, Mestelman, & Shehata, 1999), accountability pressure (e.g., Hoffman & Patton, 1997; Kennedy, 1993) or personality characteristics (Sweeney & Roberts 1997; Windsor &

Ashkanasy, 1995). Future research should also pay more attention to the use of debiasing techniques in auditing settings (cf. Larrick, 2004). Finally, our study highlights the importance of simultaneously assessing different types of variables (i.e. characteristics of corporate governance regimes, accounting standards, client relationships, audit processes and individual characteristics) in the investigation of potential threats to auditor independence. Variables at different levels of analysis can interact in subtle ways in influencing auditors' judgments. Experimental research is particularly well suited to identify and explain such interaction effects (Solomon & Trotman, 2003).

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Appendix

CASE 1: IMPAIRMENT

Management of A&C IND *[A&C IND's independent audit committee]* has hired you to perform the FY2010 audit of historical financial statements. The applicable accounting standard is IFRS. Before discussing your findings with management *[the audit committee]*, please examine carefully the following case.

Situation

On 1 January 2007, company A&C IND acquired a 10-year patent for €20m that provides the exclusive right to develop and market product A. With some customers, A&C IND entered into long-term contracts in 2009 to produce and deliver a set amount of product A each year.

Due to difficult market conditions in 2010, sales of product A declined sharply. As a result, management failed amply to meet its earnings target and missed out on an annual bonus. Impairment testing indicates the patent's fair value less costs to sell to be €11m. The value in use amounts to €9m. Since A&C IND has a contractual obligation to produce and deliver to certain customers, management is unwilling to sell the patent. Hence, it decides to ignore fair value less costs to sell and take value in use as the patent's recoverable amount. Prior to the long-term contracts, in 2008, management used fair value less costs to sell as the recoverable amount for purposes of impairment testing.

The resulting impairment loss in 2010 (€12m - €9m = €3m) is material to A&C IND's financial statements. The preliminary FY2010 financial statements, as prepared by A&C IND's management, state the following:

FY2010 Financial Statements

The patent acquired provides an exclusive right to develop and market product A. It has a 10-year finite useful life and is carried at cost less accumulated amortization and impairment losses. Amortization is calculated using a straight-line method over the useful life. The amortization charge is recognized within the 'depreciation and amortization expenses' of the income statement.

Historical cost		
Balance at 1 January 2009	€20m	
Balance at 31 December 2009 and 1 January 2010	€20m	
Balance at 31 December 2010	€20m	
Accumulated amortization and impairment losses		
Balance at 1 January 2009	€4	
Amortization charge		€2m
Impairment loss		€0
Balance at 31 December 2009 and 1 January 2010	€6m	
Amortization charge		€2m
Impairment loss		€3m
Balance at 31 December 2010	€11m	
Carrying amount		
Balance at 1 January 2009	€16m	
Balance at 31 December 2009 and 1 January 2010	€14m	
Balance at 31 December 2010	***€9m***	

Based on a value in use calculation, an impairment loss of €3m is recognized in respect of the intangible asset 'patent'. This impairment is primarily due to increased price competition resulting from the market entry of a substitute product. The pre-tax risk adjusted discount rate in the most recent value in use calculation is 11.7%. In the previous value in use calculation in 2009 this was 10.2%.

The impairment loss is recognized as a separate line item within operating profit.

Upcoming is the closing meeting. Management *[The independent audit committee]* has appointed you and wants to discuss your audit findings and the opinion you are planning to issue. In advance of the meeting – as one of the audit's final steps – you are now asked to *[fill out the IFRS Disclosure Checklist and]* judge the appropriateness of A&C IND's accounting.

IFRS Disclosure checklist [LIST conditions only]

Please complete the following IFRS Disclosure Checklist with respect to A&C IND's FY2010 financial statements (tick the appropriate box: 'yes', 'no', or 'n/a').

