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# Which attributes of audit committees are most beneficial for European companies? Literature review and research recommendations

Patrick Velte
*Institute of Management, Accounting and Finance, School of Management and Technology, Leuphana University of Lueneburg, Lueneburg, Germany*

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## Abstract

**Purpose** – This paper aims to review 68 archival studies on the impact of audit committees (ACs) on firms' consequences [(non)financial reporting, performance and audit quality] in European firms.

**Design/methodology/approach** – Applying a stakeholder agency-theoretical framework, the author differentiates between three categories of AC variables: presence; composition; and resources, incentives and diligence.

**Findings** – The author finds that AC composition, (non)financial reporting and audit quality are dominant in the literature review. Other inputs or outputs are either too low in amount or yielded heterogeneous results, hindering clear tendencies. However, there are indications that financial expertise is positively related to financial reporting and audit quality, in line with agency theory and European regulatory assumptions.

**Research limitations/implications** – In the discussion of potential future research, the author emphasizes, among others, the need for the recognition of innovative and sustainable AC variables, inclusion of moderator and especially mediator variables and reaction to endogeneity concerns by advanced regression models.

**Practical implications** – As the European Commission currently discusses extended regulations on AC duties and composition, this literature review highlights the huge impact of financial expertise on financial reporting and audit quality. In view of the increased monitoring duties of sustainability reporting, both business practices and regulatory bodies should increase the sustainability expertise of ACs.

**Originality/value** – This analysis makes useful contributions to prior research by focusing on attributes of AC and their impact on firms' outputs in the European capital market, based on a differentiation between mandatory one-tier/two-tier systems and the choice model. The findings support the promotion of European evidence-based regulations, such as the Corporate Sustainability Reporting Directive and the Corporate Sustainability Due Diligence Directive.


**Keywords** Audit committees, Corporate governance, Financial reporting, Financial performance, Audit, Agency theory

**Paper type** Literature review

## 1. Introduction

During the past decade, regulators and business have been concerned about the quality of business reporting, corporate governance and external audit in public interest entities (PIEs) (EC, 2021a). There is a controversial discussion about board variables that may lead to

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better reporting and audit quality, stakeholder reputation and, thus, firm performance (Ghafran and O'Sullivan, 2013). Effective audit committees (ACs), as subcommittees of the board of directors, represent a major corporate governance mechanism, assuming positive firm outputs (Goddard and Masters, 2000; Habbash, 2013). The main duties of ACs are to supervise business reporting, internal audits and external auditors, with a great focus on auditor independence. In line with classical financial reporting, ACs are also responsible for monitoring corporate social responsibility (CSR) reporting or even integrated reporting (Bravo and Reguera-Alvarado, 2019). In reaction to the Enron scandal, the United States government implemented a mandatory AC according to the Sarbanes–Oxley Act (SOX) of 2002 (SOX, 2002). SOX represents the major catalyst for international AC reform initiatives (DeFond and Zhang, 2014). In this context, in 2006 and 2014, the European regulator mainly increased the importance of AC in PIEs with two EU directives (Directive, 2006; Directive, 2014a, 2014b). The goal of the initiatives was to enhance financial market transparency and effectiveness. As EU member states have implemented mandatory one-tier, two-tier and choice models of one-tier and two-tier systems, the comparability of corporate governance is limited. However, ACs should contribute to better corporate governance in both one-tier and two-tier systems. Although the two EU directives stipulate the formation of an AC for PIEs as a principle, several voting rights for EU member states have been included. Thus, many countries still refer to their national corporate governance codes and solely recommend ACs as a "best practice", leading to the comply-or-explain mechanism (Bajra and Cadez, 2018). In reaction to the Wirecard scandal, the German legislator finalized a new financial market integrity act in 2021 (FISG, 2021). PIEs must implement an AC with at least two financial experts. Moreover, the EU Commission (EC) conducted a consultation and an initiative to strengthen corporate reporting, corporate governance, audit and enforcement (EC, 2021a). The EC discusses whether the EU Directive on ACs should be stricter, for example, with regard to mandatory implementation, duties and composition.

In line with this regulatory relevance, empirical research on the impact of ACs in PIEs on corporate reporting, performance and audits relates to great intensity from an international perspective (DeFond and Zhang, 2014). In line with AC presence, much attention is paid to the composition, resources, incentives and diligence of this committee (Ghafran and O'Sullivan, 2013). In recent years, the economic relevance of ACs has been linked not only to the US-American capital market, but also to the diverse European capital market (Dwekat *et al.*, 2020). In view of the goal of evidence-based regulation, it is crucial to determine whether AC effectiveness has increased after the two EU directives and whether AC existence, composition and related aspects drive corporate governance and thus lead to increased corporate reporting, performance and audit outputs. As the included AC variables and research results are heterogeneous and given the lack of a systematic analysis of archival AC research on the European capital market, we contribute to the literature with the analysis offered in this review.

Thus, the objective of this study is to analyze 68 empirical-quantitative (archival) studies on the influence of AC on firm outputs. Referring to a stakeholder agency-theoretical, regulatory and research framework, the author separates the AC variables as independent variables into three main categories:

(1) presence;

(2) composition; and

(3) resources, incentives and diligence.

Our firm outputs (dependent variables) are structured as *(non)financial reporting quality, (non)financial performance and audit quality*. With regard to reporting and performance, we distinguish between financial and environmental, social and governance (ESG) variables. Audit quality measures can also be mainly structured in terms of auditor incentives and competencies (DeFond and Zhang, 2014). As mentioned earlier, given the different corporate governance systems within the EU, country-specific studies should be grouped by mandatory one-tier and two-tier systems and the choice model of the two systems. This is the first study, to the best of the author's knowledge, that analyzes the specific AC attributes on (non)financial performance, reporting and audit quality with a special reference to the different European corporate governance systems. To gain an adequate level of comparability within the included studies, we only include archival studies as the dominant research method in this research topic and focus on European settings.

We capture a growing number of meta-analyses and literature reviews on AC and its impact on firm outputs (Malik, 2014; Ghafran and O'Sullivan, 2013; DeZoort *et al.*, 2002; Turley and Zaman, 2004). We summarize the relevance of our study and our contribution to the literature as follows: as archival AC research dominates the US-American, setting prior literature reviews mainly relied on the US-American setting or neglected a closer differentiation of several regimes. In view of major AC regulations within the EU in the past and the current controversial discussion of future regulations on corporate governance by the EU Commission, we identify a major research gap in a literature review on ACs in the European capital market. This review may also be classified as a contribution to evidence-based regulation for public consultation and the potential future regulations by the EU Commission. Thus, we analyze whether specific AC variables, such as AC effectiveness, have a positive impact on corporate reporting, performance and audit. In contrast to prior meta-analyses on AC (Bilal and Komal, 2018), our aim is not to test statistical correlations of specific AC variables. Instead, we aim to identify the major tendencies of prior research, stress the variety of included proxies and deduce fruitful recommendations for future research designs. We carefully compare the included regimes and their differences regarding corporate governance. To this end, we differentiate between countries with a mandatory two-tier system (e.g. Germany), a mandatory one-tier system (e.g. Belgium) and a voting right between one-tier and two-tier systems (e.g. Denmark). This detailed and focused analysis of the impact of ACs on the European capital market highlights our main contributions to the literature reviews, offering useful research recommendations.

Our review of 64 archival studies stresses major gaps in recent AC research and highlights key challenges that researchers face in their research designs. First, our review indicates that AC composition, corporate reporting and audits represent the most important categories in our literature review. AC presence, resources, incentives and diligence, on the one hand, and firm performance, on the other, are still of lower relevance. Our review also highlights that many studies have found inconclusive results on AC and its impact on firm outputs. However, there are indications that financial expertise in particular positively increases financial reporting and audit quality. Nevertheless, among others, we know less about the impact of ACs on corporate sustainability variables and the cooperation between ACs, and internal and external auditors. Second, we emphasize the need for the inclusion of a combination of AC variables, recognition of moderator and especially mediator variables and recognize endogeneity concerns with the help of advanced regression models.

Our analysis is structured as follows. First, we present an agency-theoretical, regulatory and research framework for our AC literature review (Section 2). Second, we show the key results of our literature review, in which we differentiate between three AC categories (presence, composition, resources, incentives and diligence) and three categories of firm outputs [(non)financial reporting quality, performance and audit quality] (Section 3). Our analysis continues with a discussion of our results and research recommendations, as we differentiate between methodological and content-related aspects (Section 4). Section 5 provides the conclusions of our analysis.

