

Joint audit – a means to reduce bias and enhance scepticism in financial statement audits?

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Abstract

This paper proposes a contribution of joint audit to audit quality through the mitigation of cognitive bias during the audit process, a potential largely overlooked in the prior literature. With reference to social and psychological factors impacting the quality of auditor hypothesis formation and the search for corroborating evidence, we contend that cognitive bias particularly affects the application and maintenance of an appropriate level of professional scepticism. Building on the extant literature on bias and heuristics in single audit arrangements, the paper suggests that the impact of these factors on audit quality may be less pronounced under some joint audit arrangements than for a single engagement team. Mitigating bias, in turn, could enable a more consistent application of an appropriate level of professional scepticism, an attitude of critical importance to audit quality. We review and evaluate theoretical frameworks derived from extant research to guide future applied studies and extend the discussion on bias and professional scepticism in audit, presenting a novel and previously ignored role for joint audit arrangements.

Key words: Joint audit, bias mitigation, professional scepticism

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I. INTRODUCTION

Current concerns about audit practice and audit quality focus on concepts of auditor competence and independence, and the application of professional scepticism (House of Commons, HoC, 2018; Financial Reporting Council, FRC, 2018a,b,c), adding to long standing discussions *re* the contribution of audit to corporate governance (Metcalf, 1976; Shields, 1994; Sarup, 2004; House of Lords, HoL, 2011; European Commission, EC, 2010, 2011a, 2011b, 2011c; Competition Commission, CC, 2011, 2013a, 2013b). In performing an external audit, and prior to forming an audit opinion, the auditor is required to seek sufficient evidence to support managerial assertions and judgements. The auditor should test the validity of these assertions by conducting a number of audit tests, and should never accept managerial assertions on the basis of trust, prior experience, or good faith alone. Nevertheless, regulatory audit quality reviews frequently critique the sufficiency and quality of evidence gathered in support of audit judgements (Public Company Accounting Oversight Board, PCAOB, 2008; Audit Quality Review, AQR, 2013, 2014; FRC, 2018a,b,c). The present paper adds to and expands this discussion by a) investigating causes of possible blind spots of auditors (Prentice, 2000a, 2000b; Langevoort, 2001; Coffee, 2001, 2002, 2003; HoC 2018) with reference to heuristics and bias in auditor judgment formation and the maintenance of an appropriate level of professional scepticism (Tversky and Kahneman, 1971, 1974; Bazerman, Loewenstein, and Morgan, 1997; Coffee, 2002; Moore, Tanlu, and. Bazerman, 2010; Prentice, 2000a, 2000b, 2012; FRC, 2018a,b,c), and b) by exploring joint audit as a means to bias mitigation and enhancing professional scepticism.

Joint audit was one of the measures proposed in Europe to address perceived deficiencies in the audit function after the 2007/2008 global financial crisis (EC, 2010; European Parliament, 2013), with joint audit being defined by the European Commission (EC, 2010, p. 16) as an audit which is conducted by ‘two different audit firms who share the audit work and jointly sign the audit report’. Joint audit arrangements have been features of the listed company market in France since 1966 and in Denmark between 1930 and 2005. Additional support for this measure is provided by the Competition and Markets Authority’s (UK) December 2018 proposal for audit reform in the UK which includes the mandatory use of joint audit. However, joint audit remains highly controversial in application and theory, with opinions about relative costs and benefits of this tool widely divided (Ratzinger-Sakel, Audousset-Coulier, Kettunen, and Lesage, 2012; Business, Energy and Industrial Strategy (BEIS) Committee, 2019).

Nevertheless, we suggest that a dismissal of this tool as a potential means of addressing some of the perceived deficiencies in the audit function (for example, HoL, 2011; Ratzinger-Sakel et al., 2012; CC, 2013a, 2013b) may be somewhat premature, and risks ignoring a potential value in bias mitigation and the enhancement of professional scepticism (Koonce, 1993; Mazars, 2012). Support for a behavioural perspective is provided by reviews into audit practice which indicate that auditors do not consistently apply procedures or characteristics critical to audit quality (e.g. professional scepticism, collecting appropriate relevant evidence to support managerial assertions) or only do so in selected parts of the auditing process, with social, psychological and situational factors deemed to underlie some of these

deficiencies (PCAOB, 2008; AQR, 2013, 2014; Messier, Prawitt and, Glover, 2013; Hurtt, Brown-Liburd, Earley, and Krishnamoorthy, 2013; FRC, 2018a,b,c).

