Generalized Trust and Non-Audit Services

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Synopsis

The research problem

This study investigates the effect of country-level generalized trust on auditor-provided non-audit services (NAS).

Motivation

NAS are considered to threaten auditor independence. To safeguard auditor independence, NAS are increasingly restricted by regulators worldwide. To dispel the perception of compromised independence, audit firms themselves have started to voluntarily abstain from offering NAS to their audit clients. However, whether NAS indeed impairs auditor independence continues to be a topic of intense debate among practitioners and regulators around the globe. Our study is motivated by the observation that levels of NAS vary from one country to another significantly, indicating that there might be societal macro level factors that explain these differences between countries. So far, we know little about these macro-level factors.

The test hypothesis

We hypothesize that generalized trust is associated with the level of NAS. Due to two competing theoretical arguments, we propose a non-directional hypothesis.

Target population

Our study focuses on listed companies in Europe. We use a sample of 3,528 publicly listed companies in 27 European countries for the period 2011-2020. In Europe, the EU Audit Reform has

recently further restricted the provision of NAS and recent accounting scandals have reignited the debate over the provision of NAS. Our use of European sample has the advantage that the firms are subject to similar regulations under EU law.

Adopted methodology

We use Ordinary Least Squares (OLS) regression to test our hypothesis.

Analyses

To measure generalized trust at the country-level, we use data from the Integrated Values Survey. The level of NAS is measured with two non-audit fee-based variables (natural logarithm of non-audit fees and ratio of non-audit-fees to total auditor fees).

Findings

We find a positive association between generalized trust and auditor-provided NAS. We also report insightful findings from various additional tests. For instance, additional evidence suggests that generalized trust moderates capital providers' negative perceptions of auditor-provided NAS. This supports the notion that generalized trust mitigates concerns related to independence in appearance.

Keywords: Generalized trust; non-audit services; auditor independence in appearance.

JEL Classification: A13, M42

1. Introduction

External audits are an essential and valuable mechanism of monitoring (Jensen and Meckling 1976; Watts and Zimmerman 1983). The primary function of external auditors is to provide reasonable assurance to ensure the financial statement credibility and thus reduce agency costs associated with information asymmetries between managers and capital market participants (Simunic 1984). A key prerequisite to the effective auditing function is auditor independence (DeAngelo 1981; Antle 1984).

Over the past decade, corporate collapses associated with accounting scandals (e.g., Carillion in the UK and Wirecard in Germany) have triggered regulators and capital market participants' concerns over the independence of auditors and the value of auditing. In the waves of accounting scandals and financial crises, capital market participants are exposed to uncertainty and information risk which erode their trust in audited financial statements. Allegations of breaches in auditor independence, stemming from accounting scandals, have led to increasing global restrictions on the provision of non-audit services (NAS) (such as consultancy services), as these services are considered to impair auditor independence due to economic and social bonding with clients. For instance, the European Parliament has enacted policies and regulations, which specify restrictions on NAS provided by auditors (i.e., Directive 2014/56/EU and Regulation (EU) No 537/2014) to strengthen the credibility of audited financial statements and to bolster capital market participants' trust in audits and financial market stability (European Parliament 2014). Despite the European Parliament's legislative interventions on NAS restriction, certain types of NAS such as general consultancy services or tax and valuation services that have no direct effect or immaterial effect on

the audited financial statements are still permitted (European Parliament 2014).[1] Resulting from the European Parliament's restrictions on NAS, the trend of NAS demand and supply has been gradually decreasing, though there are still substantial levels of NAS in Europe (Willekens et al. 2019).

For audit firms, maintaining a high level of independence in appearance (i.e., the perceived auditor independence) is critical as it not only contributes to the value of audits through credibility of financial statements but also affects their reputation and exposure to litigation risks. It seems that restrictions on NAS (like in the EU) have not eliminated concerns on NAS threatening auditor independence as some audit firms have decided to restrict their provision of NAS to their audit clients. For example, KPMG has recently decided to discontinue the provision of NAS to large listed UK clients following the Carillon scandal, which KPMG considered as a key move to remove the perceived conflict of interest and to restore the trust in their services (Jolly 2018). Considering KPMG's move towards stopping NAS provision, former KPMG UK chair Bill Michael states "The roots of our profession lie in a fundamental need for trust, assurance and confidence in the capital markets…The recent erosion of trust in our profession is also our problem to fix and I am determined that we take the right course of action to fix it" (BBC 2018). Similarly, in the US PwC has recently announced that it will cease providing certain consultancy services to its SEC-registered audit clients (Maurer 2023). In contrast, EY wavers on the stance of NAS provision to their clients as it called off the proposed split-up of assurance and consulting lines of business into two independent firms (Eaglesham et al. 2023). In short, the provision of NAS continues to be a topic of intense debate