## 2. Theoretical, normative and research frameworks of audit committees

This chapter includes an agency theoretical foundation for our research topic. We use classical agency theory as a starting point because of its dominant use in empirical research and explain the need for an extension to a stakeholder agency framework. We then present an overview of the main regulatory developments of ACs from a European perspective. This leads us to the deduction of our research framework, in which we explain our main research questions. Lastly, we comment on the structured literature review as our chosen research method and explain in detail the sample selection process.

### *2.1 Agency theory*

The link between AC measures and (non)financial reporting, performance and audit can be motivated by various theories (e.g. stakeholder theory, legitimacy theory, resource-based view). As the majority of included studies in this literature review focused on agency theory (Ross, 1973; Jensen and Meckling, 1976), we also rely on this theoretical framework. Based on the separation of ownership and control, Jensen and Meckling (1976) stressed the overarching problem of information asymmetries between management and shareholders, resulting in moral hazards and self-serving activities. These agency conflicts may be decreased by strong monitoring mechanisms by the board of directors (Ross, 1973). Information asymmetries are linked to both financial and CSR reporting, as executives are better informed about the real (non)financial situation of the firm in comparison to other parties. Opportunistic management behavior can lead to a reduced quality of (non)financial reporting, because of conflict of interests. As the board of directors includes members with very diverse education and skills, there is a strong need to implement board committees because of expert concentration. ACs are one of the most important board committees in business reporting in both one-tier and two-tier systems (Bilal and Komal, 2018). Their monitoring function should be linked with management incentives to realize high (non)financial reporting and audit quality, which should lead to increased stakeholder trust and thus (non)financial performance. These agency-theoretical assumptions have also been included in several regulatory reform initiatives on corporate governance in recent years.

Although we notice a dominant use of classical agency in prior AC research, we see the urgent need for an extension by stakeholder agency theory (Hill and Jones, 1992) in view of the following reasons. The monitoring role of AC is not only important for shareholders as principals, but also for other stakeholders. Stakeholders need a reliable (non)financial reporting and related control systems (Pizzi *et al.*, 2022; Fiandrino *et al.*, 2022). Both financial and sustainability reporting will be supervised by the AC. A sound (non)financial reporting system will lead to increased (non)financial performance and thus higher firm reputation. Stakeholders expect the formation of an AC with adequate financial, industry and sustainability expertise and related incentives. If stakeholder interests are included in the job and composition profile of the AC, it may be linked with increased satisfaction by the stakeholders.

In view of the increased monitoring duties of ACs related to sustainability aspects, the traditional restriction on financial and industry expertise must be extended by sustainability expertise. ACs should supervise both financial and sustainability aspects in an integrated manner. Against this background, we refer to stakeholder agency theory (Hill and Jones, 1992) in this literature review.

*2.2 Regulatory aspects*

As a reaction to the famous Enron scandal, all companies listed in a US stock exchange must implement an AC as a permanent committee of the board of directors, according to SOX (2002) (DeFond and Zhang, 2014). All AC members must be financially independent from management and must not themselves be members of executive management. Moreover, the rules of the United States Securities and Exchange Commission (US SEC) require a company to disclose whether it has at least one member who is a financial expert (Bilal and Komal, 2018). The impact of SOX has also spilled over into other judicial areas. The European standard setter reacted to regulatory developments in the USA as early as 2006 (Directive, 2006; Bajra and Cadez, 2018). In 2006, a new EU directive stipulated that PIEs are categorically been obliged to establish an AC, which is explicitly required to monitor the financial reporting process, the internal corporate governance systems (internal control, risk management and internal audit system) and the external auditor (Directive, 2006). However, as several member state options exist, EU member states could decide that the formation of ACs is voluntary, as the board of directors is responsible for the respective duties (Directive, 2006). The minimum requirements of ACs composition relate to at least one independent member and one member with accounting or/and audit expertise (financial expert). As a reaction to the financial crisis of 2008–09, the EU Commission published a new Directive on AC (Directive, 2014a, 2014b). In comparison to the former Directive of 2006, the majority of AC members must be independent according to the Directive 2014 (Directive, 2014a, 2014b). Moreover, the AC chair should be independent. However, a member state option to neglect independence is evident if a two-tier system exists and the AC is part of the supervisory board. Although the EU Directive of 2014 also stresses the monitoring duties of AC with respect to financial reporting and external audits, the member state options to neglect mandatory implementation were also included. In 2014, the EU Commission also finalized a directive on non-financial reporting (Directive, 2014a, 2014b). Since the business year 2017, specific PIEs must publish non-financial declarations (Directive, 2014b). However, explicit AC monitoring duties of the non-financial declaration were not included. As the main instrument of the current EU Green Deal project, the new Corporate Sustainability Reporting Directive (CSRD) of 2022 extends the duties of the AC (EC, 2021b). In the future, ACs must explicitly monitor the new sustainability report and the related internal corporate governance systems in line with financial reports (EC, 2021b). Moreover, the EU Commission conducted a public consultation on "Strengthening of the Quality of Corporate Reporting and its Enforcement" (EC, 2021a). The European standard setter discusses abolishing the aforementioned member state options in the EC Directive on AC and external audits (EC, 2021a). The duties of AC may be increased because of this recent EU initiative. In reaction to the prominent Wirecard scandal, the German legislator implemented a financial market authority act in 2021 (FISG, 2021). This act stipulates that PIEs establish an AC with at least two financial experts. Moreover, the German Stock Exchange requests the formation of an AC as a requirement for a listing in the "DAX40". In summary, within the European Union, AC regulations are moderate with respect to the member state options on the formation of ACs, the "low hanging" fruit of the minimum requirement of one financial expert and the possibility of neglecting AC independence.

*2.3 Research framework*

We developed an AC research framework to structure the main strengths of current research for this literature review (see Figure 1). We rely on existing frameworks provided by Malik (2014), Ghafran and O'Sullivan (2013), DeZoort *et al.* (2002) and Turley and Zaman (2004) and explain our modifications as follows. Malik (2014) structured AC composition, responsibilities and compensation as input factors, and auditors and earnings management/

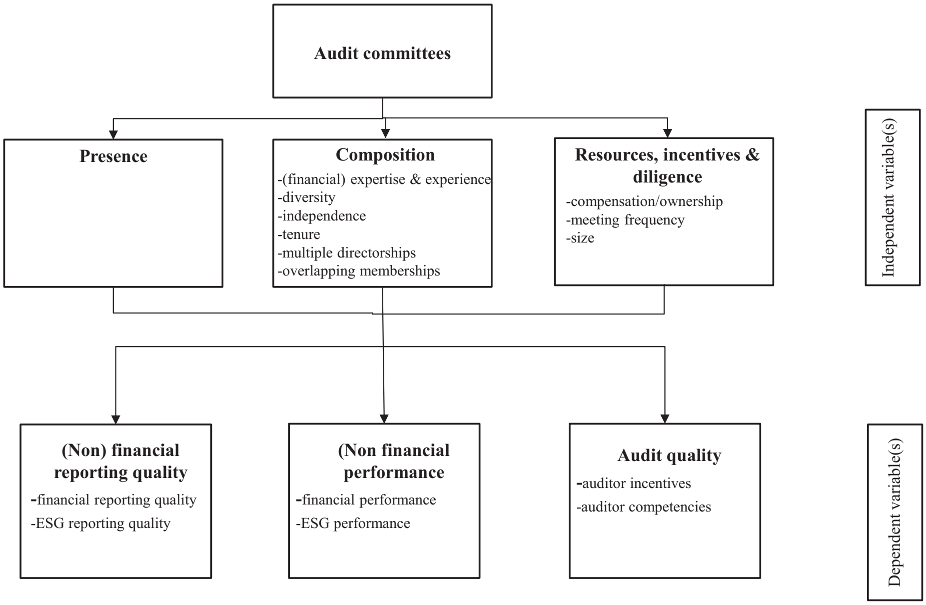



**Figure 1.**
Research framework

**Source:** Author's own creation/work

internal control deficiencies as separate output factors. Ghafran and O'Sullivan (2013) distinguished between AC composition, resources and diligence as AC characteristics, and external audit quality, financial reporting quality and internal audit quality as the financial reporting process. DeZoort *et al.* (2002) proposed a categorization of composition, authority, resources and diligence as AC input factors. Based on these prior AC research frameworks, we differentiate between *AC presence, AC composition and AC resources, incentives and diligence* as AC categories.

