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Article *in* Business Ethics A European Review · May 2022

DOI: 10.1111/beer.12439

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Received: 14 August 2021 | Revised: 29 March 2022 | Accepted: 16 April 2022

DOI: 10.1111/beer.12439

Business Ethics, the Environment & Responsibility

WILEY

ORIGINAL ARTICLE

The role of the audit committee in enhancing the credibility of CSR disclosure: Evidence from STOXX Europe 600 members

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Abstract

This study examines the influence of audit committee attributes, namely financial expertise, independence, meeting frequency and size, on the adoption of CSR assurance. The study also offers insight into the effect of audit committee attributes on the scope and level of CSR assurance and the selection of CSR assurance providers. Contextually, this is achieved using a sample of European companies listed on the STOXX 600 index over the period 2012–2018. The findings show that attributes related to audit committee financial expertise, audit committee independence and audit committee meeting frequency and the existence of a CSR committee, are positively linked with the adoption of CSR assurance. Moreover, our empirical analysis further highlights the critical role of audit committee financial expert members in enhancing the scope and level of CSR assurance. Furthermore, audit committee with more frequent meetings lead to higher assurance scopes. Our findings offer significant and multidimensional insights for regulators, policymakers and professionals, regarding the revision and establishment of regulations concerning the audit committee structure.

KEYWORDS
audit committee, corporate governance, corporate social responsibility assurance, corporate social responsibility disclosure, STOXX 600

1 | INTRODUCTION

In the past decades, there has been significant progress in corporate social responsibility disclosure (CSRD[1]) (Kolk & Perego, 2010), which shows companies' commitment to sustainability issues (Kolk & Perego, 2010; Simnett et al., 2009). Nevertheless, the rise in the number of these statements has not been complemented by an improved level of community trust (Martínez-Ferrero et al., 2018; Martínez-Ferrero & García-Sánchez, 2017a). CSRD completeness and credibility have been broadly criticised in previous literature (Arco-Castro et al., 2020; Bollas-Araya et al., 2019; Cheng et al., 2015; Martínez-Ferrero & García-Sánchez, 2017b; Seguí-Mas et al., 2015; Simnett et al., 2009; Zaman et al., 2021, 2022; Zorio et al., 2013); it is argued that there is the need for an assurance process that certifies such quality issues. In particular, voluntary CSRD is not valuable if it is perceived to lack reliability and credibility (Coram et al., 2009). The assurance of CSR information by independent external third parties is considered to be a powerful tool to enhance transparency and bridge the CSRD credibility gap (Cohen & Simnett, 2015; Perego & Kolk, 2012; Simnett et al., 2009; Velte, 2021).

Board members' responsibilities go beyond monitoring and controlling management to guarantee that it implements coherent decisions within the company, aligning the interests of agents and principals (Martínez-Ferrero & García-Sánchez, 2017a). Board members' efficiency would reduce agency problems, and it could determine the need to obtain a high corporate social responsibility assurance (CSRA) quality level (Garcia-Sanchez, 2020). In this regard, the board performs a central role in defining the company's socially responsible behaviours and the accountability level of the different interest groups (Bear et al., 2010). The implementation of

these tasks is influenced by the board's structure (Prado-Lorenzo & Garcia-Sanchez, 2010) in terms of independence, size, gender, activity and committees (Rao & Tilt, 2016).

Furthermore, one of the most vital board monitoring mechanisms is the audit committee (AC) (Bajra & Čadež, 2018a). Its characteristics and existence can improve board supervision, enhance auditors' performance and reduce the information asymmetry between different stakeholders and managers, thus improving firms' disclosures, such as CSR (Mangena & Pike, 2005; Pucheta-Martínez et al., 2016). According to Salleh and Stewart (2012), AC attributes could also affect CSRD credibility because they are anticipated to address matters linked to risks, sustainability and controls.

Despite the importance of AC discussed above, studies on the relationship between corporate governance (CG) and CSRA have paid little attention to its role in the decision to obtain CSRA (Buertey, 2021; Kend, 2015; Liao et al., 2018; Martinez-Ferrero et al., 2017; Miras-Rodriguez & Di Pietra, 2018). A study by Kend (2015), for instance, investigates the impact of CG, including AC size and meetings, on the adoption of CSRA and CSRA providers. On the other hand, Al-Shaer and Zaman (2018) focus mainly on AC attributes, their influence on CSRA adoption and the selection of assurance providers. However, both Kend (2015) and Al-Shaer and Zaman (2018) overlook the link between AC attributes and the scope and level of CSRA, since they could give such an explanation towards the tendency of each AC attribute.

Accordingly, this study aims to test the influence of AC attributes (namely AC financial experts, AC independence, AC meetings and AC size) on the voluntary decision to adopt CSRA. The study also offers insight into the effect of such attributes on the scope and level of CSRA and the selection of CSRA assurers.

This is achieved using a sample of non-financial European companies listed on the STOXX 600 index over the period 2012–2018. The data were collected for 3707 firm-year observations. In line with the complementary role that Zaman et al. (2021), Al-Shaer and Zaman (2018) and Martínez-Ferrero and García-Sánchez (2017a) find for CG and AC mechanisms, our study confirms the claim that AC not only helps in improving the quality of financial auditing (Ghafran & O'Sullivan, 2017), but is also similarly effective in improving the credibility of CSRA. More precisely, our study indicates that AC financial expertise, AC independence, AC meetings frequency and the size of the AC, as well as the existence of a CSR committee, are positively linked with the adoption of CSRA. Furthermore, the study provides empirical evidence that highlights the critical role of AC accounting and financial expertise in enhancing not only the adoption of CSRA but also improving the scope and level of CSRA.

In doing so, the study makes several significant contributions to the current literature. First, it develops and expands the investigation into the nascent CSRA field by investigating the impact of AC attributes on the adoption of CSRA. CSRA is a relatively new research field and is gradually becoming a more popular procedure to guarantee CSRD credibility (KPMG, 2013). Second, the study further examines the link between the strength of AC structure and the scope and level of CSRA. According to Velte (2021), few CSRA investigations focus on CSRA quality proxies (such as scope and level); therefore, he recommends that future research considers such proxies in order to distinguish between the substantive and symbolic, and intrinsic and extrinsic motives of executives. Third, while the majority of previous studies are based on U.K., Australian and U.S. companies (e.g., Al-Shaer & Zaman, 2018; Kend, 2015; Liao et al., 2018; Zaman et al., 2021), this study implements a European-level approach that includes 17 European countries, based on companies listed on STOXX Europe 600. Given that developments in CSR and ethics have been claimed to be affected by national differences and contexts (Crane & Matten, 2016), a European-focused study provides an insightful contribution to the literature. Furthermore, European companies are considered to be leaders in providing CSR report assurance (Kolk, 2008; Simnett et al., 2009).

Fourth, previous AC and CSRA studies conducted cross-sectional analyses (see Al-Shaer & Zaman, 2018), while this study makes a panel data analysis. Moreover, our study solves the limitations of different CG and CSRA assurance studies by using a sample that includes not only large but also intermediate and small firms and on the basis of the most recent CSRA data from 2012 to 2018. The use of such data is expected to be more valuable, because in recent years the demand for CSRA has increased. For instance, Al-Shaer and Zaman (2018) used a sample of listed U.K. companies but only for 2012, while Martínez-Ferrero and García-Sánchez (2017b) used an international sample over the period 2007–2014. Kend (2015) focused on the top 200 listed firms in 2010 in the United Kingdom and Australia, while Zaman et al. (2021) only used a sample of the top 100 listed Australian and New Zealand companies in the period 2017–2019.

Finally, concerning the practical contribution, our study results may be helpful to CSRA specialists, policymakers and governing parties. CSRA specialists could find the study insights helpful in developing out their CSRA work. In addition, policymakers and governing parties may wish to improve and expand their guidance concerning CSRA and the structure and composition of AC.

To address these issues, the remainder of this research is structured as follows. The literature review section provides an empirical and theoretical overview of CSRA and its connection with AC attributes. The methodology section then discusses the sample selection, data sources, variable measurement and empirical models. The final two sections consist of the empirical results, discussion of the outcomes and concluding remarks.

2 | LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 | The need for CSRA

In the last decades, CSR has become of interest to different parties such as academics, investors, standard setters and consumers. Stakeholders also realise its importance in maintaining an appropriate balance between companies' longstanding feasibility and

commitment to society (Dwekat, Seguí-Mas, & Tormo-Carbó, 2020). Several articles indicate that CSR activities positively impact financial performance in several ways, including sales, operating efficacy, financing and litigation risk (Galant & Cadez, 2017; McWilliams & Siegel, 2000). A higher CSR score can improve a company's brand value and reputation, therefore enhancing the evaluation of its products by customers and improving sales (Bear et al., 2010). Moreover, companies with a superior CSR reputation and those concentrating on enhancing employee welfare through CSR plans can attract more talented employees and improve employee efficiency (Kim et al., 2010). Therefore, according to Banker and Mashruwala (2007), greater employee satisfaction is followed by better future financial performance. Nonetheless, the credibility and completeness of CSR reporting have been widely criticised in the literature (Boiral, 2013; Chen et al., 2016).

Given the crucial role that CSRD can play in shaping companies' image and reputation, managers could exploit this advantage by using it as a smokescreen tool for cases of misconduct (Deegan et al., 2000; Velte, 2021). Martínez-Ferrero et al. (2016) support this direction by demonstrating that executives who manipulate earnings for their own sake tend to protect themselves through engagement in CSR activities. Maroun (2020) argues that CSR could be used as a symbolic action to improve companies' image, reputation and financial performance and to meet stakeholders' expectations. As a result, CSR information can become less reliable, comparable, transparent and relevant (Ball et al., 2000; Cadez & Czerny, 2016; Peters & Romi, 2015). Therefore, the need to strengthen CSR information quality and to increase stakeholder confidence has become vital.