		Disclosure made		
	Intangible Assets	***Yes***	***No***	***N/A***
IAS 38.118	Does the entity disclose the following for each class of intangible assets:			
	a. Whether the useful lives are indefinite or finite and, if finite the useful lives or the amortization rates used	□	□	□
	b. The amortization methods used for intangible assets with finite useful lives	□	□	□
	c. The gross carrying amount and the accumulated amortization (aggregated with accumulated impairment losses):			
	► at the beginning of the reporting period	□	□	□
	► at the end of the reporting period	□	□	□
	d. The line item(s) of the statement of comprehensive income in which any amortization of intangible assets is included	□	□	□
	e. A reconciliation of the carrying amount at the beginning and end of the reporting period, showing:			
IAS 36.126	► impairment losses recognized in profit or loss during the reporting period under IAS 36, if any	□	□	□
	► any amortization recognized during the reporting period	□	□	□
	Impairment			
IAS 36.126	Does the entity disclose the following information for each class of assets:			
	a. The amount of impairment losses recognized in profit or loss during the period and the line item(s) of the statement of comprehensive income in which those impairment losses are included	□	□	□
IAS 36.130	If an impairment loss for an individual asset, including goodwill, or a cash-generating unit is recognized or reversed during the period and is material, does the entity disclose:			
	a. The events and circumstances that led to the recognition or reversal of the impairment loss	□	□	□
	b. The amount of the impairment loss recognized or reversed	□	□	□
	c. For an individual asset:			
	► the nature of the asset	□	□	□
	d. Whether the recoverable amount of the asset is its fair value less costs to sell or its value in use	□	□	□
	e. If recoverable amount is fair value less costs to sell, the basis used to determine fair value less costs to sell (such as whether fair value was determined by reference to an active market)	□	□	□
	f. If recoverable amount is value in use, the discount rate(s) used in the current estimate and previous estimate of value in use	□	□	□

CASE II: Construction contracts

Management of A&C IND *[A&C IND's independent audit committee]* has hired you to perform the FY2010 audit of historical financial statements. The applicable accounting standard is IFRS. Before discussing your findings with management *[the audit committee]*, please examine carefully the following case.

Situation

As a consequence of the global financial turmoil, company A&C IND faces difficulties to meet debt covenants on a significant bank loan it holds. Notwithstanding more favorable outlooks, construction orders remain scarce at the moment. In its portfolio though, A&C IND has a contract outstanding to build a new terminal. This major six-year project commenced in 2008. Overall costs were estimated to total €100m. In accordance with IAS 11, contract revenue and costs are recognized using the percentage of completion method if a reliable estimate of the contract outcome is possible. The stage of completion is measured by the proportion that contract costs incurred to date bear to the estimated total contract costs.

Due to its early stage, A&C IND was unable to estimate reliably the outcome of the terminal construction contract in FY2008 and FY2009. Costs incurred in 2008 and 2009 were €10m and €12.5m respectively. Both exceeded pre-calculations. Management, however, still feels comfortable in 2010 about the initial overall cost estimate (€100m). Also, it deems some operational delays insignificant. Furthermore, management states that all criteria have been met to reliably estimate the contract outcome in 2010. Management estimates it at €125m. Costs incurred in 2010 were €22.5m. A cumulative €35m has been billed and received from 2008 to 2010.

Finally, a claim was filed against A&C IND by surrounding farmers, related to the construction of the terminal. Late 2010, the lower court tentatively allowed this claim for €5m. Management, nonetheless, strongly disagrees with the legal ruling and has lodged an appeal with the higher court. A&C IND's outside lawyer feels unable to reliably estimate the chances of success.

The preliminary FY2010 financial statements, as prepared by A&C IND's management, state the following.

FY2010 Financial statements

Construction contracts are accounted for using the percentage of completion (PoC) method. Per contract, the stage of completion is determined by the ratio of costs incurred to the expected total cost (cost-to-cost method). Revenue from construction contracts is reported in accordance with IAS 18 *Revenue* and IAS 11 *Construction contracts*.