AC presence relates to the greatest comparability within the included studies, as a simple dummy variable is used to determine whether an AC is existent or not. Although the European audit regulations stipulate the formation of an AC by PIEs as a principle, many member states' options exist and were used by the specific countries (Directive, 2006; Directive 2014a, 2014b). Therefore, the formation of ACs is still voluntary in most EU countries and not forced by national law, but it is highly recommended by national corporate governance codes to strengthen corporate reporting, performance and audit quality. In line with agency theory, ACs are more effective to monitor the (non)financial reports, internal auditors and external audits in comparison to full non-executives within the board (Ross, 1973; Jensen and Meckling, 1976). Thus, we assume that the presence of ACs will lead to increased firm output.

AC composition, as our second main category, is linked with increased attraction in archival AC research, which leads to an increased variety of included proxies (see Table 1). The included AC composition variables reflect effectiveness and thus should be positively connected with corporate reporting, firm performance and audit. Although some studies relied on overall effectiveness or competencies scores (Bajra and Cadez, 2018; Dwekat *et al.*, 2020), most of the included research concentrated on specific AC composition variables. As already stated,

| | |
|---|---|
| *Panel A: by publication year* | |
| Total: 68 | • 2022: 6<br>• 2021: 7<br>• 2020: 10<br>• 2019: 2<br>• 2018: 9<br>• 2017: 7<br>• 2016: 2<br>• 2015: 1<br>• 2014: 1<br>• 2013: 6<br>• 2012: 2<br>• 2011: 4<br>• 2008: 2<br>• 2007: 3<br>• 2006: 1<br>• 2005: 2<br>• 2004: 1<br>• 2000: 1<br>• 1996: 1 |
| *Panel B: by region* | |
| Total: 68 | • Cross-country: 14<br><br>• *One-tier system (mandatory)*:<br>• Belgium: 3<br>• Greece: 3<br>• Spain: 9<br>• Sweden: 1<br>• *UK: 25*<br><br>• *Two-tier system (mandatory)*:<br>• Germany: 8<br>• *One-tier/two-tier system (voluntary)*:<br>• France: 3<br>• Italy: 2 |
| *Panel C: by journal* | |
| Total: 68 | • *Accounting, auditing and corporate governance journals (48)*:<br>• Accounting and Business Research: 1<br>• Advances in Accounting: 1<br>• Corporate Governance: 3<br>• European Accounting Review: 3<br>• International Journal of Accounting and Information Management: 2<br>• International Journal of Accounting: 1<br>• International Journal of Auditing: 6<br>• International Journal of Banking, Accounting and Finance: 1<br>• International Journal of Disclosure and Governance: 2<br>• International Journal of Economics and Accounting: 1<br>• International Review of Financial Analysis: 1<br>• Journal of Accounting Literature: 1<br>• Journal of Applied Accounting Research: 3<br>• Journal of Business Finance and Accounting: 3<br>• Journal of International Accounting, Auditing and Taxation: 3 |

(*continued*)

**Table 1.**
Count of cited published papers

| | |
|---|---|
| | • Journal of Management and Governance: 5<br>• Managerial Auditing Journal: 4<br>• Pacific Accounting Review: 1<br>• Spanish Accounting Review: 1<br>• Spanish Journal of Finance and Accounting: 1<br>• The British Accounting Review: 4 |
| | • *Management and sustainability journals* (20):<br>• Business Ethics: 2<br>• Business Strategy and the Environment: 3<br>• Corporate Social Responsibility and Environmental Management: 3<br>• Economic Systems: 1<br>• European Management Journal: 1<br>• International Journal of Management and Enterprise Development: 1<br>• Journal of Business Research: 1<br>• Journal of Cleaner Production: 1<br>• Journal of Managerial Issues: 2<br>• Management Decision: 1<br>• Problems and Perspectives in Management: 2<br>• Schmalenbach Business Review: 1<br>• Series: 1 |
| *Panel D: by dependent variable* | |
| Total: 73* | • (Non)financial reporting quality: 34<br>• (Non)financial performance: 10<br>• Audit quality: 29 |
| *Panel E: by independent variable (AC)* | |
| Total: 144* | • Presence: 15<br>• Composition: 88<br>• Resources, incentives and diligence: 41 |
| *Panel F: by endogeneity checks (advanced regressions, e.g. 2SLS/IV, GMM, PSM, diff-in-diff)* | |
| Total: 68 | Yes: 18<br>No: 49 |

**Note:** *Some studies include more than one dependent variable
**Source:** Author's own creation/work

**Table 1.**

European regulations mainly focus on *financial expertise and independence*. Thus, these two variables gain the most attraction in archival AC research. Financial expertise is crucial for the proper supervision of financial reports, internal auditors and external audits. Without the proper existence of financial expertise, the monitoring quality of ACs will be reduced (Bilal and Komal, 2018). In line with financial expertise, industry expertise and other kinds of expertise/experiences of AC members are used. (Non)financial reporting is mainly linked with industry-specific circumstances; for example, the amount of carbon emissions, or leverage. As ACs must compare reporting results with relevant groups, industry expertise is highly required (Weber, 2020). This also relates to prior AC or board experience. Prior studies also included gender diversity within the AC, as female directors are assumed to be more independent and include more stakeholder concerns in their decision-making, for example, because of ESG reporting and performance (Drogalas *et al.*, 2021). In line with agency theory, the recognition of female AC members relates to more critical reflections on (non)financial reports and audit processes, leading to better AC effectiveness (Drogalas *et al.*, 2021). A few studies also refer to the tenure of

AC members, as the influence and power of longer tenure on the board of directors may be increased (McLaughlin *et al.*, 2021). AC members with longer tenure have more firm-specific experience and knowledge about the business model and strategy, which is highly relevant to their monitoring function. The knowledge of AC members may also be influenced by overlapping memberships in audit and compensation committees, as the supervision of business reports, internal audits and external auditors and the development of a sound executive compensation system have many synergies (Méndez *et al.*, 2017). These synergies can lead to a better monitoring environment. Moreover, multiple directorships can increase AC members' expertise and knowledge, leading to AC effectiveness (McLaughlin *et al.*, 2021).

The third category of AC variables in our literature review refers to AC resources, incentives and diligence (Ghafran and O'Sullivan, 2013). Meeting frequency, size and compensation of AC members can be linked to this category. AC effectiveness requires adequate resources (size), incentives (compensation) and diligence (meeting frequency) as a basis of the AC. Thus, a positive impact of these variables on business reporting, performance and audit is assumed (Ghafran and O'Sullivan, 2013). A higher AC size goes along with more expertise and dialogue in the meetings. Higher AC meetings indicate that the AC strengthens discussions and dialogues on (non)financial reporting and audit topics. However, as we will also posit later, there may be a non-linear relationship between AC meeting frequency, size and firm outputs, assuming a specific optimum of these proxies. In line with the incentive-alignment between ACs and shareholders, the members of the AC should have an adequate compensation package (Habbash *et al.*, 2013). Although it is important to prevent identical compensation schemes between executive directors and AC members, there should be an incentive for AC members, to reward them for the conduction of a sound monitoring activity. Therefore, AC members normally receive additional remuneration in comparison to other members.