[1] Certain NAS are permitted given regulatory compliance with Regulation(EU) No 537/2014, Article 5(3): (a) they have no direct or have immaterial effect, separately or in the aggregate on the audited financial statements; (b) the estimation of the effect on the audited financial statements is comprehensively documented and explained in the additional report to the audit committee referred to in Article 11; and (c) the principles of independence laid down in Directive 2006/43/EC are complied with by the statutory auditor or the audit firm.

among practitioners and regulators.

Motivated by regulators' and capital market participants' concerns over NAS, a growing body of research on NAS has studied various factors that determine the demand and supply of auditor-provided NAS, including the clients' financial capacity and their perception of audit service quality (e.g., Svanström and Sundgren 2012; Castillo-Merino et al. 2020). While these studies link auditor independence to the supply and demand of NAS, we still lack clear understanding of how users of financial statements perceive NAS, what determines this perception and what the consequences of those perceptions are to the auditee.

In this paper, we investigate the impact of country-level generalized trust on the levels of NAS that the incumbent auditor has provided the audit client. We argue that generalized trust, as an important socio-economic factor and informal institution, influences how financial statement users perceive the provision of NAS as a threat to auditor independence. Prior literature provides two perspectives, leading to opposite predictions about the influence of trust on the levels of NAS. According to agency perspective, in high trust societies, financial statement users are less skeptical about managers' and auditors' integrity in general (e.g. Pevzner et al. 2015). This diminishes financial statement users' concern about NAS as a threat to auditor independence, allowing higher levels of NAS in high trust society. However, based on the evolutionary economics perspective of audit demand (Knechel et al. 2019), high-trusting societies place a greater value on the audits as a mechanism to lend credibility to financial reporting. Hence, these societies might prefer auditors who are more strictly focused on providing audit services, avoiding the provision of additional services that could compromise the quality of the primary audit service. Consequently, there is some tension, and the relationship between generalized trust and NAS is an empirical question.

Following prior literature (e.g., Pevzner et al. 2015; Knechel et al. 2019; Hartlieb et al. 2020), we construct our measure of generalized trust using the average response of a country's citizens to the following question in the Integrated Values Survey (IVS): "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?". Using a sample of 18,991 firm-year observations across 27 European countries, we test the association between country-level generalized trust and the ratio of NAS fees to total fees as well as the natural logarithm of NAS fees. Our use of a European sample has the advantage that the EU firms are subject to similar regulations under EU law. We find evidence that there is more auditor-provided NAS in countries with higher levels of generalized trust.

We perform several additional analyses that provide insights into potential mechanisms through which generalized trust influences auditor-provided NAS. First, we perform tests to examine the perceptions of investors and lenders as two types of capital providers on auditor-provided NAS. We find that generalized trust moderates capital providers' negative perceptions of auditor-provided NAS. This suggests that reduced concerns regarding independence in appearance are a key underlying reason for the positive relationship between trust and NAS provision. Second, we investigate whether our results differ by the level of regulatory quality across countries. We find that the effect of generalized trust on auditor-provided NAS is more pronounced in countries with low regulatory quality. Third, we examine the effect of the amendment of Directive 2014/56/EU regarding the strictness level of NAS requirements and compare the effect of generalized trust on auditor-provided NAS before and after the amendment of Directive 2014/56/EU. We find that the strictness level of NAS requirements does not affect the positive effect of generalized trust on auditor-provided NAS, and that the positive effect of generalized trust pertains before and after the amendment of Directive 2014/56/EU. Fourth, we

examine the effect of generalized trust on three individual NAS types (i.e., audit-related NAS, tax-related NAS, and other NAS), and find significant positive association between other NAS and generalized trust, but not for audit-related NAS or tax-related NAS. Finally, we perform a series of robustness checks using country-weighted least squares, exclusion of countries with disproportionally high number of observations, alternative measures for auditor-provided NAS, an alternative measure for generalized trust, inclusion of a culture measure, hierarchical linear modeling (HLM), different specifications of standard errors, and regional fixed effects. In all cases, the results from these tests support our primary inference.