Our discussion builds on and extends research published subsequent to Koonce's (1993) seminal paper which outlined and supported a behavioural perspective to audit procedures. A behavioural perspective focuses on social, psychological and cognitive factors which affect the quality of auditor judgements and decision making processes to reflect on, *inter alia*, a general susceptibility of individuals to drift from accepted or prescribed behavioural norms (Maccoby, 2000); the tendency to acquiesce to or uncritically accept assertions (Prentice, 2000a, 2000b; Langevoort, 2001; Coffee, 2001, 2002, 2003); and socio-psychological effects on the quality of judgements and decision-making of groups (Janis, 1989). Cognitive biases have also been observed to impact on the level of professional scepticism and objectivity applied by auditors in the performance of their work (Auditing Practices Board, APB, 2012; FRC, 2018a,b,c). We suggest that some joint audit arrangements may have the potential to enhance the quality of audit by mitigating biases that affect auditor judgement and may allow for a more consistent application of an appropriate level of professional scepticism during audit.

The paper proceeds as follows: The next section provides a summary of key arguments for and against joint audits. Subsequently, the paper elaborates on behavioural factors that affect the quality of auditor judgments and decision making. We then discuss a potential role of joint audit in mitigating the impact of cognitive bias during an audit. Finally, we review and evaluate theoretical frameworks derived

from extant research to guide future applied studies on the effects of joint audit arrangements on audit quality.

II. ARGUMENTS FOR AND AGAINST JOINT AUDIT

We deem it useful at this point to briefly summarise some of the key arguments and counter-arguments *re* such arrangements. Those in favour of joint audit emphasise positive effects on audit quality, audit market competition, and the reliance that may be placed on the audit opinion, as summarised in Table 1.

Table 1: Key arguments for joint audit.

Joint audits support the retention of knowledge of the client during audit firm rotation, thereby providing continuity as one firm remains in place that is familiar with the business (Herbinet [Mazars], as reported in Orlik, 2011a).
Joint audits can assist mid-tier firms to acquire major clients, provide them with the experience to take on FTSE clients, and allows them to invest as needed to grow their presence in the large company market (Raynor [RSM Tenon], as reported in Orlik, 2011b). Kermiche and Piot (2016) find that the French joint audit system maintains market openness and is effective in mitigating Big-4 domination.
Joint audit can improve audit quality through having two pairs of eyes, and by complementing and combining experience (Raynor [RSM Tenon], as reported in Orlik, 2011a). However, as the present paper will argue, the mere presence of a second pair of eyes may not be sufficient to improve audit quality. Critical are the aims and objectives of such a second pair of eyes, and we suggest that this may have a greater impact by a focus on reviewing the processes underlying the audit judgement

formation during audit.

Joint audits would appear to be particularly ‘well suited to banks because of their systematic risks, complexity and the inherent subjectivity in their financial statements’ (Herbinet, statement, HoL 2011, para 38). In this way, the combined expertise of two audit firms may help minimise the risk of flawed judgements in the assessment of complex financial instruments and risks (Herbinet, 2011; Mazars, 2012): and might also be useful in the assessment of managements’ going concern assertion in banks (HoL ,2011).

Countering arguments that non-Big-4 firms might be considered inferior partners, Raynor (RSM Tenon) asserts: ‘We may be smaller, but we can’t be junior. We are there to play a very significant role. No one will go in and allow themselves to be dictated to’ (as reported in Orlik, 2011b): an opinion seemingly supported by views from corporate clients in France that joint auditors seem to work well together and that joint audits provide benefits for both the client and outside stakeholders (HoL, 2011, 15).

The EC identified a further advantage of joint audits in the mitigation of disruption in the audit market should one of the Big-4 firms fail, when one of the joint auditors is a non-Big-4 firm (EC, 2010, 16).