Our firm outputs (dependent variables) are also differentiated into three main categories. A first research strength concentrates on (non)financial reporting quality. As executives are responsible for the preparation of financial and CSR reports, agency theory assumes opportunistic management behavior (Ross, 1973; Jensen and Meckling, 1976; Hill and Jones, 1992). Thus, according to agency theory, financial reporting quality is reduced by earnings management, misstatements and other errors. Self-impression management may have a massive influence on financial accounts. Traditional AC research includes only financial reporting variables, with a special focus on accruals-based earnings management (Dechow *et al.*, 2010). Abnormal accruals are the difference between the annual result (based on the income statement) and the operational cash flow; that is, it shows results of the financial year not affecting cash (e.g. changes in provisions, depreciation of assets). The first popular accruals model was developed by Jones (1991), who expected an association between changes in revenues or gross property, plant, equipment and the amount of discretionary accruals. Many modifications have been published in recent decades (Dechow *et al.*, 2010). Other earnings management proxies refer, among others, to small earnings increases or meeting/beating analyst forecasts, as investors prefer these circumstances because of reduced transaction costs (DeFond and Zhang, 2014). Earnings misstatements, for example, financial restatements and enforcement activities, represent other inverse proxies of earnings quality (DeFond and Zhang, 2014). Beyond mandatory financial reporting, (voluntary) ESG reporting was included in prior studies, in line with our stakeholder agency model, for example, in relation to compensation disclosure or integrated reports (Pucheta-Martinez *et al.*, 2021). Non-financial reporting can be linked with green washing behavior and information overload to attract shareholders and other stakeholder groups. Since the business year of 2017, European PIEs must prepare a nonfinancial declaration or include the information in a full CSR report, for example, in line with (inter)national frameworks (Directive 2014a, 2014b). As ACs are also responsible for the supervision of CSR reports, the aforementioned AC input variables should lead to increased sustainability reporting quality (Pucheta-Martinez *et al.*, 2021). Financial and ESG performance measures, as our second category of dependent variables, are still of lower relevance. In line with classical financial measures (e.g. ROA, ROE, Tobin's Q), total ESG performance measures based on databases and individual environmental and social scores are also included (Barka and Legendre, 2017). As AC effectiveness should positively contribute to firm reputation, the (non)financial performance scores should also be increased then. As a third category, the connectivity between AC, internal auditors and external auditors should decrease information asymmetries and conflicts of interest between management and the environment (Ross, 1973; Jensen and Meckling, 1976). Studies within our literature review seem to focus on external auditors while neglecting the internal audit function. External auditors can also react as opportunistic agents in line with executives (Antle, 1982). As the external auditor has a major supporting role in ACs, auditor independence is crucial for the realization of a proper external audit quality. Audit quality can be separated into two main subgroups (DeFond and Zhang, 2014). First, auditor incentives, for example, (non)audit fees and audit rotation, mainly influence audit quality. These incentives should prevent threats to auditor independence, for example, financial dependence from management. Second, there are different proxies of auditor competencies, which are mainly related to audit quality (e.g. audit opinions, audit report lag or key audit matters in audit reports). Auditors' expertise positively influences auditor reporting and, thus, quality. AC should demand auditors with strong incentives and competencies to conduct a high-quality audit (DeFond and Zhang, 2014). Otherwise, auditors cannot support ACs in their monitoring functions. Our research framework is shown in Figure 1, and our full list of AC and reporting, performance and audit proxies is presented in Table 1.

### *2.4 Research method and content analysis of included studies*

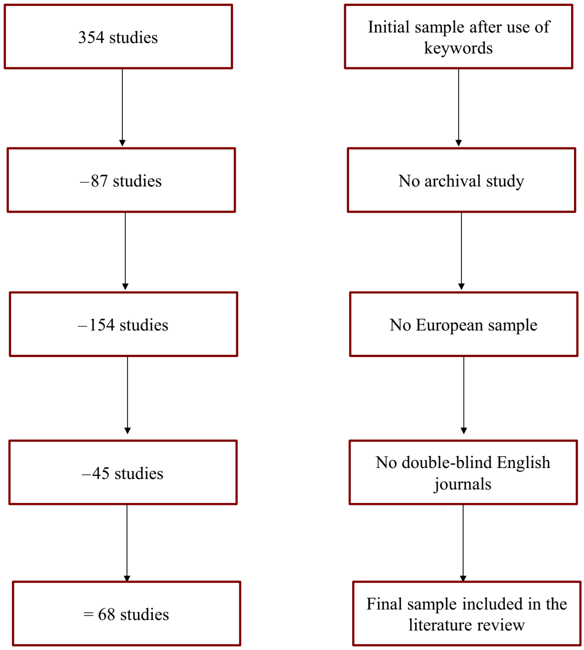
Empirical research on the impact of AC and (non)financial reporting, performance and audit quality is characterized by high heterogeneity with regard to collected data, study designs, theoretical foundations and analytical models (Bilal and Komal, 2018). Thus, it is difficult to analyze the cross-study differences in results and reflect the accumulated research in this field. Literature reviews have become a major research method for scholars, practitioners and regulators seeking to grasp this complex knowledge (Torraco, 2005; Webster and Watson, 2002). Literature reviews represent a type of research that aims to build new knowledge about a certain research topic by using existing literature that covers those aspects. Literature reviews can support theory development and contribute to closing gaps and revealing areas where future research is useful. For practitioners, literature reviews are useful to promote organizational developments for future firm strategies and guidance for policymaking and implementation (Bodolica and Spraggon, 2018).

In this context, we also like to stress the different aims of meta-analyses and structured literature reviews and our decision to conduct a structured literature review. Meta-analyses have become more important during the past decade in corporate governance research to measure the overall statistical significance of a specific economic relationship, based on a conglomeration of single study results. Meta-analyses allow for statistically testing possible moderator and mediator variables. Our goal is to present a narrative analysis of the impact of ACs on firm consequences from a European perspective and to rely on heterogeneous proxies. In contrast to meta-analyses, we are interested in highlighting explicit limitations in prior archival studies from a content and methodological perspective; thus, insight from this review can guide future researchers, as it provides explicit research recommendations for useful research designs. Notably, our included variables are too heterogeneous to conduct a meta-analysis, as meta-analyses are only useful if a restricted relationship, for example, the impact of financial expertise in the AC on earnings management, is tested.

For this literature review, we referred to established processes (Denyer and Tranfield, 2009). First, we clarified our research objective. In contrast to prior literature reviews on ACs, we aim to focus on the impact of ACs on firm's consequences from a European perspective. In this context, we identified major research gaps and inconsistencies in prior AC research. Second, we identified the main theories in the field based on our expert knowledge from previous studies. We outlined the constructs we included in the review and framed our expectations of existing research gaps. On this basis, we derived the specific terms to be used for the database search. Third, we searched international databases: EBSCO Business Source Complete, Web of Science, Google Scholar and SSRN. We also used asterisks to capture related terms. Our search string included relevant keywords ("audit committees" in connection with "financial performance", "ESG performance", "CSR performance", "earnings quality", "earnings management", "audit quality", "audit fees", "restatements", "enforcement", "disclosure", "reporting", "performance", "audit opinion") and related terms. Fourth, we set the exclusion and inclusion criteria. This led to an initial sample of 354 studies. We used archival research as the most important research method for this topic, and our aim is to gain an appropriate level of comparability within the included research. Consequently, we excluded 87 analytical, experimental, qualitative or conceptual papers. As already noted, we are interested in archival research on the European capital market in view of the increased regulatory pressure over the past 15 years. Thus, we solely included studies that relied on European samples or specific European countries. This led to a reduction of 154 studies. A temporal limitation of the included studies was not useful. For quality assurance reasons, we referred only to studies published in international journals with a double-blind review. This resulted in the exclusion of 45 studies, leaving a final sample of 68 studies. Figure 2 presents a chart illustrating the selection process for identifying the included studies.

Fifth, we performed a precursory analysis. The titles of the articles were scanned, and on this basis, we decided which abstracts to read. We did not further consider articles that matched our exclusion criteria. Then, the theory and method sections of the remaining articles were scanned.

Sixth, included studies were coded because of the selected AC (sub-)categories of (non) financial reporting, performance and audit quality, and were matched to our research framework. We coded significant findings and their indicators in line with the vote-counting technique (Light and Smith, 1971). We did so by recording positive coefficients (+), significant negative coefficients (−) and insignificant results (±). Table 2 summarizes the papers based on publication year (Panel A), region (Panel B), journal (Panel C), dependent variable (Panel D), independent variable (Panel E) and endogeneity checks (Panel F). Panel A indicates an increase in studies over the past few years. The years 2020 and 2021 were important because of the number of the included studies (10 and 8 studies, respectively). Interestingly, most of the included studies addressed the UK setting (25 studies) in comparison to other regimes and cross-country designs. We also observed a focus on the one-tier system (41 studies) and thus a low importance of two-tier systems and the choice models between one-tier and two-tier systems. Mandatory two-tier systems are related to Austria, Estonia, Germany, Latvia, Poland and Slovakia. The one-tier system is mandatory in Belgium, Cyprus, Greece, Ireland, Malta, Spain, Sweden and the UK. A voting right between one-tier and two-tier systems can be found in Denmark, Finland, France, Luxembourg, Romania, Bulgaria, Lithuania, Holland, Italy, Portugal, Croatia, the Czech Republic, Hungary and Slovenia. As the UK corporate governance code represents the first and most important code from an international perspective, with a key




**Source:** Author's own creation/work

**Figure 2.**
Flow diagram of the sample selection process

focus on ACs (Goddard and Masters, 2000), this concentration on UK settings in prior empirical research may be justified. Panel C shows the heterogeneity of journal publication outlets in terms of discipline and quality. Most studies were published in accounting, auditing and corporate governance journals (48 studies). The best-known publication outlets are, for example, the *International Journal of Auditing* (six studies), the *Journal of Management and Governance* (five studies) and the *Managerial Auditing Journal* (five studies). Panel D highlights the great research focus on (non)financial reporting as a dependent variable (34 studies), and Panel E documents a focus on AC composition as a category of independent variable (88 studies). Panel F indicates that most included research did not include endogeneity checks by advanced regression models, e.g. two-stage least squares in connection with instrumental variables (2SLS/IV), generalized methods of moment (GMM), propensity score matching (PSM) and differences-in-differences approach (diff-in-diff).