Our study makes several contributions to academic literature and practice. First, we add to prior auditing studies on the role of generalized trust (Knechel et al., 2019), as we identify generalized trust as an important socio-economic factor that can contribute to cross-country variations in clients' demand for NAS - a key attribute of the perceived quality of audits. Our study fills in the void in the auditing literature that emphasizes the important role of external factors in contributing to various audit outcomes (e.g., audit pricing and quality) (Eierle et al. 2021, 2022). Second, our study adds to extant economic literature on how trust affects various economic activities (e.g., Guiso et al. 2004; Kanagaretnam et al. 2018). Third, our study suggests that informal institutions such as generalized trust can influence auditor-provided NAS beyond formal institutions which have been heavily studied in prior research (e.g., Quick and Warming-Rasmussen 2009; Eilifsen et al. 2018; van Liempd et al. 2018). Fourth, in recent times when audit firms are abstaining from offering NAS to audit clients and the provision of NAS is heavily debated by regulators as well as subject to increasing restrictions worldwide, our findings should be of interest to regulators and practitioners. Considering that NAS can also have positive effects for the audit process (i.e., knowledge spillovers), it should be critically

evaluated whether strict restrictions or even the abandonments of NAS are necessary in high-trust countries.

The remainder of this paper proceeds as follows. Section 2 presents the regulatory landscape on NAS in Europe and a review on the relevant literature. Section 3 develops our hypothesis. Section 4 discusses our research design and sample selection. Section 5 presents our primary results, additional analyses as well as robustness checks. Section 6 concludes.

2. Background and Literature Review

2.1 Regulatory Landscape on NAS in Europe

In the aftermath of the global financial crisis, significant weaknesses in the statutory audit function were exposed, as auditors failed to provide any warning signals about troubled banks (Humphrey et al. 2009). This weakness in the statutory audit function started to raise doubts about the credibility of audited financial statements and intensified debates around auditor independence. In Europe, regulators have initiated extensive inquiries into the role and the effectiveness of external auditing, which involves the examination of the provision of NAS by auditors.

EU regulators assert that NAS fees can potentially exert an adverse impact on auditor independence and thus impair auditors' decision-making, especially when those decisions involve a substantial amount of professional judgment (e.g., European Commission 2010; European Commission 2011). Moreover, there has been a critical discussion regarding whether the provision of NAS by external auditors of public interest entities (PIE) compromises the publicly perceived reliability of their audit work. In 2010, the European Commission (EC) issued the EC Green Paper that raised fundamental questions about the adequacy of current legislative frameworks and signaled

supranational prohibitions of NAS by audit firms. In 2011, the EC proposed specific requirements regarding audits of PIE which entails a ban on services beyond the audit and related financial audit services (European Commission 2011).

To further reform the audit sector, the EC implemented the EU Audit Reform in 2014, which came into effect in 2016, with the aim to improve audit quality and restore financial statement users' confidence in audited financial information. EC approved Directive 2014/56/EU and Regulation (EU) No 537/2014 in 2014. Regulation (EU) No 537/2014 specifies a 'blacklist' of forbidden or restricted types of NAS and a cap on the level of NAS relative to audit fees.[2] However, EU regulations leave options to the Member States to implement their restrictions on NAS in the way they deemed to be appropriate (European Parliament 2014). Statutory auditors in Europe may provide certain NAS to their clients that are allowed under Regulation (EU) No 537/2014. These services should be approved by the audit committee in advance and should not threaten auditor independence (European Parliament 2014). But no EU Member State shall set a lower threshold related to NAS prohibitions than what is stipulated in the EU regulations, thus setting a minimum baseline (European Parliament 2014).[3]

2.2 The Concept of Generalized Trust

The culture of a society comprises customary values and beliefs of ethnic, religious, and social groups that are persistent over time (Guiso et al. 2006). It prominently influences public decision-

[2] Figure 1 illustrates an overall declining trend of auditor-provided NAS in Europe over time, which may be attributed to the EU audit reform and further restrictions of NAS in European countries.

[3] The exception to this is a Member State's option for certain tax and valuation services. Even though EU legislation (Directive 2014/56/EU and the Regulation (EU) No 537/2014) prohibits almost all valuation and tax services, Member States have an option to allow certain services, such as preparation of tax forms and identification of public subsidies and tax incentives.

making and operations within a company, thereby playing a critical role in shaping capital markets (Knechel et al. 2019; Eierle et al. 2022). Among a variety of culture dimensions, trust as an essential socio-cultural facet has received considerable attention in economics and finance literature (Pevzner et al. 2015).