Companies employing joint auditors have been found to display greater earnings conservatism, smaller income-increasing abnormal accruals, better credit ratings, and a lower perceived risk of becoming insolvent within the next year (Francis, Richard, and Vanstraelen, 2009; Kallunki, Nilsson, and Zerni, 2012; Zerni, Haapamäki, Järvinen, and Niemi, 2012). This positive contribution to audit quality is attributed to a combination of the increased potential for auditor rotation, lowered economic bonding between auditor and client, and a lower likelihood of simultaneous

acquiescence to client pressure. Lobo, Paugam, Zhang, and Casta (2017) note that Big-4/non-Big-4 auditor pair combinations enhance transparency re impairment disclosures, increase the likelihood of companies booking an impairment (and a more material one) compared to companies audited by a Big-4/Big-4 auditor pair where there is a greater likelihood of impairment.

If the work performed by each audit engagement team is reviewed by the other, this introduces an additional element of quality review, and may allow an element of forensic auditing to be introduced. Along similar lines, critical issues stemming from a review of a client's financial statements may be more carefully considered, and an appropriate response to such reviews decided, jointly.

If the work allocation between the joint audit firms is switched after a set number of years, this may counter the risk of over-familiarity and the application of insufficient scepticism.

Meanwhile, those opposed to joint audits draw attention to perceived disadvantages, emphasizing cost concerns, administrative burdens and a potential for confusion over responsibilities by respective audit teams, as summarized in Table 2.

Table 2: Key arguments against joint audit.

The FRC points to the potential for confusion over respective responsibilities, free rider issues, and attribution of poor quality audit work to the other engagement team (FRC, 2010, para 1.8).

The FRC further points to a risk of client arbitrage between the two firms, where difficult or contentious judgements are involved (FRC ,2010, para 1.8).

Haddrill (Chief Executive, FRC) suggests that some French companies deem joint

audits to be a ‘nightmare [because] auditors spend all their time passing the buck’, while Tilley (Chief Executive, CIMA) contends that joint audits can become a bureaucratic nightmare’ (HoL, 2011, para 39).

Michaels (BDO) points to the danger of non-Big-4 firms being regarded as inferior partners in joint audits with Big-4 firms, and that his firm feared being seen as ‘the poor relation of the Big-4 to make up the numbers’ (HoL, 2011, para 39).

A Big-4 firm senior partner (under conditions of anonymity) noted that joint audits may allow greater opportunities for fraud to occur and remain undetected, observing that ‘the biggest fraud that ever took place in the UK, namely BCCI [Bank of Credit and Commerce International], had joint auditors’ (as reported in Christodoulou, 2010).

Joint audits require the audit firms to agree on the proportion of audit work each will perform, how the work will be divided between them, and how disagreements about audit issues will be settled. An establishment of such clear lines of responsibility may not be easy to achieve. With this concern in mind, the EC suggested that clear lines of responsibility for the overall audit opinion as well as a resolution/disclosure mechanism for differences of opinion’ would need to be established (EC, 2010, 16).

The EC estimated that joint audits might result in a 10 percent increase in audit fees (EC, 2010). Some authors claim significantly higher fees (e.g. André, Broye, Pong, and Schatt, 2015): while Raynor (RSM Tenon) challenges the idea of any fee increase (as reported in Orlik, 2011b). Ittonen and Trønnes (2014) find that joint engagement partners may be associated with higher audit quality, but not with higher audit fees. In contrast, Velte and Azibi (2015) report the impact of joint audits on audit quality to be controversial but find evidence for higher audit costs.

From the above summary, it can be seen that legitimate arguments may be advanced both for and against the adoption of joint audits. Studies investigating their effect on audit fees and audit quality have produced conflicting results, and it is difficult to ascertain where the weight of the arguments lies (Lesage, Ratzinger-Sakel, and Kettunen, 2011; Ratzinger-Sakel et al., 2012). While some studies have found that joint audits to be associated with higher fees (Holm and Thinggaard, 2010; Zerni et al., 2012; Kallunki et al., 2012; André et al., 2015; Velte and Azibi, 2015), other investigations find similar or lower fees (Gonthier-Besacier and Schatt, 2007; Thinggaard and Kietzner, 2008; Ittonen and Peni, 2012; Holm and Thinggaard, 2014; Ittonen and Trønnes, (2014).

This ambiguity is reflected in public discussions on the value of joint audit. After considering the evidence presented to it, the House of Lords (2011), for example, stated that it was ‘not convinced that [joint audits] would deliver better [audited financial statements but they] would certainly add bureaucracy and cost’ (para 40). In contrast, based on his experience of joint audits, David Herbinet (Mazars) contends that they have more advantages than disadvantages. In his view, ‘It encourages new players to come into the market by offering visibility, and facilitates any change in auditor [by removing the risk of appointing a new sole auditor]. ... There is no evidence that ... it is expensive or that it means a ‘race to the bottom’ in terms of audit quality’ (as reported in Goundar, 2010).