## 3. Findings of the literature review

### *3.1 Audit committee presence*

In comparison to other AC proxies, archival research on the impact of *AC presence* as a dummy variable on reporting, performance and audit is low. As we already indicated the increased EU regulations and recommendations by national corporate governance codes on AC, the implementation represents a "best practice" of listed European companies (Barakat and Hussainey, 2013). Thus, with regard to the great attraction of established AC, it is not surprising that our included studies show inconclusive results. With few exceptions, prior

| List of audit committee variables | List of dependent variables |
|---|---|
| • *Presence; formation*<br>• *Composition*:<br>a) Effectiveness/competencies score of several proxies<br>b) Financial expertise and other expertise (audit-, accounting-, financial-, supervisory-, governance-, industry- and sustainability expertise, audit firm alumni; informal interactions with internal audit function)<br>c) Education(al diversity) and experience (in boards or audit committees)<br>d) Gender diversity (number, ratio, presence, female independent directors, female chair, female professional experience, female financial expertise, female industry expertise)<br>e) Independence (ratio; fully)<br>f) Tenure (chair as number of years; co-tenure relationship between chair and audit engagement partner) majority; larger shareholder representatives; institutional directors (presence; majority; pressure-sensitive)<br>g) Multi-directorships (number; ratio of members with more than three directorships)<br>h) Overlapping audit and compensation committee (ratio; independent directors; independent financial experts)<br><br>*Resources, incentives and diligence*.<br>a) Meeting frequency/attendance; activity (regularly dealing with risk management, internal control, financial results and reporting)<br>b) Size<br>c) Compensation (average total); shareholdings; share ownership | • *(Non)financial reporting quality*:<br>a) Financial reporting quality: accruals-based earnings management (inverse measure); meeting/beating earnings benchmarks (inverse measure); reporting small profits (inverse measure); abnormal stock return volatility/trading volume to earnings announcements; restatements/fraud/enforcement actions/errors (inverse measures)<br>b) ESG reporting quality: operational risk reporting, compensation reporting readability, interim reporting, voluntary reporting, environmental reporting, total CSR reporting, intellectual capital reporting, integrated reporting, based on individual scores<br><br>• *(Non)financial performance*:<br>a) ROA, ROE and Tobin's Q<br>b) firm insolvency (inverse measure)<br>c) Environmental and social expenses and total<br>d) ESG performance measures, based on databases<br><br>• *Audit quality*:<br>a) Auditor incentives: (non)audit fees, audit firm rotation<br>b) Auditor competencies: audit opinion (qualified), audit report lag, key audit matters in audit reports (readability, quantity, match with audit committee reports), big four audit firm, voluntary assurances [CSR reporting (presence; provider; standard), interim reporting)], internal audit function (size; quality) |

**Source:** Author's own creation/work

**Table 2.**
List of audit committee variables

research has neglected country-specific analyses in two-tier systems and cross-country studies.

*3.1.1 Impact on (non)financial reporting quality*. Relying on the German two-tier system, Albersmann and Hohenfels (2017) stressed the positive impact of AC existence on earnings quality, whereas Velte and Stiglbauer (2011) did not find any significant results. Piot and Janin (2007) addressed the French choice model between one-tier and two-tier systems and reported increased earnings quality. Marra *et al.* (2011), based on the Italian choice model, also suggested that the existence and formation of an AC reduced earnings management in the post-IFRS[AQ] introduction phase, but insignificant results were obtained when small positive earnings were considered as inverse earnings quality proxy. According to Peasnell *et al.* (2005), the implementation of AC did not influence earnings management behavior and meeting/beating earnings forecasts in the UK one tier-system. A cross-country study by Bajra and Cadez (2018) even found a negative impact on earnings quality. In addition to financial reporting, Pucheta-Martinez *et al.* (2021) included CSR reporting as a dependent variable and found a positive influence of ACs in a cross-country sample.

*3.1.2 Impact on (non)financial performance.* Prior studies on AC existence and (non) financial performance reported insignificant results. Cancela *et al.* (2020) included ROA, Tobin's Q and environmental/social expenses in a cross-country sample. Similar results were reported by Zhou *et al.* (2018), who included ROA in the Greek one-tier system. The UK study by Appiah and Amon (2017) did not indicate any influence of ACs on firm insolvency.

*3.1.3 Impact on audit quality.* Regarding audit quality and ACs, we found only studies on one-tier systems (Belgium, the UK and Spain). Knechel and Willekens (2006) found a positive relationship between AC and audit fees in Belgium. Collier and Gregory (1996) differentiated between size, risk and complexity-related UK audit fees and highlighted a positive impact on size-related audit fees. However, the presence of an AC in the UK in line with the national Cadbury code did not change audit fees (Goddard and Masters, 2000). According to De Andrés Suárez *et al.* (2013), the mandatory existence of ACs in Spain has led to lower qualified audit opinions. By contrast, Pucheta-Martinez and de Fuentes (2007) did not find any significant impact.

### *3.2 Audit committee composition*

In view of the great variety of AC composition proxies and their assumed major contributions to reporting, performance and audit, this category represents the most important one in our literature review. Within this category, we set a special focus on financial expertise and the related expertise of AC members because of their great attraction in prior research and practical discussions.

*3.2.1 Impact on (non)financial reporting quality.* Most included studies in our literature review referred to the link between AC composition and (non)financial reporting quality with a special focus on *earnings management* and *one-tier systems*. We identified five studies that included an effectiveness score of AC variables and observed a positive impact on (non)financial reporting. The studies by Bajra and Cadez (2018), Braiotta and Zhou (2008) and Verriest *et al.* (2013) were based on a cross-country setting. Chalevas *et al.* (2021) referred to the Greek one-tier setting. Furthermore, Al-Shaer *et al.* (2017) found a positive relationship between AC effectiveness and environmental reporting quality in the UK.

In view of the regulatory pressure on *financial expertise* during recent years, it is not surprising that many studies have included the financial expertise of ACs. Prior studies mainly concluded that AC financial expertise increase (non)financial reporting, especially that it leads to reduced volume of earnings management. However, the specific knowledge and gender of AC members must be simultaneously taken into account. Based on a cross-country setting, Herranz *et al.* (2022) documented the negative impact of audit-related financial expertise on earnings management. Four studies (Albersmann and Hohenfels, 2017; Baumann and Ratzinger-Sakel, 2020; Velte and Stiglbauer, 2011; Weber, 2020) addressed the German two-tier system. The authors stressed that financial expertise (Albersmann and Hohenfels, 2017), audit firm alumni (who recently left the audit firm; Baumann and Ratzinger-Sakel, 2020), the majority of independent financial experts (Velte and Stiglbauer, 2011) and financial/educational expertise and combined expertise (Weber, 2020) lead to a reduced amount of earnings management. Relying on the Italian choice model between one- and two-tier system, financial expertise within the AC and earnings managements were negatively related after the mandatory introduction of the IFRS (Marra *et al.*, 2011). However, there was no significant influence on small positive earnings as an additional measure of earnings quality. Abbasi *et al.* (2020) found that female accounting expertise (but not finance or supervisory expertise) reduces meeting or beating earnings in the UK. Financial expertise also reduces the probability of corporate fraud (Khoufi and Khoufi, 2018, based on the French choice model) and increases CSR reporting (Pucheta-

Martinez *et al.*, 2021, based on a cross-country setting). According to Velte (2018b), financial, sustainability and combined expertise were linked with increased integrated reporting (cross-country design). Mangena and Pike (2005) found a positive impact of financial expertise on voluntary interim reporting in the UK. Alhababsah and Alhaj-Ismail (2021) introduced co-working experience as the co-tenure relationship between chair and audit engagement partner, earnings management and meeting/beating earnings forecasts in the UK and found a positive impact on earnings quality.

Few studies also reported an insignificant impact of financial expertise within AC on earnings management in Belgium (De Vlaminck and Sarens, 2015) and in the UK (Habbash *et al.*, 2013), financial statement fraud in the UK (McLaughlin *et al.*, 2021; Song and Windram, 2004) or intellectual capital reporting in the UK (Li *et al.*, 2012). Weber (2020) addressed industry expertise and the combination of financial and industry expertise without any impact on earnings management in Germany.