When the outcome of a construction contract cannot be estimated reliably, revenue is recognized only to the extent of the contract costs incurred (zero profit method). Receivables from PoC contracts comprise the aggregate amount of costs incurred and recognized profits less advances received (negative balances are disclosed under Payables).

	Terminal construction contract	
	2010	2009
Revenue from construction contracts	€33.75m*	€12.5m
Expenses related to construction contracts	€22.5m	€12.5m

**: 125m x [(10m + 12.5m + 22.5m) / 100m] = €56.25m*
56.25m – 10m – 12.5m = €33.75m

As per 31 December 2010, aggregate costs incurred and profits recognized on the construction contract amounted to €56.25m (2009: €22.5m), offset against advances received of €35m (2009: €20), giving rise to receivables of €21.25m (2009: €2.5m) and liabilities of €0 (2009: €0).

Related to the terminal construction contract, legal proceedings were started against A&C IND as it allegedly polluted the surroundings. Management firmly denies this claim. Currently, litigation is pending. A €5m contingent liability has been included in the notes.

Upcoming is the closing meeting. Management *[The independent audit committee]* has appointed you and wants to discuss your audit findings and the opinion you are planning to issue. In advance of the meeting – as one of the audit's final steps – you are now asked to *[fill out the IFRS Disclosure Checklist and]* judge the appropriateness of A&C IND's accounting.

IFRS Disclosure checklist [LIST conditions only]

Please complete the following IFRS Disclosure Checklist with respect to A&C IND's FY2010 financial statements (tick the appropriate box: 'yes', 'no', or 'n/a').

		Disclosure made		
	Construction contracts	***Yes***	***No***	***N/A***
IAS 11.42	Does the entity present the following amounts for construction contracts separately in the statement of financial position			
	a. The gross amount due from customers for contract work as an asset	□	□	□
	b. The gross amount due to customers for contract work as a liability	□	□	□
IAS 11.39	Does the entity disclose:			
	a. The amount of contract revenue recognized as revenue in the period	□	□	□
	b. The methods used to determine the contract revenue recognized in the period	□	□	□
	c. The methods used to determine the stage of completion of contracts in progress	□	□	□
IAS 11.40	Does the entity disclose the following for contracts in progress at the end of the reporting period:			
	a. The aggregate amount of costs incurred and recognized profits (less recognized losses) to date	□	□	□
	b. The amount of advances received	□	□	□
IAS 11.45	Does the entity disclose any contingent assets and contingent liabilities in connection with construction contracts	□	□	□
IFRIC 15.20 *IAS 18.14*	If the entity recognizes revenue using the percentage of completion method for agreements that meet all the criteria in IAS 18.14 as construction progresses, does the entity disclose:			
	a. How it determines which agreements meet all the criteria in IAS 18.14 continuously as construction progresses	□	□	□
	b. The amount of revenue arising from such agreements in the period	□	□	□
	c. The methods used to determine the stage of completion of agreements in progress	□	□	□

IAS 18 *Revenue*

14 Revenue from the sale of goods shall be recognized when all the following conditions have been satisfied:

(a) the entity has transferred to the buyer the significant risks and rewards of ownership of the goods;

(b) the entity retains neither continuing managerial involvement to the degree usually associated with ownership nor effective control over the goods sold;

(c) the amount of revenue can be measured reliably;

(d) it is probable that the economic benefits associated with the transaction will flow to the entity; and

(e) the costs incurred or to be incurred in respect of the transaction can be measured reliably.

Table 1

Participant characteristics.

	Mean	Median	SD	Min	Max
Age	28.11	27	5.67	21	52
Years of experience	5.07	4	4.40	1	20

		Frequencies
Gender	Male	32 (58.2%)
	Female	23 (41.8%)
Rank	Junior staff	1 (1.8%)
	Staff	25 (45.5%)
	Senior staff	18 (32.7%)
	(Senior) Manager	9 (16.4%)
	Director / Partner	2 (3.6%)

Notes: $n = 55$.