The assurance of CSR reporting by independent external third parties can be seen as a powerful tool to improve transparency and bridge the credibility gap of CSRD (Cohen & Simnett, 2015; Perego & Kolk, 2012; Simnett et al., 2009; Velte, 2021). Jones and Solomon (2010) claim that assurance practices can be adopted to enhance CSR reporting credibility through assurance providers' role in evaluating companies' reporting standards, collecting evidence and providing an independent opinion. Subsequently, the market for CSRA emerged (Blanco & Souto, 2015), as international evidence showed a continuous increase in the level of CSRA provided by firms (Kolk & Perego, 2010; Mock et al., 2013).

2.2 | CSRA: Standards, scope, level and assurer

The IAASB (2013, p. 7) defines assurance as 'an engagement in which a practitioner aims to obtain sufficient appropriate evidence in order to express a conclusion designed to enhance the degree of confidence of the intended users other than the responsible party about the subject matter information'.

As a first step to obtaining CSRA,[2] firms should select an external assurer. According to Ball et al. (2000) and GRI (2013), a valid CSRA provider is anticipated to be independent in their evaluation and issue objective and unbiased judgements; undertake various quality control actions through the process of CSRA; and be knowledgeable in CSRA practices. CSRA providers are commonly categorised into accountancy companies (mainly the Big-Four accounting companies[3]) and sustainability experts (O'Dwyer, 2011; Simnett et al., 2009). Arguably, accountancy companies, precisely the Big Four, could offer a higher quality of CSRA services than non-accountancy companies because accountancy companies are more independent, and they have advanced experience, skills and knowledge in performing analytical procedures and tests to guarantee the integrity of reported information (Ballou et al., 2018; Farooq & de Villiers, 2017; Hodge et al., 2009; Simnett et al., 2009; Velte & Stawinoga, 2017). Martinez-Ferrero and Garcia-Sanchez (2018), Martínez-Ferrero et al. (2018) and Zorio et al. (2013) support this direction and indicate a significant positive association between hiring a Big Four auditing company as a CSRA assurer and the quality of CSRA. Clarkson et al. (2019) argue that companies with higher CSR commitment tend to adopt a higher CSRA scope from a Big Four auditing company. Cuadrado-Ballesteros et al. (2017) examine the impact that CSR has on the asymmetry of information. They demonstrate that there are differences in reducing these asymmetries according to the type of CSRA. On the other hand, sustainability experts might have appropriate industry skills and experience in detecting particular CSR risk issues, and they may also have a better understanding of the prospects of leading groups of stakeholders (Velte, 2021). Therefore, companies with a higher CSRD may prefer to hire sustainability specialists to guarantee their CSR reports.

After choosing the CSRA assurer, both the reporting firm and the assurer need to agree on several crucial issues before beginning the CSRA process. These consist of the level of CSRA provided by the assurers, the CSRD scope to be covered in the process, and the standards and methodology (GRI, 2013). When the CSRA process is complete, the assurer then issues their opinion or conclusion of the CSR information in a statement or report; this commonly comprises the level, scope, methodologies and the CSRA standards used by the reporting firm when preparing the CSR report, assurer activities, limitations faced throughout the CSRA process, recommendations and a conclusion (GRI, 2013; Manetti & Becatti, 2009; Simnett et al., 2009).

Concerning CSRA standards, ISAE 3000 (IAASB, 2013) and the AccountAbility 1000 Assurance Standard (AA100, 2008) are the most referred standards internationally (Clarkson et al., 2019). The International Standard on Assurance Engagement 3000 (ISAE 3000) guides assurance engagement requirements other than the audit and historical financial information review. This standard was established by the International Auditing and Assurance Standards Board (IAASB), an auditing and assurance services body of the International Federation of Accounting (IFAC). On the other hand, the AccountAbility 1000 is under the control of the not-for-profit organisation 'AccountAbility' (Farooq & de Villiers, 2017; Clarkson et al., 2019). Both assurance standards have similar requirements concerning the content of the CSR report, and both present two assurance levels: limited or reasonable for ISAE 3000, and moderate or high for AccountAbility 1000. Companies would identify the assurance service level in their assurance engagement with their assurers.

2.3 | Board, audit committee and CSRA

The legitimacy theory perspective indicates that firms have an implied social contract with the community in which it works (Cho & Patten, 2007). According to Dowling and Pfeffer (1975), these contracts must encourage the board members to be consistent with the community, in particular its norms, boundaries and values, by employing sufficient sustainability processes and structures. Companies must ensure a decision-useful non-financial and financial disclosure strategy in alignment with stakeholders' information needs. CSRD, as a supplement to financial disclosure, could be the first step to achieve legitimacy. To reduce information overload and greenwash policy risks (Simnett et al., 2009), stakeholders expect credible and objective CSRD (Velte, 2021). Board members' responsibilities reach beyond monitoring and controlling management to guarantee that it makes coherent decisions within the company, aligning the interests of the agent and principal (Martínez-Ferrero & García-Sánchez, 2017a). The board of directors is a mechanism intended to reduce agency problems, and it may determine the necessity to obtain a higher level of CSRA quality (Garcia-Sanchez, 2020). In this regard, the board performs a central role in determining the company's socially responsible behaviours and the accountability level of the different interest groups (Bear et al., 2010). The implementation of these tasks is influenced by the board structure (Prado-Lorenzo & Garcia-Sanchez, 2010), in terms of independence, size, gender, activity and committees (Rao & Tilt, 2016).

A significant stream of empirical research highlights the significant role of the board of directors in enhancing CSR performance and disclosure (Alia & Mardawi, 2021; Bear et al., 2010; Frias-Aceituno et al., 2013; Jizi et al., 2014; Jo & Harjoto, 2011; Khan et al., 2013; Zaid et al., 2020). However, little attention has been paid to the association between the board and CSRA (Liao et al., 2018; Martinez-Ferrero et al., 2017; Martínez-Ferrero & García-Sánchez, 2017a; Miras-Rodriguez & Di Pietra, 2018). Martínez-Ferrero and García-Sánchez (2017a) and Martinez-Ferrero et al. (2017) indicate that board size and board independence increase the adoption of CSRA. In addition, Miras-Rodriguez and Di Pietra (2018) found that a lower percentage of board executives positively impacted CSRA decisions. This direction is supported by Liao et al. (2018), who indicate that non-CEO duality leads to greater CSRA implementation. Furthermore, according to Liao et al. (2018), board gender diversity, board size and frequent board meetings increase the implementation of sustainability assurance in line with board independence. More recently, Buertey (2021) examined the association between board gender diversity and CSRA. His results reveal that a higher percentage of female board members leads to better CSRA implementation. Moreover, in line with critical mass theory, he found that the association was more significant for companies with two or more females on the board.

One of the most vital board monitoring mechanisms is AC (Bajra & Cadez, 2018b). Its characteristics and existence can improve board supervision, enhance auditor performance and reduce the information asymmetry between different stakeholders and managers, therefore improving firms' disclosure levels, such as CSR (Dwekat et al., 2021; Mangena & Pike, 2005). AC attributes could also affect CSRD credibility as they are expected to address issues linked to risks, sustainability and controls (Salleh & Stewart, 2012). However, little research has shed light on the connection between AC characteristics and CSRA. Al-Shaer and Zaman (2018) indicate that AC attributes (independence, meetings and expertise) and the board of directors generally lead to more CSRA implementation and significantly affect CSRA providers' choice.

2.4 | Hypotheses development

2.4.1 | Audit committee financial expertise

Financial expertise indicates the level of financial and accounting experience and knowledge of the AC members. Most CG codes worldwide require an AC to include one member with appropriate accounting and financial expertise. Its primary responsibilities are to oversee firms' financial reporting integrity, internal control systems and control risk management (SOX, 2002). An effective AC requires members with financial experience to understand various reporting and financial matters (Abbott et al., 2004). Those without appropriate accounting and financial skills are unlikely to be able to deal with reporting and financial problems (Agrawal & Chadha, 2005). ACs combined with financial expertise could clarify matters that may challenge the auditor and managers and thus achieve a better degree of financial disclosure, and improve corporate disclosure transparency, which would reduce agency costs related to the flow of information (Bédard & Gendron, 2010). Dhaliwal et al. (2010) indicate that AC directors with financial expertise are vital for the efficient supervision of a company's reporting processes and for understanding financial statement complexity.

Moreover, AC members with financial experience may attract human resources and lead to better sustainability reporting (Helfaya & Moussa, 2017). Kelton and Yang (2008) suggest that AC financial expertise would enhance internet financial disclosure. Different studies (e.g., Bédard et al., 2004; Karamanou & Vafeas, 2005) on voluntary disclosure and disclosure quality indicate a significant positive association between AC financial expertise and corporate disclosure reliability. ACs with financial expertise could also enhance and determine the level of CSRD using their capital market knowledge (Appuhami & Tashakor, 2017). The existence of AC financial expert members can be crucial for CSR decisions, given their significance in making essential decisions and preventing and controlling risks (Shaukat et al., 2016). Therefore, AC financial expertise could alleviate the agency problems associated with the limited information flow between parties (Bédard & Gendron, 2010), enhancing the sharing

of information and communication between managers and stakeholders, especially CSR information.