In line with financial expertise, we have already stated that *independence* within the AC is connected to increased regulatory pressure. There are hints that AC independence is not related to earnings management. One study found a positive impact on earnings quality in Belgium (De Vlaminck and Sarens, 2015) and a negative influence on CSR reporting from a cross-country perspective (Pucheta-Martinez *et al.*, 2021), whereas others documented an insignificant relationship between independence and (non)financial reporting. Moreover, independence did not influence corporate fraud (Khoufi and Khoufi, 2018; France) and intellectual capital reporting (Li *et al.*, 2012; UK). Neither the majority of independent members in France (Piot and Janin, 2007) and Spain (García Osma and de-Albornoz Noguer, 2007) nor the full independence leads to a change in earnings management in Spain (Sierra Garcia *et al.*, 2012) and in the UK (Habbash *et al.*, 2013).

Other board composition variables were rarely included yet, and inconclusive results were reported. Regarding *gender diversity*, Bravo and Reguera-Alvarado (2019) found a positive influence on ESG reporting in Spain and McLaughlin *et al.* (2021) found an insignificant contribution to financial statement fraud in the UK. McLaughlin *et al.* (2021) also demonstrated that the tenure of the AC members leads to higher financial statement fraud. Similar results can be found for chair tenure since board entrance and earnings management, but tenure decreases enforcement activities in Germany (Nipper, 2021).

Moreover, we know very little about the relationship between *multiple directorships* and earnings quality. Based on a cross-country setting, Herranz *et al.* (2022) found a u-shaped relationship and an optimum of two multiple directorships to decrease earnings management. De Vlaminck and Sarens (2015) indicated that more than three multiple directorships lead to a reduced amount of earnings management in Belgium. By contrast, in the UK, multiple directorships did not influence earnings management (Habbash *et al.*, 2013) or financial statement fraud (McLaughlin *et al.*, 2021; Song and Windram, 2004). In contrast to this, busyness and earnings management are positively related (Ghafran *et al.*, 2022).

Three studies also included overlapping memberships within audit and compensation committees in Spain (Méndez *et al.*, 2017) and Germany (Velte, 2017, 2021). An independent financial expert, as an overlapping person, was connected with fewer earnings management and restatements (Velte, 2017). Overlapping memberships can also increase compensation report readability (Velte, 2021). However, Méndez *et al.* (2017) highlighted an insignificant impact on earnings management.

*3.2.2 Impact on (non)financial performance.* Compared with the great number of studies on AC composition and its impact on (non)financial reporting, there is a low attraction of research on (non)financial performance yet. We also noted a focus on one-tier systems and inconclusive results. Dwekat *et al.* (2020) found a positive impact of overall AC effectiveness and ESG performance from a cross-country perspective. According to Al-Okaily and Naueihed (2020), financial expertise increases financial performance (ROA and Tobin's Q) in UK non-family firms. By contrast, Appiah and Amon (2017) found an insignificant link between financial expertise and UK firm insolvency. Inconclusive results were also reported for the impact of education, educational diversity and corporate reputation in Spain (Perez-Cornejo *et al.*, 2019). Regarding independence, few studies have reported a positive impact on financial performance (Poretti *et al.*, 2018; cross-country) and corporate reputation (Perez-Cornejo *et al.*, 2019; Spain) and a negative impact on firm insolvency (Appiah and Amon, 2017; UK). However, an insignificant impact on financial performance (Zhou *et al.*, 2018; Greece) or even a negative impact of full AC independence was evident (Barka and Legendre, 2017; France). Based on a cross-country setting, Paolone *et al.* (2022) documented a positive impact of AC tenure on environmental performance, whereas Pozzoli *et al.* (2022) stated a positive (negative) influence of AC independence and financial expertise (tenure) on ESG performance.

*3.2.3 Impact on audit quality.* In line with (non)financial reporting, many studies have analyzed the impact of AC composition on *audit quality* with a focus on the one-tier system. Except for financial expertise, the studies on specific composition proxies are too low in number or report heterogeneous results, making a clear tendency challenging to find.

Three studies referred to an overall effectiveness score on the UK capital market and found either a positive impact on audit fees (Nehme and Jizi, 2018), a negative impact on non-audit fees (Al-Okaily and BenYoussef, 2020) or a positive impact on both audit and non-audit fees (Zaman *et al.*, 2011).

In line with our results on (non)financial reporting, *financial expertise* also positively impacts audit quality. Dwekat *et al.* (2022) conducted a cross-country study and stated that AC financial expertise and independence relate to increased CSR assurance. Other studies were conducted for the *UK one-tier system*. Notably, financial experts in the ACs increase the existence of interim reporting assurance (Mangena and Tauringana, 2008), CSR assurance (Al-Shaer and Zaman, 2018), going concern modified opinions among failed firms (Wu *et al.*, 2016), key audit matters in the audit opinion matched with AC reports and lower quantity of key audit matters (Zhang and Shailer, 2022). Ghafran and O'Sullivan (2017) showed a positive relationship between non-accounting expertise and audit fees, whereas Velte (2019) found a positive link between financial, industry, combined expertise and key audit matter readability. However, a German study did not report any impact of the presence of audit firm alumni on audit fees (Baumann and Ratzinger-Sakel, 2020). Insignificant results between financial expertise and (non)audit fees were also stated (Drogalas *et al.*, 2021; Greece).

Focusing on various aspects of experiences, AC experience increases audit fees (Drogalas *et al.*, 2021; Greece), and informal interactions with internal audits strengthen internal audit quality (Zaman and Sarens, 2013; UK). However, AC education or experience and audit firm rotation were not significantly related (Herranz *et al.*, 2020; cross country). Moreover, co-working experience does not impact audit fees (Alhababsah and Alhaj-Ismail, 2021; UK). Based on a cross-country setting, Herranz *et al.* (2020) reported a negative link between education-based expertise and audit fees.

Some studies have also reported heterogeneous results regarding *gender diversity* in ACs. Female directors on the AC lead to lower qualified audit opinions in Spain (Pucheta-Martinez *et al.*, 2016), higher audit fees (Abbasi *et al.*, 2020) and key audit matter readability in the UK (Velte, 2018a). According to Sellami and Cherif (2020), both gender diversity and the combination of gender diversity and professional experience lead to increased audit fees in Sweden. Regarding insignificant results, both female independent directors and female chairs do not impact qualified audit opinions (Pucheta-Martinez *et al.*, 2016; Spain), but lead to increased disclosure of those opinions. Moreover, neither the financial expertise of female AC members nor industry expertise influences audit fees (Sellami and Cherif, 2020; Sweden). Similar results between gender diversity and (non)audit fees were reported by Drogalas *et al.* (2021; Greece).

We also observed heterogeneous results on the influence of AC *independence* on audit quality. Referring to the UK, AC independence increases CSR assurance (Al-Shaer and Zaman, 2018), interim reporting assurance (Mangena and Tauringana, 2008) and going concern modified opinions among failed firms (Wu *et al.*, 2016). Focusing on the Spanish capital market, Pucheta-Martinez and de Fuentes (2007) indicated a negative impact on qualified audit opinions, whereas Pucheta-Martinez and Garcia-Meca (2014) found a negative impact of institutional (gray) investors on ACs on qualified audit opinions. Independent directors, as overlapping members between ACs and compensation committees, are also related to higher qualified audit opinions (Méndez *et al.*, 2017). However, De Andrés Suárez *et al.* (2013) did not find any significant impact of AC independence on qualified audit opinions in Spain. Insignificant results also occur for (non) audit fees in Greece (Drogalas *et al.*, 2021).

Regarding the German capital market, the chair tenure since board entrance and audit report lag are negatively related (Nipper, 2021), and overlapping ACs and compensation committees, independent financial experts as overlapping directors and non-audit fees are unrelated (Velte, 2017).

### *3.3 Audit committee resources, incentives and diligence*

In comparison to AC composition, prior research on *AC resources, incentives and diligence* is of lower relevance yet. We also noted a focus on one-tier systems, on meeting frequency and size. Study results are either too low in amount or too inconclusive to allow for a clear tendency on (non)financial reporting, performance and audit. Nonlinear relationships of meeting frequency and size may be more realistic in this connection, leading to insignificant results in linear regression models.

*3.3.1 Impact on (non)financial reporting quality.* Few studies have observed a positive impact of *AC meeting frequency* on earnings quality in Germany (Albersmann and Hohenfels, 2017; 4–5 meetings are effective) and Spain (Sierra Garcia *et al.*, 2012), on operational risk reporting (Barakat and Hussainey, 2013; cross-country setting), on voluntary reporting in Italy (Allegrini and Greco, 2013) and on intellectual capital reporting in the UK (Li *et al.*, 2012). However, there are also indications that meeting frequency does not impact earnings management in Belgium (De Vlaminck and Sarens, 2015) or in the UK (Habbash *et al.*, 2013) or enforcement activities in the UK (Song and Windram, 2004). McLaughlin *et al.* (2021) found a positive impact of meeting frequency on UK enforcement releases but no impact of AC meeting attendance.