Table 2

Descriptive statistics per treatment condition.

		NOLIST				LIST				Total			
		n = 13				*n* = 14				*n* = 27			
		Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max
MAN	DV1	3.77	2.39	0	8	6.93	1.38	5	10	5.41	2.48	0	10
	DV2	3.69	1.89	1	7	6.57	1.74	4	10	5.19	2.30	1	10
		n = 15				*n* = 13				*n* = 28			
		Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max
AUD	DV1	4.67	1.80	2	8	5.46	2.44	1	10	5.04	2.12	1	10
	DV2	4.67	1.68	2	7	4.92	1.70	2	7	4.79	1.66	2	7
		n = 28				*n* = 27				*n* = 55			
		Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max
Total	DV1	4.25	2.10	0	8	6.22	2.06	1	10	5.21	2.29	0	10
	DV2	4.21	1.81	1	7	5.78	1.89	2	10	4.98	1.99	1	10

Notes: Overall *n* = 55.
NOLIST = Experimental condition in which auditors did not complete a disclosure checklist before rating the acceptability of the proposed accounting treatment.
LIST = Experimental condition in which auditors completed a disclosure checklist before rating the acceptability of the proposed accounting treatment.
MAN = Experimental condition in which the auditor was hired by the company's management board.
AUD = Experimental condition in which the auditor was hired by the audit committee of the company's supervisory board
DV1 = The rated acceptability of the accounting treatment in the first case (impairment of a patent) on an eleven-point Likert scale (*Fully unacceptable – Fully acceptable*).
DV2 = The rated acceptability of the accounting treatment in the second case (construction contract) on an eleven-point Likert scale (*Fully unacceptable – Fully acceptable*).

Table 3

MANCOVA results.

	Pillai's trace	*F*-value	Hyp. df	Error df	2-tailed *p*-value	Partial η^2
(Intercept)	0.800	95.989	2	48	0.000	0.800
Covariates						
Gender	0.002	0.042	2	48	0.959	0.002
Experience	0.098	2.613	2	48	0.084	0.098
Between subjects						
Checklist use	0.296	10.105	2	48	0.000	0.296
Client type	0.011	0.275	2	48	0.761	0.011
Checklist use × Client type	0.170	4.902	2	48	0.012	0.170

Notes: $n = 55$.
Checklist use = whether the auditor completed a disclosure checklist before rating the acceptability of the proposed accounting treatments.
Client type = whether the auditor was hired by the company's management board or by an audit committee of the company's supervisory board.

Table 4

Univariate (ANCOVA) results.

	DV	Sum of squares	df	Mean square	*F*-value	2-tailed *p*-value	Partial η^2
(Intercept)	DV1	337.916	1	337.916	81.879	0.000	0.626
	DV2	423.065	1	423.065	141.067	0.000	0.742
Covariates							
Gender	DV1	0.187	1	0.187	0.045	0.832	0.001
	DV2	0.085	1	0.085	0.028	0.867	0.001
Experience	DV1	6.778	1	6.778	1.642	0.206	0.032
	DV2	8.835	1	8.835	2.946	0.092	0.057
Between subjects							
Checklist use	DV1	52.887	1	52.887	12.815	0.001	0.207
	DV2	32.340	1	32.340	10.783	0.002	0.180
Client type	DV1	1.324	1	1.324	0.321	0.574	0.007
	DV2	0.966	1	0.966	0.322	0.573	0.007
Checklist use × Client type	DV1	22.899	1	22.899	5.549	0.023	0.102
	DV2	17.710	1	17.710	5.905	0.019	0.108
Error	DV1	202.223	49	4.127			
	DV2	146.953	49	2.999			

Notes: $n = 55$.
Checklist use = whether the auditor completed a disclosure checklist before rating the acceptability of the proposed accounting treatments.
Client type = whether the auditor was hired by the company's management board or by an audit committee of the company's supervisory board.
DV1 = The rated acceptability of the accounting treatment in the first case (impairment of a patent) on an eleven-point Likert scale (*Fully unacceptable – Fully acceptable*).
DV2 = The rated acceptability of the accounting treatment in the second case (construction contract) on an eleven-point Likert scale (*Fully unacceptable – Fully acceptable*).