Jizi et al. (2014) support previous results using a sample of U.S. banks, finding a significant positive association between AC financial expertise and CSRD, while Shaukat et al. (2016) indicate that ACs with financial expert members correlate with a more comprehensive CSR strategy and higher social and environmental action. Regarding CSRA, Al-Shaer and Zaman (2018) indicate a positive association between AC financial expertise and sustainability assurance credibility. A study by Zaman et al. (2021) provides recent empirical evidence; they state that the presence of industry expert members on the AC would enhance the quality and credibility of CSRA. Other studies, such as those of Pucheta-Martínez et al. (2021), Mohammadi et al. (2021) and Dwekat, Seguí-Mas, Tormo-Carbó, and Carmona (2020), argue that the existence of financial expert members on ACs would improve CSR reporting. However, Appuhami and Tashakor (2017) found no association between CSRD and AC financial expertise.

On the contrary, Buallay and Al-Ajmi (2019) reveal an inverse relationship between the AC financial expertise and the banks' CSR reporting. They claim that AC financial expertise does not essentially imply effective monitoring but depends on other considerations such as top management power. In line with the discussion above, our first hypothesis is as follows:

H1 *The adoption of CSRA is likely to be positively influenced by ACs with at least one financially literate director.*

2.4.2 | Audit committee independence

The most common definition of AC independence is the percentage of outside directors on the AC (Beasley, 1996; Klein, 2002). The Blue-Ribbon Committee (BRC) made several suggestions to develop the effectiveness of ACs. It recommended that those of listed firms control and monitor all the economic relations between management and the external auditor, and that ACs remain fully independent of management (Blue Ribbon Committee [BRC], 1999). Based on these recommendations, ACs with independent members could objectively evaluate management actions, internal control and disclosure practices (Abbott et al., 2004). Accordingly, independent AC members could reduce agency problems, information asymmetry and the possibility of collusion by management, by monitoring management practices effectively and thus improving CSR reporting (Fama, 1980; Fama & Jensen, 1983). Companies with an independent AC would probably face lower internal control problems (Yang & Krishnan, 2005). Abbott et al. (2004) found a significant negative association between AC independence and the occurrence of restatements, while Anderson et al. (2004) report that ACs with fully independent members are significantly correlated with a lower debt cost. Other studies conclude that ACs with independent members could reduce earnings management (Bédard et al., 2004; Kang et al., 2011; Klein, 2002).

Nevertheless, previous research on ACs has mainly focused on whether their independence can improve their effectiveness, but ignore what level of this is sufficient (Bronson et al., 2009). The Sarbanes-Oxley Act of 2002 (SOX) obliges all listed companies to have fully independent AC members. Bronson et al. (2009) support this requirement, and indicate that the benefits from AC independence could only be achieved when the AC is entirely independent. Conversely, DeFond and Francis (2005) suggest that the presence of some insiders on the AC might be beneficial, as they will have essential experience and knowledge about the firm. Mangena and Pike (2005) conclude that ACs with mostly independent members are more efficient in supporting the credibility of both financial and non-financial disclosure such as CSR.

Few studies have explored the connection between CSR/CSRA and AC independence. Al-Shaer and Zaman (2018) indicate that such independence increases the credibility of a sustainability report, while Zaman et al. (2021) report a positive association between independent AC members and CSRA quality. Mangena and Tauringana (2007) report a significant positive link between voluntary disclosure level and AC independence. Other studies (e.g., Appuhami & Tashakor, 2017; Arif et al., 2020; Buallay & Al-Ajmi, 2019; Mohammadi et al., 2021; Said et al., 2009) support these results, finding that AC independence affects CSRD level positively. More recently, Dwekat, Seguí-Mas, Tormo-Carbó, and Carmona (2020) state that AC independence is one of the most critical AC configurations that would improve the CSRD level.

Haniffa and Cooke (2005), using a sample of 139 Malaysian companies, revealed an inverse relationship between CSRD and AC independence, a finding which is also supported by Pucheta-Martínez et al. (2021). A plausible explanation for this negative relationship is that independent members may play an ineffective supervisory role due to the absence of real independence, an excessive workload, and limited industry experience (Abdul Rahman & Mohamed Ali, 2006). In the same vein, Ali et al. (2017) argue that this negative effect on CSRD might be due to the limited knowledge concerning CSR matters. However, Katmon et al. (2019) found no association between CSRD quality and AC independence. Therefore, based on the previous discussion, the second hypothesis is as follows:

H2 *The adoption of CSRA is likely to be positively influenced by the independence of ACs.*

2.4.3 | Audit committee size

The size of the AC is one of the critical factors that influences its effectiveness (Jizi et al., 2014). As agency theory suggests, a larger AC could be more active (Jensen, 1993). A larger AC leads to a diversity of skills, experience and knowledge, which results in better control of CSRD (Appuhami & Tashakor, 2017; Bédard et al., 2004). Besides, a smaller AC might not have sufficient resources (Omair Alotaibi & Hussainey, 2016), meaning the quality of supervision and monitoring tasks would be lower. Yekini and Jallow (2012) also

conclude that companies with four AC members or more would probably disclose high-quality CSR information in their annual reports. According to the Blue-Ribbon Committee (BRC), an AC should consist of at least three members (Abbott et al., 2004) and should not exceed six (National Association of Corporate Directors [NACD], 2000). Different scholars have investigated the effect of AC size on CSR; for instance, Omair Alotaibi and Hussainey (2016), using a sample of 171 non-financial Saudi listed companies, found a significant positive relationship between AC size and the quantity of CSRD, but indicate an insignificant relationship with the quality of CSRD. Yekini and Jallow (2012) also reported a positive association between the size of the AC and corporate community involvement disclosure. Buallay and Al-Ajmi (2019) support these results, finding a significant positive association between AC size and the level of banks' sustainability reporting in the Gulf Cooperation Council.

Other researchers support these findings, implying that companies with more AC members would have a higher level of CSRD (Appuhami & Tashakor, 2017) and higher quality (Katmon et al., 2019). However, more recently Dwekat et al. (2020) argue that a smaller AC, combined with other AC configurations, would enhance the level of CSRD. In contrast, Jizi et al. (2014) found no association between AC size and CSRD. Concerning sustainability assurance, Kend (2015), Al-Shaer and Zaman (2018) and Zaman et al. (2021) indicate an insignificant association between AC size and CSR reporting credibility. Based on the previous arguments, our third hypothesis is as follows:

H3 *The adoption of CSRA is likely to be negatively influenced by ACs size.*

2.4.4 | Audit committee meetings frequency

Previous studies have used AC meeting frequency to measure AC activity and diligence (Appuhami & Tashakor, 2017; Sharma et al., 2009; Yin et al., 2012). The frequency of meetings refers to the number of meetings held by an AC during a financial year, with more meetings indicating high activity levels (Gendron et al., 2004). BRC states that there is a positive relationship between the frequency of AC meetings and better-governed companies (DeFond & Francis, 2005). The number of AC meetings is recommended in different CG codes and is used as a proxy by auditing companies to measure AC efficiency and performance (Yin et al., 2012). For instance, BRC (1999) suggests at least four meetings each year; KPMG (1999) recommends three or four meetings and PwC (1993) proposes at least four meetings. Abbott et al. (2004) found a positive association between AC meeting frequency and a lower fraud rate. Karamanou and Vafeas (2005) argue that a high frequency of AC meetings would improve the responsibilities related to supervision, monitoring and reporting, thus enhancing monitoring performance. With more frequent meetings, ACs would have more knowledge and experience related to auditing, accounting and sustainability (Abbott et al., 2004). Karamanou and Vafeas (2005) indicate a significant positive connection between AC meetings and reported earnings quality.

Previous empirical studies have addressed the relationship between AC meetings and disclosure. Kelton and Yang (2008) conclude that higher AC meetings frequency would improve internet financial disclosure. In addition, Kent and Stewart (2008) and Allegrini and Greco (2013) found a significant positive relationship between the voluntary disclosure level and the frequency of AC meetings, while Al-Shaer and Zaman (2018) suggest a positive association between AC meetings frequency and the sustainability report credibility. A recent study conducted by Zaman et al. (2021) indicates that a higher AC meetings frequency is associated with higher CSRA quality. These findings are supported by Jizi et al. (2014), Appuhami and Tashakor (2017), Buallay and Al-Ajmi (2019) and Arif et al. (2020), who also found a positive relationship between CSRD and AC meetings in their results. However, Othman et al. (2014), using a sample of the top 94 Malaysian firms, found an insignificant association between AC meetings frequency and the level of voluntary ethics disclosure. On the basis of the preceding discussion, our fourth hypothesis is as follows:

H4 *The adoption of CSRA is likely to be positively influenced by the frequency of ACs annual meetings.*

3 | METHODOLOGY

3.1 | Sample selection and data sources

Our study sample consisted of European firms listed on the STOXX Europe 600 from 2012 to 2018. We choose STOXX Europe 600 firms as our research subject because European firms are considered leaders in issuing external CSRA reports (Hasan et al., 2003; Kaspereit & Lopatta, 2016; Kolk, 2008; Martínez-Ferrero et al., 2021; Simnett et al., 2009). STOXX Europe 600 index derived from the STOXX Europe Total Market[4] Index and is a subset of the STOXX Global 1800 Index with a fixed number of 600 firms representing large, medium and small firms in terms of capitalisation across 17 European stock market (not limited to the Eurozone), covering around 90% of free-float market capitalisation in the region. The countries that make up the index are Spain, Norway, Austria, Germany, Denmark, Sweden, Luxembourg, France, Ireland, Belgium, Finland, Italy, the Netherlands, Poland, Switzerland, Portugal and the United Kingdom. The highest proportion of firms corresponds to the United Kingdom, with around 28 per cent of the index, followed by France, Germany and Switzerland, with approximately 15 per cent each. Financial companies are excluded from the sample because of their different nature and regulations related to reporting social and environmental disclosures (Dwekat et al., 2020; Hong & Andersen, 2011). Data were collected from several sources and at different stages. First, we collected data on ACs (independence and financial expertise), CSR committee, governance score components and financial data from Refinitiv Eikon database (Carmona, Dwekat & Mardawi, 2022). Second, based on the

Global Reporting Initiative (GRI) database 'data legend', the sample companies were identified on the basis of whether they had issued an external CSRA report during the study period or not. If so, we then collect data about the assurance provider, level of assurance and assurance scope for companies that had obtained CSRA reports in a given year.[5] Third, we collected other AC variables (size and meeting frequency) from Bloomberg database. From our initial sample of 4099 firm-year observations for non-financial companies listed on the STOXX Europe 600, some were omitted due to missing data for some variables collected from the above-mentioned databases and due to merging data from different sources. Our final sample, therefore, consisted of 3707 firm-year observations[6] (see Table 1).