In the following discussion, we will reflect on some of the above comments, without claiming to conclusively settle the argument for or against the use of joint audit. However, we suggest that some of the arguments and views presented above, and at times found in the literature, might be based on partial investigations which largely bypass the question to what purpose joint audit arrangements might best be applied,

and, critically, ignore or dismiss cognitive and social factors which demonstrably affect auditor judgment and audit opinion quality in practice. Hence, in this paper we aim to go beyond traditional (and inconclusive) perspectives, to explore behavioural factors impacting the quality of auditor judgments and the ability to apply and maintain an appropriate level of professional scepticism, reviewing joint audit arrangements as a tool to counter such factors.

Following Nelson's (2009) framework, which suggests that weak sceptical judgment (the failure to recognize a problem) and/or insufficient sceptical action (the failure to act on a recognized problem) combine to form insufficient application of scepticism, Hurtt et al. (2013) investigate antecedents to sceptical judgements and the lack of sceptical action in the existing literature encouraging additional venues for investigation, including a focus on auditor evaluation, responsibility to stakeholders, and unconscious bias. Drawing on the behavioural literature on audit, we heed Hurtt et al.'s 2013 call for investigation of the effects of unconscious factors on audit quality, and extend the literature with a discussion of a potential role of joint audit in bias mitigation, and as a tool to enhance professional scepticism.

III. BIAS AND PROFESSIONAL SCEPTICISM IN AUDIT

In annual reports on audit quality inspections of the Big-4 and other significant firms, the FRC's Audit Inspection Unit (AIU), and its successor the Audit Quality Review (AQR), express ongoing concerns about the consistency in application of professional scepticism, auditor independence and audit quality, with particular apprehensions about the sufficiency and quality of evidence supporting significant audit judgements in the assessment of managerial assumptions and assertions underlying revenue

recognition, going concern, goodwill and other intangibles (AIU, 2009, 2010, 2011, 2012; AQR, 2013, 2014; FRC, 2018a,b,c). Several instances were identified where auditors sought to obtain corroborative evidence rather than challenging the judgements and assertions of their client's management, and where differing and conflicting judgements were accepted by the same firm for clients operating in similar industries. In the 2012/2013 reports, the AIU/AQR noted a persistent lack of progress in the understanding and/or appreciation by some of the audit teams of the importance of identifying and assessing threats to auditor independence and to sufficiently counter those threats. Lack of professional scepticism or its inconsistent application remains a concern in some of the FRC's most recent audit quality reviews (FRC, 2018 a,b,c).

Fundamental to audit quality (PCAOB, 2011a, 2015; European Commission 2010; APB 2012; Hurtt et al., 2013; International Auditing and Assurance Standards Board 2012, 2013, 2015; FRC, 2018a,b), professional scepticism refers to 'auditor judgements 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, 1). Other definitions describe professional scepticism as: An attitude that emphasises a conservatism bias in audit judgement (McMillan and White, 1993); A counterbalance to trust (Shaub, 1996); An ability to detect fraud (Choo and Tan, 2000); A questioning mind and critical assessment of evidence (AICPA, 2013); and further along the spectrum, presumptive doubt which suggests that auditors apply a forensic auditing mind set, where some level of dishonesty is assumed unless evidence indicates otherwise (Bell, Peecher, and Solomon, 2005; Nelson, 2009). Where audit failures are identified, insufficient or inconsistent application of

professional scepticism is frequently cited as a key deficiency (e.g. Center for Audit Quality, 2010; HoL, 2011; Glower and Prawitt, 2014; PCAOB, 2008, 2011b, 2015).

While the concept of auditor independence finds broad reflection in the auditing regulatory framework, this tends to frame independence in the context of auditors making a conscious choice between conducting a professional, unbiased audit and intentional collusion with a firm's management (DeAngelo, 1981; Antle, 1984; Simunic, 1984; Prentice, 2000a, 2000b, Bazerman et al., 2002; Moore et al., 2010; Bazerman, 2011, 2012). However, such an interpretation deemphasizes the subjective nature of judgements during audit (Hogarth, 1991), ignores determinants of professional scepticism (Hurt et al., 2013), and largely disregards the unconscious intrusion of bias to the judgement and decision-making processes during audit (Prentice, 2000a, 2000b; Bazerman, 2011, 2012; Gwilliam, Marnet, and Teng, 2014; Fairchild, Gwilliam, and Marnet, 2019).