Table 5

Exit questionnaire items.

Item	NOLIST-MAN Mean (SD)	NOLIST-AUD Mean (SD)	LIST-MAN Mean (SD)	LIST-AUD Mean (SD)
(1) I felt able to make an objective, balanced judgment of A&C IND's FY 2010 accounting……	4.92 (1.71)	4.73 (1.39)	4.43 (1.40)	4.31 (1.75)
(2) I felt comfortable with my judgment concerning the acceptability of A&C IND's FY2010 accounting……	5.00 (1.08)	5.00 (1.46)	4.29 (1.54)	4.85 (1.28)
(3) I looked very critically at A&C IND's FY2010 accounting…….....	5.38 (1.19)	5.33 (1.29)	5.36 (1.34)	4.77 (1.69)
(4) I gave some thought to which party appointed and remunerated me while judging the acceptability of A&C IND's FY2010 accounting…….....	2.23[b] (1.96)	4.00[a] (1.85)	2.71 (1.94)	3.07(1.89)
(5) I used a structured approach to judge the acceptability of A&C IND's FY2010 accounting……	5.31 (1.11)	5.73[a] (1.03)	5.21 (1.37)	4.62[b] (1.26)
(6) I considered A&C IND's FY2010 accounting to be slightly aggressive…….....	4.85 (1.82)	5.00 (1.25)	4.57 (1.22)	5.16 (1.63)
(7) In my opinion, A&C IND's FY2010 accounting was ethical…….....	3.38[b] (1.33)	4.30[a] (1.03)	4.14 (0.95)	4.00 (1.35)

Notes: n = 55.

All items scored on a 7-point Likert scale (*totally disagree – totally agree*).

The means are compared using LSD post-hoc analysis. Within each row, means with superscript a are significantly higher than means with superscript b (two-tailed $p < 0.05$).

See notes Table 2 for a description of the experimental conditions.

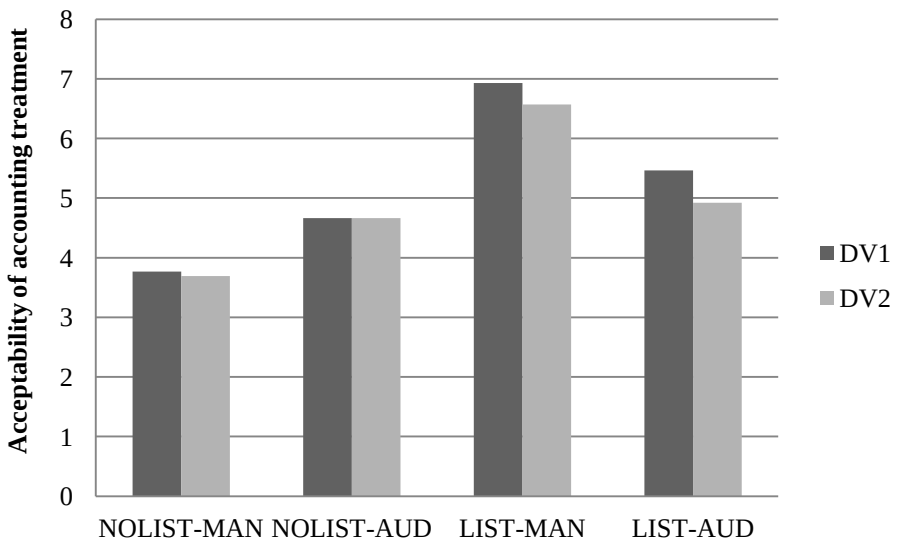

Fig. 1. Dependent variable scores per treatment condition. See the notes to Table 2 for a description of the experimental conditions and the dependent variables.