3.2 | Variable measurement

3.2.1 | Dependent variable (CSRA)

The GRI Sustainability Disclosures database 'data legend' stores and tracks critical reporting and related company data. Each company that has published CSR/integrated reports that is included in the database has an accompanying profile, including its name, logo, size, status, sector, country, description and other valuable data that facilitate the interaction between the reporting firm and different types of stakeholders. More significantly, all the sustainability, CSR or integrated reports publicly available and registered with GRI have a report profile page, such profiles provide high-level reporting information.

Concerning CSRA, the GRI Sustainability Disclosures database provides a wide range of information extracted from CSRA reports if the reporting company has issued a CSRA in a given year. To test the study hypotheses, data about external assurance on whether the reporting company had published a CSRA report in a given year, the CSRA level, CSRA scope and CSRA assurer were retrieved from the GRI database. The level of CSRA indicates the depth and extent of work undertaken by the assurance provider concerning CSRA. CSR assurers usually provide two levels: 'reasonable assurance' (i.e., high but not absolute) or 'limited assurance' (i.e., moderate); the higher the level, the more rigorous the assurance process. The scope of CSRA refers to the extent of the information included in the CSRDs and covered by the assurance. Coverage consists of the whole CSRA, specific section(s) and greenhouse gas emissions (GHG) only or not specified. Based on Clarkson et al. (2019), this study uses assurance scope as an indicator variable equal to 1 if the CSR/sustainability disclosures were fully assured, and 0 otherwise. The term 'CSRA assurer' refers to independent external experts who provide CSRA services. The GRI categorises them into three main groups: accounting firms, small consultancy or professional services firms, and engineering firms. In line with Manetti and Toccafondi (2012) and O'Dwyer (2011), we divided CSR assurers into two groups: accounting firms, which take a value of 1, and non-accounting firms, which take a value of 0. Table 3 indicates the measurements of the dependent variables.

TABLE 1 Sample selection

	Total, firm-year observations
Non-missing data from Refinitiv-eikon	4099
Merged with GRI data	4092
Thereof: assured CSR disclosures	*1108*
Merged with Bloomberg data	3707
Final sample size	**3707**
Thereof: assured CSR disclosures	*988*

Bold and italic are used to know the final sample regarding each model.

3.2.2 | Independent variables (AC characteristics)

According to previous board and CSR/CSRA articles, AC characteristics were chosen which show evidence of independence, financial expertise, size and meeting frequency in CSR/CSRA (Al-Shaer & Zaman, 2018; Appuhami & Tashakor, 2017; Dwekat et al., 2020; Zaman et al., 2021). Consistent with previous literature (Al-Shaer & Zaman, 2018; Clarkson et al., 2019; Fuhrmann et al., 2017), the study controls several factors that could influence the decision to obtain a CSRA report. This decision is also affected by firms' CG attributes (Al-Shaer & Zaman, 2018; Martinez-Ferrero et al., 2017; Velte, 2021), among which both firm and country factors justify the CSRA decision (Castelo Branco et al., 2014; Kend, 2015; Liao et al., 2018; Ruhnke & Gabriel, 2013; Velte, 2021). CG balances all stakeholders' well-being and alleviates business risks (Martinez-Ferrero et al., 2017). Moreover, Martínez-Ferrero and García-Sánchez (2017a) and Martinez-Ferrero et al. (2017) evidence a positive impact of board strength on CSRA adoption. After carefully reviewing previous CSRA literature, this study employs CSR committee, board size and CEO separation as control variables.

Concerning firm characteristics, Sierra et al. (2013) and Tarquinio and Rossi (2017) show that firm size is considered a crucial input factor of CSRA, which positively affect managers' decisions to obtain CSRA reports. Consequently, it is expected that firm size to be positively correlated with the adoption of CSRA. Furthermore, it is assumed that firms' financial situation might impact such adoption. Castelo-Branco et al. (2014) found that profitability was positively linked with the adoption of CSRA. Additionally, greater leverage would lower the opportunity to obtain a CSRA report (Castelo Branco et al., 2014; Sierra et al., 2013). Therefore, profitability and leverage are expected to have positive and negative relationships with the adoption of CSRA respectively. Table 3 shows the measurements of all the independent and control variables.

3.3 | Regression model

Based on Al-Shaer and Zaman (2018), this study used the following logit regression model to test the hypotheses.

TABLE 2 Distribution of external assurance reports across years, geographic zones and industries

	0	1	Percentage of CSRA reports for each year, industry and country	Percentage of total CSRA reports
Panel A: Years				
2012	351	146	0.29	0.15
2013	345	161	0.32	0.16
2014	377	145	0.28	0.15
2015	368	171	0.32	0.17
2016	383	155	0.29	0.16
2017	447	111	0.20	0.11
2018	448	99	0.18	0.10
Panel B: Industries				
Basic materials	257	189	0.42	0.19
Consumer discretion	583	160	0.22	0.16
Consumer staples	243	66	0.21	0.07
Energy	119	89	0.43	0.09
Health care	279	52	0.16	0.05
Industrials	687	201	0.23	0.20
Real estate	165	45	0.21	0.05
Technology	158	40	0.20	0.04
Telecommunications	119	76	0.39	0.08
Utilities	109	70	0.39	0.07
Panel C: Countries				
Austria	24	15	0.38	0.02
Belgium	45	23	0.34	0.02
Denmark	104	10	0.09	0.01
Finland	59	73	0.55	0.07
France	431	123	0.22	0.12
Germany	328	149	0.31	0.15
Greece	5	4	0.44	0.00
Ireland; Republic of	26	7	0.21	0.01
Italy	34	37	0.52	0.04
Netherlands	96	59	0.38	0.06
Norway	54	19	0.26	0.02
Poland	3	3	0.50	0.00
Portugal	4	4	0.50	0.00
Spain	82	83	0.50	0.08
Sweden	142	89	0.39	0.09
Switzerland	257	80	0.24	0.08
United Kingdom	989	190	0.16	0.19
Total	2719	988		%100

Note: This table presents the distribution of CSRA reports across years, countries and industries. CSRA report is a dummy variable equal to 1 if the firm issued a sustainability assurance report in a given year, and 0 otherwise.

$$\begin{aligned}\text{CSRA\_Adoption} &= \beta_0 + \beta_1 \text{AC\_EXP}_{it-1} + \beta_2 \text{AC\_IND}_{it-1} + \beta_3 \text{AC\_SIZE}_{it-1} \\ &+ \beta_4 \text{AC\_MEETING}_{it-1} + \beta_5 \text{CSRCOMM}_{it-1} + \beta_6 \text{SIZE}_{it-1} + \beta_7 \text{LEV}_{it-1} \\ &+ \beta_8 \text{ROE}_{it-1} + \beta_9 \text{B\_SIZE}_{it-1} + \beta_{10} \text{SEPARATION}_{it-1} + \text{Fixed effects} + \varepsilon_{it}\end{aligned}$$

Where the dependent and independent variables are defined in Table 3, ε is the error term, and βk are the regression coefficients.

4 | EMPIRICAL RESULTS

4.1 | Descriptive statistics and correlation

Table 4 summarises the descriptive statistics of all the variables used in the study analysis. It shows that nearly 27% (988 firm-year