In contrast, behavioural research would suggest that auditors' independence and performance appear to be strongly affected by client retention incentives (Hackenbrack and Nelson, 1996; Salterio and Koonce, 1997) and accountability pressures under conditions of uncertainty, when no clear guidelines exist to support a particular interpretation of managerial assertions (Boiney, Kennedy, and Nye, 1997; Bazerman et al., 1997; Bazerman, Loewenstein, and Moore, 2002a, 2002b). The mere proximity to the client appears sufficient to introduce bias in perception, interpretation and judgement, resulting in auditor opinions favourable to the client, with subsequent pressures to self-justify initial acceptance of accounting interpretations leading to yet

closer affiliation with a client's view (Zajonc, 1968; Bazerman et al., 1997, 2002a; O'Connor, 2002, Kahle and White ,2004).

Accounting uncertainty has been found to impact negatively on auditor objectivity, despite potential damage to auditor reputation (Mayhew, Schatzberg, and Sevcik, 2001), and auditors have been found to utilize a number of specific heuristics when encountering such uncertainty, including: The representativeness heuristic (Uecker and Kinney, 1977; Smith and Kida, 1991; Kellogg and Kellogg, 1991); Anchoring and adjustment (Joyce and Biddle, 1981a, 1981b; Bonner and Pennington, 1991; Bedard and Wright, 1994; Hirst and Koonce, 1996); and Availability (Bonner and Pennington, 1991; Haynes and Kachelmeier, 1998). Auditors also appear subject to tendencies towards cognitive dissonance reduction and escalation of commitment (Weick, 1983): display a strong tendency to seek and use confirmatory rather than disconfirmatory evidence (Waller and Felix, 1984); and self-rationalize decisions (Peecher, 1996). Overconfidence in their capabilities may lead auditors to commit errors by failing to check working papers before reaching conclusions (Ramsay, 1994), and there appears to be little correlation between auditors' confidence in their ability to make going-concern judgments and their accuracy or prevalence in actual judgements (Kida, 1984; Campisi and Trotman, 1985), possibly also reflecting unwarranted reliance on self-perceptions of ethics (Kida, 1984; Cohen, Pand, and Sharp, 1995; Kent and Weber, 1998).

Knowledge of client and colleagues' views, and adoption of assertions by client management, have been found to lower auditors' search intensity for dis-confirmatory information (Tetlock, 1992; Hackenbrack and Nelson, 1996), while in situations

where a client's and colleagues' opinions are unknown, auditors were found to engage in more complex evidence gathering to support their opinion (Lerner and Tetlock, 1999; Koonce, Anderson, and Marchant, 1995). Responsibility for a prior decision/opinion can result in cognitive dissonance and escalation of commitment, reinforcing the tendency to seek confirmatory rather than disconfirmatory evidence (Festinger, 1957; Weick, 1983), a bias detected in the auditing context (Joyce and Biddle, 1981a, 1981b; Waller and Felix, 1984; Kahle and White, 2004) and noted by the FRC (AIU, 2009, 2010, 2011, 2012; AQR, 2013, 2014). In turn, unwarranted trust in the ability of professionals to withstand or adequately compensate for bias risks implementing and perpetuating ineffective policy recommendations, guidelines, standards and legal judgements (Bazerman et al., 1997; Moore et al., 2010).

An appreciation of the potential impact of psychological and behavioural factors on audit quality is reflected in a series of reports on the definition, role and importance of scepticism in audit by the APB (1998, 2009, 2011, 2012). The APB calls for the adoption of a challenging, and appropriately sceptical, approach to key issues, assumptions, assertions and evidence during the audit process. In particular, it considers scepticism a critical ingredient to the independence of mind ('independence in fact' or 'objectivity'), suggesting: '... scepticism is a personal quality that relates to the attitude of individual auditors: it is characterised by a questioning, probing – almost suspicious – approach being applied throughout the audit' (APB, 1998, para 3.7). In 2011 the APB further questions whether a neutral position (or even an 'inquiring mind') is an appropriate and sufficient position for an auditor to adopt (APB, 2011, para 27). Subsequently, the APB refines its concerns by reflecting on heuristics and biases as factors that can affect an auditor's ability to apply the

necessary scepticism when conducting an audit, and suggests the need for mechanisms integral to the audit process to actively counter the effect of cognitive bias (APB, 2012).