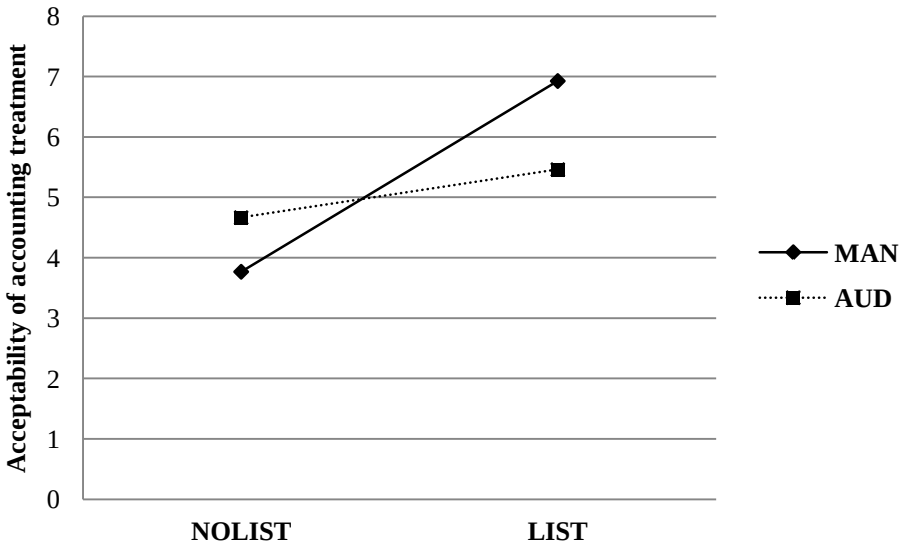

Fig. 2. Univariate results for DV1. See the notes to Table 2 for a description of the experimental conditions and the dependent variable.

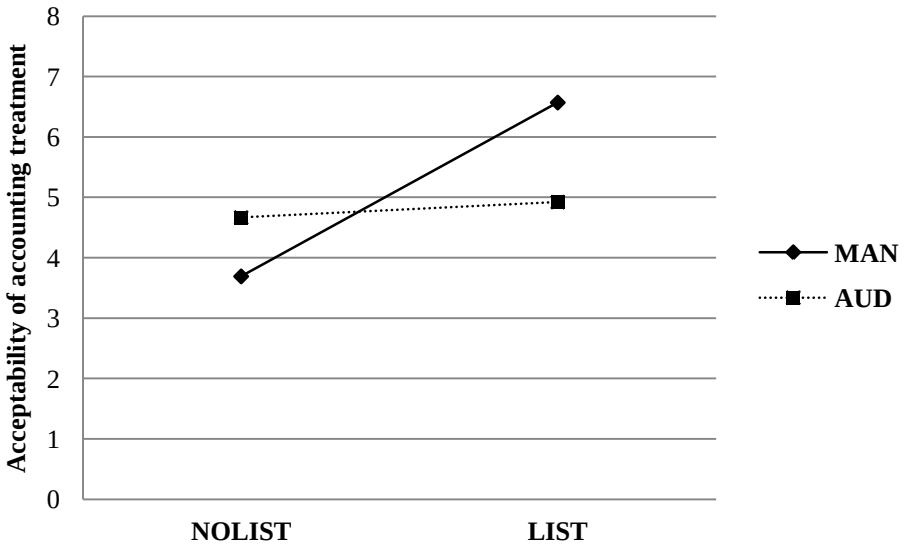

Fig. 3. Univariate results for DV2. See the notes to Table 2 for a description of the experimental conditions and the dependent variable.