TABLE 3 Measurement of the variables

Variables	Label	Operational definition
Dependent variables		
CSRA adoption	CSRA_Adoption	Dummy variable equal to 1 if the firm issued a CSRA report in a given year, and 0 otherwise (source: GRI database)
CSRA level	CSRA_Level	Dummy variable equal to 1 if the level of assurance was reasonable/high, and 0 otherwise (source: GRI database)
CSRA scope	CSRA_scope	Dummy variable equal to 1 if the CSR disclosures were fully assured, and 0 otherwise (source: GRI database)
CSRA assurer	CSR_Assurer	Dummy variable equal to 1 if an accountancy firm provided the CSRA, and 0 otherwise (source: GRI database)
Independent variables		
AC financial expertise	AC_EXP	Dummy variable equals 1 if the firm has an AC with at least 1 'financial expert' as defined in SOXX or 0 otherwise (source: Asset4-Refinitive Eikon)
AC independence	AC_IND	The proportion of independent board members on the AC (source: Asset4-Refinitive Eikon)
AC size	AC_SIZE	The total number of AC members at the end of the fiscal year (source: Bloomberg)
AC meeting frequency	AC_MEETING	The number of AC meetings through the year (source: Bloomberg)
CSR Committee	CSRCOMM	Dummy variable equal to 1 if the company had a CSR committee, and 0 otherwise (source: Asset4-Refinitive Eikon)
Firm size	SIZE	Natural logarithm of total assets (source: Datastream-Refinitive Eikon)
Financial leverage	LEV	The ratio of total debt to total assets (source: Datastream-Refinitive Eikon)
Return on equity	ROE	The ratio of net income to total equity (source: Datastream-Refinitive Eikon)
Board size	B_SIZE	The total number of board members at the end of the fiscal year (source: Asset4-Refinitive Eikon)
CEO separation	SEPARATION	Dummy variable equal to 1 if there was separation between CEO and board chair or 0 otherwise (source: Asset4-Refinitive Eikon)
Additional variables		
Industry CSR Sensitivity		Dummy variable equal to 1 if the firm is member of a CSR sensitive industry based and 0 if the firm is member of a non-CSR sensitive industry, based on Simnett et al. (2009)
ENFORCEMENT	ENFORCEMENT	Kaufmann's rule of law index (Kaufmann et al., 2010). *Higher values reflect higher legal enforcement* (source: World Bank Governance Indicators)
POWER_DISTANCE	POWER_DISTANCE	Hofstede's power distance scores, range from 0 to 100. *A higher score signifies a large power distance between individuals*. (Source: the Hofstede Centre [geert-hofstede.com])
INDIVIDUALISM	INDIVIDUALISM	Hofstede's individualism scores, range from 0 to 100. *A higher score indicates more individualism in society* (source: the Hofstede Centre [geert-hofstede.com]).
MASCULINITY	MASCULINITY	Hofstede's individualism scores, range from 0 to 100. *A high score on the Masculinity/Femininity dimension indicates that a masculine society is driven by competition, achievement and success, with success being defined by the 'winner' or 'best-in the field'. A low score means that the dominant values in the feminine society consist of caring for others and quality of life* (source: the Hofstede Centre [geert-hofstede.com])
UNCERTAINTY_AVOIDANCE	UNCERTAINTY_AVOIDANCE	Hofstede's uncertainty avoidance scores, range from 0 to 100. *A higher score implies a higher level of uncertainty avoidance* (source: the Hofstede Centre [geert-hofstede.com])

observations) of our sampled companies issued CSRA reports. The table also reveals that 137 of the firm-year observations adopted a reasonable/high level of assurance (4% of the total sample; 14% of the CSRA reports). In addition, 374 of CSR reports/disclosures were fully assured (10% of the full sample; 38% of the CSR reports/disclosures). Furthermore, the table reveals that 814 CSRA reports were assured by Big4 accounting firms (22% of the total sample; 82% of the CSRA reports). Concerning AC variables, the mean

TABLE 4 Descriptive statistics

Variables	Mean	*SD*	Min	Max
CSRA_Adoption	0.27	0.44	0	1
CSRA_Level	0.04	0.19	0	1
CSRA_Scope	0.10	0.30	0	1
CSRA_Assurer	0.22	0.41	0	1
AC_EXP	0.81	0.394	0	1
AC_IND	78.57	29.303	0	100
AC_SIZE	3.92	1.116	2	8
AC_MEETING	5.25	2.158	2	14
CSRCOMM	0.78	0.414	0	1
SIZE	15.50	1.368	10.329	19.783
ROE	14.86	22.241	−65.42	124.27
LEV	0.20	0.138	0	0.707
B_SIZE	2.34	0.329	1.386	3.045
SEPARATION	0.74	0.436	0	1

values in Table 4 reveal that nearly four AC members (AC_SIZE), of which around 79% were independent (AC_IND). AC members tended to meet around five times a year (AC_MEETING), and nearly 81% of our sampled firms had at least one member with financial expertise. In addition, approximately 74% of our sampled firms made a separation between the CEO and board chair (CEOSEP). Almost 78% of the sampled firms had a CSR committee (CSRCOM).

To check multicollinearity between the study variables, Pearson's correlation of all the variables is calculated and is reported in Table 5. The values show that the highest correlation of .512 was between B_SIZE and SIZE. Furthermore, they show a low or moderate correlation between the variables. Therefore, there are no multicollinearity problems between the variables proposed to test the study hypotheses. It can also be seen that the CSRA is significantly correlated to all the AC variables (AC_EXP, AC_IND, AC_SIZE and AC_MEETING), CSR committee, firm size, ROE, financial leverage and board size. Regarding the correlation between AC attributes, our correlation matrix indicates a low correlation between AC_EXP and AC_SIZE. While we find this result is surprising, a possible explanation could be due to the measurement of AC_EXP (see Table 3).

4.2 | AC attributes and the adoption of CSRA

Models 1–4 show the results for the individual characteristics of the AC on the adoption of CSRA, while Model 5 shows the outcome of the bundling effect (the combined effect of AC characteristics). From Models 1 to 5, support is shown for all our hypotheses apart from AC size (AC_SIZE).

Table 6 shows the results of the five models related to the adoption of CSRA (1 to 5), that were examined by applying logistic regression. Model 1–4 show the findings on the impact of individual AC attributes on the adoption of CSRA, while Model 5 reports the results of the bundling effect (including all the AC attributes). At the beginning and before running the regression models, we applied Hausman's test to verify whether a fixed or a random effect panel regression was more appropriate (Martínez-Ferrero & García-Sánchez, 2017). The test revealed that fixed effect panel regressions were appropriate for use in the study. All the explanatory variables were lagged to account for endogeneity concerns. In addition, we employed *Country fe* and *Industry fe* to control for the time-invariant country and industry differences and a *Year fe* to show any difference in the output that occurs over time and indicates business cycle and macroeconomic variations (Omran et al., 2021).

All the models in Table 6 (1 to 5) support our hypotheses (H1, H2, and H4) apart from AC size (H3 is rejected). The findings in Model 5 indicate that AC financial expertise has a significant (.297; $p < .05$) positive impact on the adoption of CSRA. This result supports H1, showing that companies with at least one AC financial expert member tend to adopt CSRA reports. This result is in line with the findings of Al-Shaer and Zaman (2018) and Zaman et al. (2021). AC financial expert members could clarify matters that may challenge the auditor and managers to a better degree of financial disclosure (Bédard & Gendron, 2010); attract human resources (Helfaya & Moussa, 2017); reduce agency costs linked to the flow of information (Shaukat et al., 2016) and alleviate possible stakeholder–agency conflicts (Zaman et al., 2021), thus improving the credibility of CSRD and assurance.

The findings of Model 5 also indicate a highly significant (.0629; $p < .01$) positive association between AC independence and the adoption of CSRA. Therefore, our second hypothesis (H2) is accepted. This suggests that companies with a higher percentage of independent AC members are more likely to adopt CSRA. This result is consistent with the agency theory perspective; according to Fama and Jensen (1983), independent AC members could reduce agency problems, information asymmetry and collusion by management by monitoring management practices, thus increasing the adoption of sustainability assurance. The result is also in line with Al-Shaer and Zaman (2018) and Zaman et al. (2021). Al-Shaer and Zaman (2018) indicate that AC independence improves the credibility of sustainability reports, while Zaman et al. (2021) report

TABLE 5 Correlation matrix

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) CSRA_Adoption	1.000										
(2) AC_EXP	0.038*	1.000									
(3) AC_IND	0.043*	0.173*	1.000								
(4) AC_SIZE	0.130*	0.020	−0.197*	1.000							
(5) AC_MEETING	0.218*	0.017	0.040*	0.038*	1.000						
(6) CSRCOMM	0.310*	0.130*	0.131*	0.125*	0.107*	1.000					
(7) SIZE	0.389*	0.006	−0.028	0.298*	0.278*	0.411*	1.000				
(8) ROE	−0.040*	−0.003	0.059*	0.002	−0.086*	−0.027	−0.112*	1.000			
(9) LEV	0.047*	0.034	0.052*	0.030	0.090*	0.011	0.227*	−0.020	1.000		
(10) B_SIZE	0.230*	0.088*	−0.232*	0.419*	0.225*	0.242*	0.512*	−0.036	0.074*	1.000	
(11) SEPARATION	−0.009	−0.024	0.095*	0.031	−0.082*	−0.090*	−0.130*	0.022	0.021	−0.213*	1.000

Note: This table presents the Pearson's correlation coefficients of the dependent and independent variables. All variables are as defined in Table 3.

*Statistical significance at $p < 1\%$ using two-sided t-statistics.

that a higher percentage of independent members on the AC could alleviate possible stakeholder–agency conflicts and thus improve CSRA quality. In the same way, ACs with more independent members are more efficient in supporting non-financial disclosure credibility (Mangena & Tauringana, 2007), such as CSR (Appuhami & Tashakor, 2017). Very recently, Dwekat et al. (2020) demonstrate that AC independence is an essential AC attribute in increasing CSR reporting levels.

Furthermore, AC size impacts CSRA positively; however, the relation is insignificant. Therefore, H3 is rejected. This result is consistent with Al-Shaer and Zaman (2018) and Zaman et al. (2021), who indicates an insignificant association between AC size and the adoption and quality of CSRA. Finally, concerning AC meetings frequency, our results indicate a significant (.0617; $p < .05$) positive relationship with the adoption of CSRA, meaning H4 is supported which indicate that companies with more frequent AC meetings tend to adopt CSRA. This outcome is consistent with Al-Shaer and Zaman (2018), highlighting the critical role of the frequency of AC meetings in enhancing the credibility of CSRA. For instance, according to Abbott et al. (2004), ACs would have more experience and knowledge related to accounting, auditing and sustainability if they had more frequent meetings. They would also enhance the duties associated with control, supervision and reporting, thus improving monitoring performance.