Two studies found that *AC size* increases earnings quality in Spain (Sierra Garcia *et al.*, 2012) and intellectual capital reporting in the UK (Li *et al.*, 2012). Other UK studies did not find any significant impact on earnings management (Habbash *et al.*, 2013), financial statement fraud (McLaughlin *et al.*, 2021) or voluntary interim reporting (Mangena and Pike, 2005). Similar results occur for earnings management in Belgium (De Vlaminck and Sarens, 2015) and Germany (Albersmann and Hohenfels, 2017).

We also identified four UK studies on *AC ownership/remuneration* with both negative impacts on intellectual capital reporting (Li *et al.*, 2012) and interim reporting (Mangena and Pike, 2005) and insignificant influences on earnings management (Habbash *et al.*, 2013) and financial statement fraud (McLaughlin *et al.*, 2021).

*3.3.2 Impact on (non)financial performance.* Two UK studies reported a positive impact of *meeting frequency* on ROA and Tobin's Q in non-family firms (Al-Okaily and Naueihed, 2020) and a negative influence on firm insolvency (Appiah and Amon, 2017). Others did not find any influence on financial performance in France (Barka and Legendre, 2017) or corporate reputation in Spain (Perez-Cornejo *et al.*, 2019).

Related to *AC size*, an increased amount of ROA and Tobin's Q was stated in non-family UK firms (Al-Okaily and Naueihed, 2020), whereas other researchers reported an insignificant impact on ROA in Greece (Zhou *et al.*, 2018) and firm insolvency in the UK (Appiah and Amon, 2017).

*3.3.3 Impact on audit quality.* Few studies have found a positive influence of AC *meeting frequency* on Big Four audit choice in Germany (Quick *et al.*, 2018), audit fees in Greece (Drogalas *et al.*, 2021), CSR assurance in the UK (Al-Shaer and Zaman, 2018) and in cross-country designs (Dwekat *et al.*, 2022), and a negative impact on qualified audit opinions in Spain (De Andrés Suárez *et al.*, 2013). By contrast, according to Sarens and Abdolmohammadi (2011), AC activity and internal audit function size in Belgium are not related. Moreover, meeting frequency does not influence qualified audit opinions in Spain (Pucheta-Martinez and de Fuentes, 2007), and voluntary interim reporting assurance in the UK (Mangena and Tauringana, 2008).

Based on a Greek sample, Drogalas *et al.*'s (2021) study represents the only one in our literature review that reported a positive impact of *AC size* on audit fees and no impact on non-audit fees. There are also indications that AC size does not impact qualified audit opinions in Spain (De Andrés Suárez *et al.*, 2013) or CSR assurance (Dwekat *et al.*, 2022; Al-Shaer and Zaman, 2018) and interim reporting assurance (Mangena and Tauringana, 2008) in the UK. Pucheta-Martinez and de Fuentes (2007) reported that a lower AC size leads to fewer qualified audit opinions in Spain.

Finally, one study refers to *AC ownership* and found a negative influence on interim reporting assurance in the UK (Mangena and Tauringana, 2008).

### *3.4 Main results*

Table 3 gives a summary of positive, negative and insignificant relationships on AC variables (presence, composition and resources, incentives and diligence) on (non)financial reporting, performance and audit, according to our included studies. We stress that prior studies on AC presence, resources, incentives and diligence are either low in amount or inconclusive. With regard to AC composition, we note a positive contribution on (non) financial reporting and audit quality. This tendency especially refers to *financial expertise* in line with regulatory assumptions and agency theory. However, many included studies show heterogeneous results and raise future questions about the real impact of ACs on firms' outputs. This also relates to the heterogeneity of mandatory one-tier, two-tier and voting right systems in Europe. Our review mainly included studies on mandatory one-tier systems. Studies on mandatory two-tier systems refer only to Germany. As the competencies of ACs within one-tier and two-tier systems are different, the comparability of the included studies is restricted.

Overall, we identified major research gaps and limitations of prior research, which we explain in the next section.

## 4. Discussion and future research recommendations

Although a variety of AC variables and firms' outputs have been addressed in prior archival research on the European capital market, there is much room for recommendations for future research. In what follows, we like to differentiate between *content-related and methodological*

**Table 3.** Summary of results of the literature review

| Audit committee characteristics (non) financial reporting quality | (Non)financial rporting quality | (Non)financial performance | Audit quality | Total |
|---|---|---|---|---|
| *Presence* | | | | |
| (+) | $4^{C; V; TS}$ | 0 | $3^{OS}$ | $7^{C; V; TS; OS}$ |
| (–) | $1^{C}$ | 0 | 0 | $1^{C}$ |
| (±) | $2^{OS; TS}$ | $3^{C; OS}$ | $2^{OS}$ | $7^{C; OS; TS}$ |
| Total: 15 | | | | |
| *Composition* | | | | |
| (+) | *24*$^{C; V; OS; TS}$ (Financial expertise: 11) | $8^{C; OS}$ (Financial expertise: 2) | *20*$^{C; OS; TS}$ (Financial expertise: 7) | *52*$^{C; V; TS; OS}$ (Financial expertise: 20) |
| (–) | $3^{C}$ | $2^{V; C}$ | $5^{C}$ | $10^{C; V}$ |
| (±) | $17^{V; OS; TS}$ (Financial expertise: 6) | $3^{OS}$ (Financial expertise: 1) | $9^{C; OS; TS}$ (Financial expertise: 1) | $29^{C; C; TS; OS}$ (Financial expertise: 8) |
| Total: 84 | | | | |
| *Resources, incentives and diligence* | | | | |
| (+) | $7^{C; OS; TS}$ | $3^{OS}$ | $5^{C; OS; TS}$ | $15^{C; TS; OS}$ |
| (–) | $2^{TS}$ | 0 | $2^{OS}$ | $5^{TS; OS}$ |
| (±) | $11^{OS}$ | $4^{V; OS}$ | $7^{C; OS}$ | $21^{V; OS}$ |
| Total: 40 | | | | |

**Notes:** Legend OS = one tier-system (mandatory); TS = two-tier system (mandatory); V = voting right between one-tier and two-tier systems; C = cross-country setting
**Source:** Author's own creation/work

issues. First, regarding content aspects, we know relatively little about the influence of AC presence in different European regimes on corporate reporting, performance and audit. As we noted, in view of the member state options of the EU Directives 2006 and 2014 and the different corporate governance systems (mandatory one-tier system, mandatory two-tier system, choice model between one-tier and two-tier system), cross-country studies should reflect on the different systems and formation rules from a European perspective. The dominant use of the capital market in the UK as a mandatory one-tier system should be extended by more research in mandatory two-tier and voting right systems. Moreover, there may be major differences between mandatory and voluntary AC formation. As we noted, the two EU directives include the main voting rights to exclude firms from the mandatory implementation of ACs. While most national corporate governance codes recommend the formation of ACs in listed firms, legal requirements on the implementation of ACs as in Germany are rare. In this context, future researchers should also integrate other country-related aspects, such as cultural factors, shareholder rights, enforcement strengths and CSR ratings.

Second, we noted that prior AC research mainly relied on corporate reporting and audits, whereas firm performance on output is neglected. The potential positive impact of AC effectiveness on reporting and audits represents a channel for a time-lagged improvement of (non)financial performance. Thus, future researchers should not only address one output category, but should include both reporting/audit and performance measures. Although prior researchers have mainly included auditor variables as outputs, the interaction between AC, internal auditors and external auditors should be more addressed in future research designs. It can be assumed that AC effectiveness, a proper internal audit function and strong external audits can be classified as complementary corporate governance mechanisms to strengthen reporting quality.