Meanwhile, in reflection on the US audit market, an extensive review of behavioural research on the analytical review process by Messier et al. (2013) observes that PCAOB inspections (PCAOB, 2008; 2012) raised concerns about the application of a number of audit procedures, including: The formation of insufficiently precise expectations; Setting of inappropriate tolerable differences; Failures to investigate significant differences; Weaknesses in obtaining corroborating evidence for client assertions; and insufficient enquires about causes underlying perceived failings. Messier et al. (2013) further note a lack of research on the collection and evaluation of corroborating evidence, and on the role of analytical procedures during the overall review stage of the engagement, proposing contextual and socio-psychological factors, including prior opinions, the presence of audit reviews, client risks, and auditor expertise, to affect auditors' ability to generate and evaluate explanations in an unbiased manner. This suggests that auditor hypothesis formation should be subject to ongoing scrutiny during audit and at the overall review stage, with such scrutiny being even more critical given that many analytical procedures appear to remain substantially unchanged over long periods of time (Hirst and Koonce, 1996; Trompeter and Wright, 2010).

Investigating single audit arrangements in a German setting, Koch, Weber and Wüstemann (2012) see accountability pressures arising from the auditor feeling responsible to management, risking the adoption of managerial preferences or

interpretations in terms of their own judgment. This is reflected in earlier research which highlighted accountability effects (Tetlock, 1985; Bazerman et al., 1997; Bazerman et al., 2002; DeZoort, Harrison, and Taylor, 2006). Therefore, audit quality would appear to depend critically on whom the auditor perceives to be accountable to. Independently of client type, Koch et al. (2012) also find that perceived accountability pressure (towards client) may increase acquiescence to managerial preferred accounting methods. A critical contribution by Koch et al. (2012) is addressing the effect of social forces on auditors' objectivity (Bamber and Iyer, 2007) and separating social effects from monetary pressures (Bonner, 2007), which suggests that potential remedies differ for the two different threats (see for e.g. Bazerman et al., 2006). DeZoort et al. (2006) note that higher levels of accountability pressure (for example through review, justification and feedback) and the use of planning materiality decision aids provided more conservative materiality judgments with less judgment variability than auditors under lower levels of such pressures. In this context, audit arrangements may be investigated in connection with their potential to increase accountability-based conservatism as a result of enhanced peer evidence evaluation by 'the other' team. A single engagement team may be particularly prone to the dangers of groupthink - where groups make faulty decisions due to social pressures impacting on critical features of decision making (Janis, 1972). While a degree of group cohesion is likely necessary for the functioning of an engagement team, this nevertheless runs the danger of leading an audit team to accept flawed or insufficient evidence in support of the ultimate audit opinion.

Tendencies to seek confirmatory information during judgement formation (Kahneman and Tversky, 1974; Nisbett and Ross, 1980; Kahneman, Tversky and Slovic, 1982;

Kahle and White, 2004), self-rationalize decisions (Peecher, 1996), escalate commitment (Weick, 1983), anchor and insufficiently adjust (Joyce and Biddle, 1981a, 1981b; Bonner and Pennington, 1991; Bedard and Wright, 1994; Hirst and Koonce, 1996), and the perverse impact of groupthink (Janis, 1972) call for the use of circuit breakers to minimise the effect of heuristics and bias and prevent a faulty opinion from being reinforced and perpetuated (APB, 2012). To this end, the following section seeks to explore potential venues for research in bias mitigation during the audit process, with particular reference to joint audit arrangements.