Concerning our control variables, consistent with the previous CSRA literature, our results reveal that the CSR committee has a positive influence (1.717; $p < .01$) on the adoption of CSRA (Kend, 2015; Martínez-Ferrero & García-Sánchez, 2017). The primary CSR committee responsibilities are monitoring CSR policies and performance, which would help the board to control and adopt better sustainability patterns that would improve their CSR level (Liao et al., 2018), enhancing the credibility of voluntary disclosure through the dissemination of an external assurance statement (Martínez-Ferrero & García-Sánchez, 2017a). In line with Sierra et al. (2013) and Castelo-Branco et al. (2014), Table 6 indicates a significant positive association between firm size (SIZE) and the adoption of CSRA (.750; $p < .01$), and ROE is positively associated with the adoption of CSRA (.00517, $p < .01$). Sierra et al. (2013) obtained a similar result and argue that firm performance is associated with higher CSRA adoption. Financial leverage (LEV) has a significant and negative relationship with CSRA (−.554, $p < .10$), which is consistent with the outcomes of De Beelde and Tuybens (2015) and Casey and Grenier (2015). Finally, our results also indicate that the separation between CEO and chairman of the board contributes positively to the adoption of CSRA (.345, $p < .01$).

4.3 | Further analysis—The impact of ACs characteristics on the level of CSRA; the scope of CSRA and CSRA assurers

To further understand how AC attributes influence on CSRA features (namely, level, scope and assurance provider), Table 7 shows

TABLE 6 The impact of audit committee attributes on the decision to adopt CSRA report

	(1)	(2)	(3)	(4)	(5)
Variables	CSRA_Adoption	CSRA_Adoption	CSRA_Adoption	CSRA_Adoption	CSRA_ Adoption
$AC\_EXP_{(t-1)}$	0.305**				0.297**
	(0.122)				(0.13)
$AC\_IND(_{t-1})$		0.00574***			0.00629***
		(0.00181)			(0.00186)
$AC\_SIZE_{(t-1)}$			0.0523		0.07
			(0.0474)		(0.0495)
$AC\_MEETING_{(t-1)}$				0.0556**	0.0617**
				(0.0251)	(0.0261)
$CSRCOMM_{(t-1)}$	1.743***	1.762***	1.794***	1.729***	1.717***
	(0.184)	(0.183)	(0.191)	(0.183)	(0.192)
$SIZE_{(t-1)}$	0.742***	0.716***	0.785***	0.732***	0.750***
	(0.0423)	(0.0436)	(0.0442)	(0.0398)	(0.0446)
$ROE_{(t-1)}$	0.00603***	0.00579***	0.00451**	0.00618***	0.00517***
	(0.00191)	(0.00191)	(0.00202)	(0.00207)	(0.00198)
$LEV_{(t-1)}$	−0.738**	−0.707**	−0.574*	−0.486	−0.554*
	(0.309)	(0.305)	(0.325)	(0.32)	(0.332)
$B\_SIZE_{(t-1)}$	0.112	0.268	−0.0613	−0.0101	−0.0656
	(0.185)	(0.196)	(0.211)	(0.199)	(0.206)
$SEPARATION_{(t-1)}$	0.399***	0.397***	0.410***	0.413***	0.345***
	(0.0988)	(0.0991)	(0.104)	(0.103)	(0.103)
Constant	−12.42***	−12.62***	−13.05***	−11.99***	−13.25***
	(0.782)	(0.812)	(0.878)	(0.803)	(0.917)
Year fe	Yes	Yes	Yes	Yes	Yes
Country fe	Yes	Yes	Yes	Yes	Yes
Industry fe	Yes	Yes	Yes	Yes	Yes
Pseudo R^2	.283	.284	.279	.275	.284

Note: The table shows the results of the logit regression models for the sample consisting of European companies listed on the STOXX 600 over the period 2012–2018. Models 1, 2, 3 and 4 test the influence of AC financial expertise, independence, size and meetings frequency on the decision to issue CSRA respectively. Model 5 examines the influence of all AC attributes on the decision to issue CSRA (refer to Table 3 for variable definitions). All the explanatory variables are 1-year lagged to account for possible endogenous interdependence. We run the regressions using country-year clustered to robust standard errors.

***Statistical significance at 1% level; **statistical significance at 5% level; *statistical significance at 10% level.

logistic regression models that examine the impact of AC attributes on CSRA level, CSRA scope and CSRA assurer respectively. Model 1 examines the effects of AC attributes on CSRA level. It shows that firms with more financial expert members on its AC are more likely to have reasonable/high CSRA. This means there is a highly significant positive association between AC financial expertise and CSRA level (.785; $p < .01$). Furthermore, the result supports the study of Zaman et al. (2021), who indicate that AC industry expertise is linked with high CSRA quality. However, our results do not find a significant relationship between CSRA level and other AC variables (independence, size and meetings).

Concerning the effect of AC attributes on CSRA scope, Model 2 shows that AC financial expertise has a positive influence on it (.681; $p < .01$). This result is in line with our findings in Models 1, 5 in Table 6 and Model 1 in Table 7, which indicates that companies with AC financial expertise are more likely to have a fully assured CSR report. In addition, this result is consistent with the findings of Zaman et al. (2021), who indicate that ACs with expert members are better positioned to reduce stakeholder–agency problems by enhancing CSRA quality. Moreover, our findings also indicate a positive association between AC meetings frequency and CSRA scope (.0734; $p < .05$). This is in line with recent empirical evidence that AC meeting attendance would improve members' capability to monitor CSRA processes, which eventually enhances the quality of the CSRA statements produced (Zaman et al., 2021). Nevertheless, our results do not indicate significant association

TABLE 7 Further analysis - the impact of audit committee attributes on CSRA level, scope and assurer

	(1)	(2)	(3)
Variables	CSRA_LEVEL	CSRA_SCOPE	CSRA_Assurer
$AC\_EXP_{(t-1)}$	0.785***	0.681***	−0.736*
	(0.287)	(0.239)	(0.395)
$AC\_IND(_{t-1})$	0.00204	−0.00514	0.0129
	(0.00403)	(0.00391)	(0.00968)
$AC\_SIZE_{(t-1)}$	−0.0346	−0.146	0.176
	(0.0892)	(0.0969)	(0.191)
$AC\_MEETING_{(t-1)}$	−0.0383	0.0734**	0.0594
	(0.0456)	(0.0338)	(0.0823)
$CSRCOMM_{(t-1)}$	1.064	0.464	−0.0972
	(0.797)	(0.355)	(0.578)
$SIZE_{(t-1)}$	−0.0412	−0.13	0.721***
	(0.0876)	(0.0915)	(0.188)
$ROE_{(t-1)}$	0.00413	0.00818**	0.00671
	(0.00442)	(0.00391)	(0.00767)
$LEV_{(t-1)}$	1.530**	1.038	1.036
	(0.773)	(0.734)	(1.145)
$B\_SIZE_{(t-1)}$	1.209**	−0.355	−1.145*
	(0.508)	(0.402)	(0.663)
$SEPARATION_{(t-1)}$	0.124	0.435*	0.604
	(0.257)	(0.222)	(0.485)
Constant	−5.518***	−0.895	−8.965***
	(1.476)	(1.817)	(2.788)
Year fe	Yes	Yes	Yes
Country fe	Yes	Yes	Yes
Industry fe	Yes	Yes	Yes
Pseudo R^2	.193	.168	.222

Note: This table shows the results of the logit regression models for the sample consisting of European companies listed on the STOXX 600 over the period 2012–2018. Model 1 tests the influence of AC attributes on the level of CSRA. Model 2 tests the influence of AC attributes on the scope of CSRA. Model 3 tests the influence of AC attributes on the choice of assurance provider (refer to Table 3 for variable definitions). All the explanatory variables are 1-year lagged to account for possible endogenous interdependence. We run the regressions using country-year clustered to robust standard errors.

***Statistical significance at 1% level; **statistical significance at 5% level; *statistical significance at 10% level.

between other AC variables (size and independence) and CSRA scope.

Finally, Model 3 in Table 7 tests the effect of AC attributes on the CSRA assurer. However, the findings show that there is no significant association between them. This result is consistent with Al-Shaer and Zaman (2018), who report an insignificant relationship between AC size, meeting frequency, financial expertise and type of assurance provider. On the other hand, it is worth mentioning that AC financial expertise negatively affects the choice of assurance provider (*CSR_Assurer*) at a significance level of 10% (.736; $p < .10$). This result means that firms with more AC financial expertise members tend to hire non-accountancy firms as CSRA assurers. A plausible explanation for this result is that other assurance providers, such as sustainability experts, might have practical industry skills and experience in detecting specific sustainability risk matters, and they may also have an improved understanding of the prospects of leading groups of stakeholders (Velte, 2021).

4.4 | Further analysis—Control for industry-CSR-sensitivity and country-level effects

4.4.1 | Control for industry-CSR-sensitivity

To control for the impact of each industry, we differentiated companies on the basis of whether they are classified as CSR-sensitive

or non-CSR-sensitive (Bollas-Araya et al., 2019; Cadez et al., 2019). Following Patten (2002) and Simnett et al. (2009), we classified firms in utilities, mining and production industries as CSR-sensitive ones,[7] because firms in these industries are supposed to have more motivations for offering a positive social image, and their activities have a greater influence on the environment (Al-Shaer & Zaman, 2019). Concerning our data, almost 22% (815 of 3707 observations) of our sample is classified as CSR-sensitive. In line with previous studies, our results in Table 8 indicate a highly significant positive relationship between *CSR_SEN_IND* and the adoption of CSRA (.563; $p < .01$). This result indicates that firms classified as CSR sensitive are more likely to have obtain CSRA. However, the results in Table 9 indicate an insignificant relationship between CSR_SEN_IND and CSRA (level, scope and assurer).

According to the relationship between AC attributes and CSRA (adoption) we retested Hypotheses 1–4 after controlling for industry-specific effects. The finding reported in Table 8 show that the coefficients of the main variables are still consistent with our previous findings presented in Table 6. We also retested the relationship between AC attributes and CSRA level, scope and assurance providers after controlling for industry-specific effects and the finding is shown in Table 9 is still consistent with the findings reported in Table 7.