Third, as the AC is a subgroup of the board of directors, it is crucial to include other board variables as moderators and/or mediators. We found very few studies with moderator and mediator analyses of the European capital market. Prior moderator analyses solely include selective aspects, such as board gender diversity (Pucheta-Martinez *et al.*, 2021), busyness of the board (Bravo and Reguera-Alvarado, 2019), female audit partner in charge (Sellami and Cherif, 2020), financial expertise and independence (Wu *et al.*, 2016), CSR committees (Al-Shaer and Zaman), family ownership and involvement (Al-Okaily and Naueihed, 2020; Al-Okaily and BenYoussef, 2020), countries with weak institutional environment (Poretti *et al.*, 2018) and post-IFRS mandatory settings (Marra *et al.*, 2011). Perez-Cornejo *et al.*'s (2019) study represents the only AC study with a mediator analysis (enterprise risk management index). In line with internal and external auditors, we should increase our knowledge of the interplay between ownership structure and AC effectiveness. Future research should address whether certain *ownership types*, such as institutional ownership, strengthen or weaken the positive impact of AC effectiveness on firms' outputs. Moreover, we did not identify any research on the impact of AC on *non-shareholder reactions*, for example, suppliers, employees or customers. As stakeholder pressure on board composition and sustainability has increased over the past few years, we strongly recommend conducting research on the interplay between AC and a broad range of stakeholders.

Fourth, considering the huge increase in sustainability reporting, performance and assurance, the monitoring of sustainability reports or integrated reports by the AC remains crucial (Pizzi *et al.*, 2022; Fiandrino *et al.*, 2022). In comparison to "classical" earnings quality studies, prior research on corporate sustainability outputs remains moderate.

In line with content-related research recommendations, we observed much room for *methodological* improvements. Archival research on the relationship between AC variables and firm outputs is linked with massive *endogeneity concerns*; for example, omitted variables and reversed causality (Wintoki *et al.*, 2012). The majority of included studies in this literature review solely measured correlations but not causality. Most of prior research assumes and analyzed the impact of AC on reporting, performance and audit quality; however, there may be an inverse or even a bi-directional, or non-linear relationship. We explicitly suggest using advanced regression models and recognize 2SLS models and instrumental variables, dynamic panel regressions (GMM), PSM and diff-in-diff approaches. Furthermore, as AC formation is still voluntary in many European countries, sample selection bias occurs. The two-stage Heckman approach and the inverse mills ratio should also be included. We also draw the attention of AC researchers on the use of the diff-in-diff approach as a quasi-experimental research design. Although we only noted one study with the recognition of this method in our literature review (Albersmann and Hohenfels, 2017), the diff-in-diff approach is a very useful strategy for analyzing causal relationships. In this context, the selection of control and treatment groups with regard to exogenous shocks is crucial. To support European standard setters as evidence-based regulations, future studies should explicitly address the impact of European corporate governance, reporting and audit regulations during the past two decades on the link between AC effectiveness and firms' outputs. Control and treatment groups, depending on specific time frames (pre- and post-regulation), should increase our knowledge about the success of prior European regulations and the change in AC effectiveness. Interestingly, only one study (Bajra and Cadez, 2018) divided the time frame into pre- and post-EU Directive (2006).

As we already assumed, some AC variables may not have a linear relationship with reporting, performance and audit. Instead, an (inverted) u-shaped link may be more realistic. In comparison to dummy variables or using ratios, there is a need to integrate a critical mass of the specific AC composition of its members, for example, independence, financial expertise or gender, in future research designs. Researchers should also be aware of the great contributions of automatized textual analyses, for example, based on Python software and algorithms of CVs and AC reports. These methods can also mainly increase our knowledge on (non)financial reporting quality.

## 5. Conclusion

Our analysis addresses a systematic review of archival studies on the impact of ACs on firms' outputs in the European capital market. Our research is based on a stakeholder agency-theoretical framework, assuming that AC, as a major monitoring mechanism, will strengthen (non)financial reporting, performance and audit quality. AC effectiveness will contribute to decreased information asymmetries and conflicts of interest between top management, shareholders and other stakeholders. In line with the "classical" supervision of financial reports, ACs are also responsible for firms' sustainability reports and voluntary sustainability assurance (Pizzi *et al.*, 2022; Fiandrino *et al.*, 2022). This leads to our strict reliance on a broader stakeholder agency theoretical framework. Thus, reliable (non) financial information will positively contribute to firm performance. During the past two decades, as a reaction to the US-American SOX of 2002, the European Union has implemented two major directives on ACs in 2006 and 2014. The EU Commission assumes that ACs represent one of the key corporate governance instruments in both one-tier and two-tier systems (Directive, 2006; Directive, 2014a, 2014b). Although the EU Directive 2014 generally stipulates the formation of an AC in PIEs with a majority of independent members and at least one financial expert, comparability within EU member states is still low, considering several member state options. The EU Commission has conducted a public consultation and initiative to promote the role of ACs. In reaction to the famous Wirecard scandal, the German legislator stipulated the mandatory formation of ACs by PIEs and at least two financial experts (accounting and auditing knowledge) (FISG, 2021).

In view of these recent discussions and in line with prior literature, we clearly distinguished between three categories of archival AC research: presence; composition; and resources, incentives and diligence, and analyzed the contribution of AC to firms' outputs. We differentiated between *(non)financial reporting quality, (non)financial performance and audit quality* as outputs. To gain better knowledge of the European capital market and to support the goal of evidence-based regulation, we explicitly focused on European samples in our structured literature review. This strategy differentiates our review from prior literature reviews and meta-analyses on AC research. Moreover, as we are interested in the economic effects of ACs, and to guarantee a comparable research design, we only relied on archival studies. Our literature review indicates that the impact of AC composition on financial reporting is dominant. AC presence, resources, incentives and diligence, on the one hand, and (non)financial performance are of lower relevance yet. Unfortunately, many studies have been inconclusive regarding the impact of AC on related firm outputs. However, we note that *financial expertise* in particular positively affects *financial reporting and audit quality*, in line with agency theory and European regulatory assumptions. Among others, the impact of AC on corporate sustainability variables and the cooperation between AC and internal and external auditors should be better integrated in future research. Moreover, the combination of different AC variables, the inclusion of moderator, especially mediator variables, and the recognition of endogeneity concerns should be more promoted. Future research should also explicitly measure whether the European regulations on corporate governance, reporting and auditing have significantly changed AC effectiveness and thus are causally linked with corporate reporting, performance and audit quality.

As a *key limitation* of our study, our vote counting approach is linked to limited validity, as we only analyzed the number of significances and did not take sample or effect sizes into account. These restrictions might be overcome by a quantitative meta-analysis, but our AC variables are too heterogeneous to conduct an overall meta-analysis. Furthermore, the number of prior studies on specific AC variables in the European capital market remains too low to conduct a separate meta-analysis on specific variables (e.g. financial expertise). As quantitative meta-analysis has been increasingly embraced as a useful research method in sustainability studies in recent years, we expect to see more research activity concerning AC in the future, along with meta-analyses that offer insight into the importance of statistically summarizing existing research and increasing the quality of research results on AC presence, composition and related attributes.

Our analysis mainly contributes to the prior literature by focusing on the European capital market and by supporting the goal of evidence-based AC regulations in the future. In line with the research relevance, our study also has major *managerial implications*. First, companies should be more aware of AC formation, composition, resources, incentives and diligence. As shareholders and other stakeholders evaluate the quality of ACs by the reports or CVs of AC members, firms should be responsible for increasing the transparency of descriptions on AC members' profiles and their duties. In view of the positive influence of financial expertise within the AC on corporate reporting and audit quality, firms should recognize a critical mass of experts to guarantee the proper quality of (non)financial reporting. Second, our findings indicate the need for an integrative fulfilment of financial, industry and sustainability experts in view of the following reasons. ACs are not only responsible for the supervision of financial reports. Sustainability reports and related internal control and risk management processes must also be carefully supervised by the ACs. The inclusion of sustainability aspects in AC tasks is expected to be one of the great challenges in future corporate governance. For firms, it is a crucial challenge to select AC members with adequate financial and sustainability expertise, as practical and educational experiences mainly refer to either financial or sustainability knowledge. Moreover, firms should motivate AC members to conduct regular seminars on sustainability issues in a dynamic and complex environment, for example, related to climate change or biodiversity.

Moreover, our findings have major implications for *regulations, policies and corporate governance*. During the past 15 years, the European standard setter has focused on the monitoring role of ACs because of financial reporting and related internal corporate governance systems. However, there should be more regulatory efforts on the impact of ACs on sustainability reporting. The new CSRD stipulates that the AC must monitor the new sustainability report and the related internal control and risk management systems. However, a voting right for EU member states was implemented to delegate those activities to another body, for example, a sustainability committee or the supervisory board, in a two-tier system. In view of the main synergies between the monitoring of financial and sustainability reporting, the EU standard setter should delete the existing voting right to implement AC in listed firms and promote the joint monitoring of financial and sustainability reports by the AC. Otherwise, the risks of information overload and greenwashing will not be reduced.

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## Corresponding author

Patrick Velte can be contacted at: velte@leuphana.de