IV. EXISTING AND FUTURE RESEARCH *re* JOINT AUDIT

Building on research into the effects of accountability and descriptive peer norms on audit quality, Cardinaels and Jia (2016) show that audits of decisions and decision processes can reduce the level of misreporting, suggesting that such controls can affect participants' rationalization processes of engaging in dishonest reporting and, specifically, may raise motivation towards more appropriate reporting (Ariely, 2012). Hence, descriptive peer norms and perceptions of such norms may play a significant role in the rationalization process of auditors, and can affect auditors' willingness to raise audit issues (Nelson, Proell, and Randel, 2016). Given that auditors tend to seek greater justifications for audit plan changes when they are subject to review (Koonce et al., 1995), and test more hypotheses when they are held more accountable (Asare and Wright, 1997; Asare, Trompeter, and Wright, 2000), joint audit might thus raise the level of accountability-based improvements to audit quality through the establishment of a further peer norm that needs to be met (Johnson and Kaplan, 1991; Tan and Kao, 1999; DeZoort et al., 2006; Koch et al., 2012).

A small number of investigations have applied behavioural insights directly to joint audit settings. A behavioural perspective underlies an empirical investigation of voluntary joint audits by Zerni et al. (2012), who find a positive association between voluntary joint audit and audit quality. Paugam and Casta (2012a) examine the consequences on impairment testing disclosures of auditor-pair choice. Investigating joint audit in the context of audit pair homogeneity and groupthink (Janis, 1972; Esser, 1998), Paugam and Casta (2012a) suggest that Big-4 auditors paired with non-Big-4 auditors generate higher levels of disclosures than other combinations, explaining their results by reference to heterogeneity among the members of the group. These results suggest that some social and psychological factors have a particularly negative impact on judgement and audit quality of single audits teams that may possibly be mitigated under *particular* joint audit settings.

Given that homogeneity among decision makers increases the likelihood of groupthink (Janis, 1972; Esser, 1998), Paugam and Casta (2012b) extend their investigation to test the degree to which heterogeneous audit pairs may allow mitigation of such tendencies. Applying a game theoretic approach to impairment testing disclosures under joint audit arrangements, Paugam and Casta (2012b) extend prior applications of game theory to single audit engagements (e.g. Demski and Swieringa, 1974; Hatherly, Nadeau, and Thomas, 1996; Cook, Hatherly, Nadeau, and Thomas, 1997) and find that homogeneity among auditor-pairs can lead to prisoners' dilemma solutions and socially sub-optimal disclosure levels. Therefore, homogenous audit pairing might do little to enhance scepticism and/or audit quality, which might explain some of the ambiguous findings on joint audit. In contrast, heterogeneous

auditor-pairs were found to significantly increase impairment-testing disclosures (Paugam and Casta, 2012b).

An extension of the model applied by Paugam and Casta (2012a) would allow investigation of groupthink tendencies between single and joint engagement arrangements, for example through an assessment of impairment disclosures, testing for materiality, and the ability of auditors to detect misrepresentations and fraud (O'Sullivan, 2003). One example of an extension of the work by Paugam and Casta (2012b) is provided in Deng, Lu, Simunic, and Ye (2014) who apply a game theoretic approach to derive a set of empirically testable predictions, which compare audit evidence precision, auditor independence, and audit fees under joint and single audits. Deng et al. (2014) indicate that pairing a big firm with a smaller firm may, under certain conditions, induce a free rider problem, which could have negative consequences for audit quality. A key contribution of the three papers that use a game theoretic approach (Paugam and Casta, 2012a, 2012b; Deng et al., 2014) lies in the provision of theoretical frameworks and testable propositions that may begin to explain seemingly inconsistent empirical findings on the value of joint audit noted by prior research and literature reviews (e.g. Ratzinger-Sakel et al., 2012). Further exposed are nuanced effects on audit quality of variations in joint audit arrangements that stem from the interplay of different team combinations, task allocations and primary objectives, which suggest potential venues for further investigation and testing. For example, if the free rider problem is identified as a potential problem of joint audit arrangements (Deng et al., 2014) – a concern raised in arguments against the use of this procedure – then control for this issue would appear to be one pre-requisite to a potential contribution of this tool to audit quality.

Another suggestion for testing of a potential contribution of joint audit to audit quality can be derived from Harris and Whisenant (2012) who indicate a role for the four-eyes principle (two auditor teams involvement) in years around mandatory auditor changes. This is particularly pertinent given the tendering and mandatory rotation requirements introduced by the EU's Audit Directive (DIRECTIVE 2014/56/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, 2014). Given that a significant number of EU listed companies will henceforth periodically be changing their external auditor in compliance with the Audit Directive, this creates a natural experiment to test various means of mitigation of the perceived audit quality erosion when making this transition, with joint audit suggested as one such measure not only with regard to bias mitigation, but also with view to retaining client specific knowledge on the departure of one auditing firm.