4.4.2 | Control for country-level effects

Previous studies (e.g., De Beelde & Tuybens, 2015; Kolk & Perego, 2010; Simnett et al., 2009) suggest that country-level characteristics (e.g., legal enforcement and stakeholder-orientation) influence firms' decisions to have their CSR reports assured and their choice of assurance provider. In line with these studies, we replaced the country indicator variables with legal institutions (rule of law) and cultural dimensions (power distance, individualism, masculinity and uncertainty avoidance). We proposed that sustainability-related assurance (CSRA_Adoption, CSRA_Level, CSRA_Scope and CSRA_Assurer) was not only determined by firm-level variables (SIZE, LEV and ROE), but also by the country-level factors described above (ENFORCEMENT, POWER_DISTANCE, INDIVIDUALISM, MASCULINITY and UNCERTAINTY_AVOIDANCE).[8] The empirical results of this estimation are reported in Tables 8 and 9. Our findings show that the coefficients of the main variables remain statistically significant after controlling for the business environment in which firms operated.

Turning to the country-level variables in Table 8, we found that ENFORCEMENT played an important role in predicting firms' voluntary assurance decisions. In particular, our findings show that CSRA adoption is negatively related to ENFORCEMENT, indicating that firms in countries that have a high rule of law rely less on the assurance of CSR reports in their attempt to increase the confidence of their stakeholders in the credibility of reports. Therefore, a substitution effect (rather than a complementary) relationship exists between the strength of a country-level enforcement system and sustainability-related assurance.

In terms of the cultural dimensions suggested by Hofstede (2001) (i.e., INDIVIDUALISM, POWER_DISTANCE, MASCULINITY and UNCERTAINTY_AVOIDANCE), Table 8 shows that CSRA_Adoption is negatively related to INDIVIDUALISM, POWER_DISTANCE and MASCULINITY; but positively associated with UNCERTAINTY_AVOIDANCE. Individualism is described as the degree of interdependence a society maintains among its members and defines people's self-image in terms of 'I' or 'We' (Hofstede, 2001; Mardawi et al., 2021; Peng & Lin, 2009). In the individualistic societies, systems protecting an individual's rights are highly developed, and stakeholders are less motivated in achieving objectives that are not their own (Peng & Lin, 2009). Within such a context, companies in a cultural environment of an individualistic nature tend to be less willing to disclose social and environmental information (Pucheta-Martínez & Gallego-Álvarez, 2020). This reasoning is consistent with our findings reported in Table 8.

Power Distance is another cultural dimension suggested by Hofstede (2001). It deals with the fact that all individuals are not equal and is described as the degree to which the less powerful individuals of institutions and organisations within a country accept that power is not evenly distributed (Hofstede, 1984). The concept clarifies whether inequality in a society is accepted by followers as much as it is accepted by leaders. Our findings indicate that a high degree of power distance is negatively associated with obtaining a CSRA report. In this vein, Gray (1988), suggests that the greater the power distance, the less information is disclosed because power inequalities are preserved, and stakeholders are less likely to have higher expectations of social and environmental disclosure, as they correspond with their cultures and believe that power should be concentrated. Orij (2010) and Peng et al. (2014) find evidence of a negative relationship between power distance and corporate environmental performance, which is consistent with our findings presented in Table 8.

The masculinity dimension refers to gender and the role of women in society. Male-oriented cultures tend to be more focused and assertive on material success. In such cultures, men are described as assertive, aggressive, ambitious, competitive and materialistic, while cooperative behaviour is less appreciated. On the other hand, feminine cultures tend to be more focused on quality of life, cooperative and modest (Hofstede, 2001). Scholars such as Peng et al. (2014) argue that cultures with a high degree of masculinity focus more on values such as professional career and business success. In contrast, people in societies where masculinity is not so important, provide further value to the group and society (Gray, 1988), while stakeholders seek information about corporate decisions, such as those related to preserving, the environment and community development. With regard to the results obtained in previous research, there seems to be a negative relationship between masculinity and CSR practices (Husted, 2005; Orij, 2010), which is consistent with our findings in Table 8.

TABLE 8 Further analysis—control for industry-CSR-sensitivity and country-level effects

Variables	(1) CSRA_Adoption	(2) CSRA_Adoption	(3) CSRA_Adoption	(4) CSRA_Adoption	(5) CSRA_Adoption
$AC\_EXP_{(t-1)}$	0.328***				0.254**
	(0.103)				(0.118)
$AC\_IND(_{t-1})$		0.00970***			0.00894***
		(0.002)			(0.002)
$AC\_SIZE_{(t-1)}$			0.0421		0.0870*
			(0.046)		(0.048)
$AC\_MEETING_{(t-1)}$				0.0879***	0.0788***
				(0.021)	(0.023)
$CSRCOMM_{(t-1)}$	1.624***	1.650***	1.633***	1.567***	1.561***
	(0.175)	(0.18)	(0.181)	(0.174)	(0.185)
$SIZE_{(t-1)}$	0.648***	0.611***	0.679***	0.626***	0.618***
	(0.036)	(0.037)	(0.039)	(0.036)	(0.039)
$ROE_{(t-1)}$	0.00502***	0.00466**	0.00399**	0.00552***	0.00425**
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
$LEV_{(t-1)}$	−0.369	−0.416	−0.258	−0.232	−0.337
	(0.291)	(0.287)	(0.314)	(0.309)	(0.32)
$B\_SIZE_{(t-1)}$	−0.321**	−0.0244	−0.501***	−0.398**	−0.321*
	(0.15)	(0.16)	(0.178)	(0.16)	(0.174)
$SEPARATION_{(t-1)}$	0.356***	0.366***	0.360***	0.386***	0.343***
	(0.096)	(0.098)	(0.099)	(0.099)	(0.101)
ENFORCEMENT	−0.781***	−0.667**	−0.608*	−0.345	−0.235
	(0.279)	(0.261)	(0.333)	(0.225)	(0.235)
INDIVIDUALISM	−0.0317***	−0.0337***	−0.0363***	−0.0336***	−0.0420***
	(0.009)	(0.01)	(0.011)	(0.009)	(0.01)
POWER_DISTANCE	−0.0377***	−0.0415***	−0.0272***	−0.0304***	−0.0317***
	(0.009)	(0.009)	(0.01)	(0.008)	(0.009)
MASCULINITY	−0.00811**	−0.00681**	−0.00730**	−0.00758**	−0.00700**
	(0.004)	(0.004)	(0.003)	(0.003)	(0.003)
UNCERTAINTY_AVOIDANCE	0.0139*	0.0187**	0.00815	0.0125*	0.0141*
	(0.008)	(0.008)	(0.008)	(0.007)	(0.008)
CSR_SEN_IND	0.587***	0.568***	0.598***	0.605***	0.563***
	(0.092)	(0.090)	(0.087)	(0.092)	(0.1))
Constant	−7.522***	−8.368***	−7.584***	−8.021***	−8.795***
	(1.03)	(1.087)	(1.093)	(1.014)	(1.113)
Year fe	Yes	Yes	Yes	Yes	Yes
Country fe	No	No	No	No	No
Industry fe	No	No	No	No	No
Pseudo R^2	.231	.235	.225	.234	.24

Note: The table shows the results of the logit regression models for the sample consisting of European companies listed on the STOXX 600 over the period 2012–2018. Models 1, 2, 3 and 4 test the influence of AC financial expertise, independence, size and meetings frequency on the decision to issue CSRA respectively. Model 5 examines the influence of all AC attributes on the decision to issue CSRA. In this table, we replaced country dummies with country characteristics (namely, enforcement, individualism, power distance, masculinity, uncertainty avoidance). We also differentiated between CSR-sensitive or non-CSR-sensitive industries using a dummy variable equal to 1 if the firm is member of a CSR-sensitive industry based and 0 if the firm is member of a non-CSR-sensitive industry, refer to Table 3 for variable definitions. All the explanatory variables are 1-year lagged to account for possible endogenous interdependence. We run the regressions using country-year clustered to robust standard errors.
***Statistical significance at 1% level; **statistical significance at 5% level; *statistical significance at 10% level.

TABLE 9 Further analyses—control for industry-CSR-sensitivity and country-level effects

	(6)	(7)	(8)
Variables	CSRA_LEVEL	CSRA_SCOPE	CSRA_Assurer
$AC\_EXP_{(t-1)}$	0.605**	0.461**	−0.455
	(0.298)	(0.218)	(0.455)
$AC\_IND_{(t-1)}$	−0.0021	−0.00389	0.000118
	(0.005)	(0.003)	(0.007)
$AC\_SIZE_{(t-1)}$	0.107	−0.119	−0.042
	(0.083)	(0.090)	(0.155)
$AC\_MEETING_{(t-1)}$	−0.0879*	0.0670**	0.0845
	(0.053)	(0.032)	(0.074)
$CSRCOMM_{(t-1)}$	1.450*	0.229	0.266
	(0.849)	(0.315)	(0.502)
$SIZE_{(t-1)}$	0.066	−0.146*	0.808***
	(0.087)	(0.075)	(0.166)
$ROE_{(t-1)}$	0.00594	0.00780**	0.0109
	(0.005)	(0.004)	(0.007)
$LEV_{(t-1)}$	1.760***	1.169*	−0.119
	(0.65)	(0.607)	(1.071)
$B\_SIZE_{(t-1)}$	0.829*	−0.303	−0.702
	(0.443)	(0.406)	(0.505)
$SEPARATION_{(t-1)}$	0.603**	0.447**	0.405
	(0.269)	(0.209)	(0.452)
ENFORCEMENT	−0.736*	−0.357	0.0286
	(0.403)	(0.271)	(0.486)
INDIVIDUALISM	−0.0112	−0.0557***	−0.0323
	(0.019)	(0.017)	(0.026)
POWER_DISTANCE	0.0807***	0.0264*	−0.0077
	(0.024)	(0.016)	(0.028)
MASCULINITY	−0.0199**	−0.0105*	−0.00573
	(0.009)	(0.006)	(0.01)
UNCERTAINTY_AVOIDANCE	−0.0447**	−0.0294**	0.0215
	(0.019)	(0.014)	(0.02)
CSR_SEN_IND	0.799***	−0.0952	0.39
	(0.243)	(0.169)	(0.257)
Constant	−5.761***	7.810***	−7.792**
	(1.769)	(1.594)	(3.352)
Year fe	Yes	Yes	Yes
Country fe	No	No	No
Industry fe	No	No	No
Pseudo R^2	.132	.113	.17

Note: This table shows the results of the logit regression models for the sample consisting of European companies listed on the STOXX 600 over the period 2012–2018. Model 6 tests the influence of AC attributes on the level of CSRA. Model 7 tests the influence of AC attributes on the scope of CSRA. Model 8 tests the influence of AC attributes on the choice of assurance provider (refer to Table 3 for variable definitions). In this table, we replaced country dummies with country characteristics (namely, enforcement, individualism, power distance, masculinity, uncertainty avoidance). We also differentiated between CSR-sensitive or non-CSR-sensitive industries using a dummy variable equal to 1 if the firm is member of a CSR-sensitive industry based and 0 if the firm is member of a non-CSR-sensitive industry, All the explanatory variables are 1-year lagged to account for possible endogenous interdependence. We run the regressions using country-year clustered to robust standard errors.

***Statistical significance at 1% level; **statistical significance at 5% level; *statistical significance at 10% level.

Uncertainty avoidance represents how a society deals with the fact that the future is uncertain. Societies that have high uncertainty avoidance apply more rules and regulations on people, with less tolerance for innovation and change (De Mooij & Hofstede, 2010). On the other hand, societies with low uncertainty tend to be more acceptable to change and have more flexible rules and laws. Empirical findings on the relationship between CSR in general and uncertainty avoidance still yield mixed results. Vachon (2010) reported a negative relationship between uncertainty avoidance, environmental innovation and green corporatism. Meaning that stakeholders, in societies with low uncertainty, have higher expectations regarding CSR conducts and ask for more information on environmental issues (Adelopo et al., 2013). Others (e.g., Husted, 2005; Orij, 2010; Thanetsunthorn, 2015) did not find a significant relationship. Our findings in this relationship, however, show a positive relationship between CSRA and uncertainty avoidance.

5 | CONCLUSION

Following the recent calls in the literature to further examine the relationship between other CG mechanisms (such as AC attributes) and firms' decisions to obtain CSRA (Farooq & de Villiers, 2017; Garcia-Sanchez, 2020; Martinez-Ferrero et al., 2017; Velte, 2021), the purpose of this study is to test the influence of AC attributes on the adoption of CSRA. The study also fills the literature gaps and offers insights into the effect of such attributes on the scope and level of CSRA and the selection of CSRA assurers. In summary, it examines how AC financial expertise, AC independence, AC size and AC meetings and CSRA aspects are linked. Contextually, this is achieved using a sample of non-financial European companies listed on the STOXX 600 index over the period 2012–2018. Data were collected for 3707 firm-year observations from the Refinitiv Eikon, GRI and Bloomberg databases.

In conclusion, the study presents evidence of the complementary impact of AC strength and CSRA issues. It also demonstrates that the assurance of CSR reports, AC attributes, CSR committee and other CG attributes can behave as a complementary tool to reduce agency conflict and fulfil a wider set of stakeholder demands. In other words, as predicted, it shows that firms tend to have their CSR reports assured if they have a high frequency of AC meetings with more independent and financial expert members. Therefore, this study concludes that the AC is an effective mechanism in a good CG structure and not simply ceremonial or symbolic.

Furthermore, such AC attributes (AC financial expert and AC meeting frequency) contribute positively to the scope and level of CSRA reports. However, we did not find any significant relationship between AC attributes and the selection of accountancy firm as CSR report assurer. Concerning the industry effect, our findings indicate that firms classified as CSR sensitive are more likely to have assured CSR reports.

These findings have valuable theoretical and practical implications. Our results contribute to agency theory because CSRA and CG (such as AC attributes) alleviate any conflict of interest between agent and principal. The outcomes align with the complementary impact between AC strength and CSRA adoption offered by accountancy firms. Our findings also contribute to legitimacy theory; good CG structure and CSRA are considered essential tools in fulfilling the social needs that guarantee a company's survival, in association with the goals of the society in which it is placed (García-Sánchez et al., 2021). The study's primary practical implication for regulators and policymakers of European companies is that they would recognise how the strength of AC structure affects CSRA aspects. Our study could aid consultants and regulators in presenting CSRA statements to strengthen the reliability and credibility of CSR reports. The outcomes lead to the recommendation that AC members use external CSRA as a legitimation mechanism that guarantees company survival in the long run and as a tool of active communication.

On the other hand, our results highlight the critical role of AC financial expertise and independent members in increasing the adoption of CSRA. Consequently, regulators and policymakers could encourage firms to increase the proportion of independent AC members. Even though most CG codes force firms to include at least one AC member with financial and accounting knowledge, our outcomes underline the importance of the role of the AC financial specialist member in improving not only the adoption, but also the level and scope of CSRA. Therefore, legislators and regulators may encourage firms to involve more than one financial specialist member on the AC.

Our study has some limitations that future scholars could consider. First, we examined the direct effect of AC structure on the adoption of CSRA, its scope and level and the CSRA provider; further research could consider the moderating impact of variables such as CSR committee, board independence and CSR (ESG) disclosure scores. Second, another limitation is related to CSRA measurement; the adoption of CSRA was measured using a binary variable, although it is the most common measurement for it (Al-Shaer & Zaman, 2018; Kend, 2015; Martinez-Ferrero et al., 2017; Simnett et al., 2009). Third, our study investigated CSRA level and scope using dummy variables; for instance, the mere adoption of the CSRA process does not automatically mean a high-quality CSRA assurance level, as it is a multidimensional structure that is influenced by various aspects (Francis, 2011). Future scholars could attempt to offer a more comprehensive quality measure for CSRA and expand the results of this research to study the quality of CSRA.

Fourth, regarding the CSRA assurer, this aspect was measured using a binary variable equal to one if the accountancy firm provided the CSRA, and zero otherwise. At the same time, the GRI classifies them into three key groups: accountancy, small consultancy and engineering companies. Therefore, future researchers could repeat this study to investigate the effect of AC attributes on the selection of accountancy, consultancy or engineering companies. Fifth, it would be beneficial for future investigations to not only include other CSRA aspects that may be influenced by AC attributes, but also to define how such CSRA engagement could affect stakeholders' perceptions of company reputation and image or market value, among

other aspects. Sixth, concerning the methodological implications, Dwekat et al. (2020) conclude that a combination of more than one best possible AC and board attributes could be used to achieve higher CSRD levels. Therefore, it could be more effective for future studies to use creative methods; for example, fuzzy sets (fsQCA) that combine quantitative and qualitative approaches (Jain & Jamali, 2016; Ragin, 2000; Samara & Berbegal-Mirabent, 2018). Seventh, future investigations could complement this study by conducting interviews with AC members and offering insights into the role of the AC in CSRA within specific institutional and organisational settings. Eighth, our results highlight the critical role of AC financial expertise in enhancing the level and scope of CSRA, as well as its implementation. According to Iyer et al. (2013) and Abernathy et al. (2014), different AC financial expertise characteristics affect the effectiveness of the AC. Therefore, it could be more attractive for future research to examine the specific characteristics (such as gender, independence and experience) and qualifications (such as education, and professional certification) of the AC financial expert members and link these qualifications with the adoption of CSRA. Finally, while we rely on a representative sample of 17 European firms using The STOXX Europe 600 index, future research could use a broader multinational sample that is not limited to 17 European countries.

CONFLICT OF INTEREST

The authors declare that there is no conflict of interest.

DATA AVAILABILITY STATEMENT

Research data are not shared.

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ENDNOTES

[1] Following Cohen and Simnett (2015, p. 59), we use the CSRD label as 'a catch-all of predominantly non-financial reports. These reports may also be referred to as Sustainability reports; Corporate Responsibility reports; Environmental, Social and Governance (ESG) reports; Triple Bottom Line (Social, Environmental and Financial) reports, or other similar labels. The reports may also examine a single non-financial issue such as Greenhouse gas emissions or intellectual capital.'

[2] In the European context, CSRA adoption is still widely voluntary.

[3] Refer to the four largest accounting companies, which are Deloitte, Klynveld Peat Marwick Goerdeler (KPMG), Ernst & Young (EY), and PricewaterhouseCoopers (PwC).

[4] STOXX Europe Total Market represents the whole Western Europe region with a variable number of constituents.

[5] Table 2 shows more details of the sample distribution over years, countries, and industries.

[6] More details about the number of CSRA reports and their attributes are provided in the descriptive statistics section.

[7] We relied on industry classification benchmark (ICB) sector code level 3 to classify firms into CSR-sensitive and non-CSR-sensitive.

[8] Refer to Table 3 for variable definitions.

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How to cite this article: Dwekat, A., Meqbel, R., Seguí-Mas, E., & Tormo-Carbó, G. (2022). The role of the audit committee in enhancing the credibility of CSR disclosure: Evidence from STOXX Europe 600 members. *Business Ethics, the Environment & Responsibility*, *00*, 1–23. https://doi.org/10.1111/beer.12439