Variations in the division of duties, roles and responsibilities of the two audit teams form another possible basis for testable propositions. A direct mandate for one audit team to review the procedures that led to a particular opinion by the other team can form yet another (Cardinaels and Jia, 2016). Such a review could pay particular attention to heuristics that typically affect judgement and decision making of individuals or groups, with a view to focussing on the design and merits of decision-making policies and processes (see FRC, 2018d for elaboration).

V. DISCUSSION

We discuss findings on factors that affect the quality of judgement and decision-making during audit and introduce a behavioural perspective to explore a potential role for joint audit in improving audit quality. While future research venues towards

empirical testing of propositions are suggested, the primary aim of this paper is to raise interest in a broader discussion and suggest a more nuanced approach in exploring the merits, or otherwise, of joint audit. Audit quality is arguably in need of improvement (FRC, 2018a,b,c; HoC, 2018; CMA, 2018; BEIS, 2019) but dismissing a tool on the basis of partial investigations is deemed premature.

Numerous solutions to ‘better’ audits have been introduced in response to past accounting scandals, but the verdict on the value of the more technical approaches (more regulation, more oversight, prohibitions of certain non-audit services, closing of particular loop-holes, greater penalties for breaches of professional conduct, etc.) remains outstanding. Underlying much of these standard responses to past failures is an assumption that ‘good’ accountants can withstand or adequately compensate for cognitive biases, an ability which behavioural research suggests is highly overestimated (Kahneman and Tversky, 1986, 2000; Gilovich, Griffin, and Kahneman, 2002; Bazerman et al., 2006, Moore et al., 2010). Technical approaches may largely fail to address behavioural issues impacting on good judgement and decision-making during audit. Instead, we suggest that a focus of attention should be on the quality of the decision-making process itself, to ensure that judgements made by well-intentioned and experienced professionals are not overly distorted by bias and that, bias mitigation procedures are systematically implemented.

It is in this respect that a second team of auditors can be tasked with providing a more independent and sceptical review of the assumptions and processes underlying the formation of judgements during audit. This would be especially useful where a second team has not been part of the prior judgment and opinion and therefore is less

likely to seek confirmatory information. We suggest that a second ‘pair of eyes’ can be particularly useful for a critical evaluation of the processes that led to the formation of an audit opinion. Such a peer review would go beyond a standard appraisal of the other team’s audit work in current joint audit arrangements (which might deteriorate into box ticking) or a simple division of tasks between two teams (which fails to review the quality of the other teams’ application of professional standards). Instead, a focus on the processes underlying opinion formation could form an active countermeasure to behavioural factors that demonstrably bias auditor judgements. An emphasis of joint audit arrangements on bias mitigation might, hence, be explored as a useful tool against sequential biases, unwarranted trust in managerial assertions, blind trust in prior beliefs, insufficient collection of evidence, and the lack of professional scepticism.

VI. CONCLUSION

We explored a broad range of research that applies insights from the behavioural literature to single and joint audit settings and suggest that the heuristics and biases approach provides a promising framework for future investigations on factors that affect the quality of audit, and research on joint audit arrangements in bias mitigation. Notwithstanding the competence, good faith and integrity of an audit team, audit operates within a setting of uncertainty, dependencies, social ties, loyalties, heuristics, and persistent social, psychological and behavioural influences which can significantly undermine auditors’ objectivity, independence and competence, and the consistent application of professional scepticism during the audit process.

Susceptibility to bias in auditors' judgement of single auditors and single audit teams provides a measure of support for implementations of the four-eyes principle through bespoke joint audit arrangements, with the proviso that the particular structure, aim and objective of such arrangements will have a critical impact on a potential contribution of this tool to audit quality. Where implemented to provide an independent, quasi-forensic, quality review of the other engagement team's work, and to provide a critical review of the assumptions made during engagement and the processes leading to the formation of judgements underlying the audit opinion, joint audits may be particularly useful to counter the effects of heuristics and biases that affect single engagement teams. Such a remit may also allow a more consistent application and maintenance of an appropriate level of professional scepticism. To conclude, we strongly suggest that a positive contribution of joint audit on audit quality critically depends on the nature, aim and objective of its implementation, and the targeted application of this tool as a proactive instrument in the systematic mitigation of bias during audit.

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