Trust can be concisely defined as the "willingness to rely on another party" (Doney et al. 1998 p. 604). However, trust is not a straightforward concept. Prior research commonly differentiates two specific types of trust: particularized trust and generalized trust (e.g., Bjørnskov 2006). Particularized trust is related to a belief that only specific individuals or individuals associated with a certain network or similar characteristics can be trusted (Uslaner and Conley 2003). As such, the efficacy of particularized trust is relevant to the situation characterized by a closed or particular social network. Generalized trust refers to trust towards strangers and arises when "a community shares a set of moral values in such a way as to create regular expectations of regular and honest behavior" (Fukuyama 1995, p. 53; Bjørnskov 2006). Generalized trust differs from particularized trust in that people not have direct, in-depth knowledge or information about the specific individuals or entities they are trusting (Bjørnskov 2006).

Extending the notion of generalized trust to the business field, economic and financial studies document that generalized trust affects a country's economic activities (Guiso et al. 2006; Pevzner et al. 2015; Huang et al. 2021).[4] An emerging stream of research finds that high-level generalized trust leads to positive macro-outcomes such as economic growth (Knack and Keefer 1997; Zak and Knack 2001), financial development (Guiso et al. 2004), and increased international trade (Guiso et al.

[4] Previous studies that employ the same empirical measure of generalized trust use different terms such as "societal trust" (e.g., Pevzner et al., 2015; Knechel et al. 2019; Ahn and Akamah 2022) and "social trust" (e.g., Chen et al. 2018; Huang et al. 2021). We hereafter use the term "generalized trust" for consistency.

2009). Regarding individual and corporate behaviors, a substantial body of evidence suggests that generalized trust has positive effects. These effects include reduced firm tax avoidance (Kanagaretnam et al. 2018), decreased shareholders' tunneling behaviors (Chen et al. 2020), and improved investor reactions to corporate earnings announcements (Pevzner et al. 2015), ultimately leading to increased efficiency in capital markets.

While our study introduces generalized trust as an informal institutional factor to the NAS literature for the first time, trust is not an entirely new concept in the auditing literature. More precisely, few auditing studies have identified that trust materially influences the provision of auditing services. For example, Jha and Chen (2015) find that auditors charge higher audit fees to client firms headquartered in a U.S. county with low social capital, implying that auditors place less trust in their clients in low social-capital environment. The negative relation between client trustworthiness and audit fees exacerbates when audit firms are located close to their clients. Similarly, Chen et al. (2018) show that the negative association between client trustworthiness and audit fees holds for the Chinese market. In contrast to the effect of localized trust captured by Jha and Chen (2015) and Chen et al. (2018), Knechel et al. (2019) use a country-level measure and find higher audit fees and higher presence of Big N firms in countries with high-level generalized trust. However, based on audit fee studies, we cannot make inferences about how trust might be related to NAS due to the different nature of auditing and NAS. This gap in the literature motivates our study on the relationship between trust and provision of NAS.

2.3 Non-Audit Services and Auditor Independence

Regulators, standard-setters and practitioners have long debated the costs and benefits of

auditor-provide NAS. There are two opposing arguments discussed in the auditing literature. On the one hand, increasing non-audit fees (economic bonding) and frequent social interactions related to NAS (social bonding) might compromise auditor independence and, thus, reduce audit quality (e.g., Francis 2006; Svanström 2013). On the other hand, client-specific knowledge gained from NAS might result in knowledge spillovers and improve audit quality (e.g., Simunic 1984).

A credible auditor should demonstrate independence in reporting the truthfulness of financial statements prepared by managers. The International Federation of Accountants (IFAC) clarifies two dimensions of auditor independence: independence of mind and independence in appearance. Independence of mind reflects "the state of mind that permits the expression of a conclusion without being affected by influences that compromise professional judgment, thereby allowing an individual to act with integrity, and exercise objectivity and professional skepticism" (IFAC 2021, Sec. 120.15A1(a)). Independence in appearance refers to "the avoidance of facts and circumstances that are so significant that a reasonable and informed third party would be likely to conclude that a firm's or an audit or assurance team member's integrity, objectivity or professional skepticism has been compromised" (IFAC 2021, Sec. 120.15A1(b)). IFAC (2021) stipulates that an independent auditor should comply with both dimensions of independence.

Given that independence of mind is an individual mindset in auditors and thus cannot be observed outwardly, there have been growing concerns on the appearance of impropriety related to auditor-provided NAS (Francis 2006). Presuming that NAS evolves as a potentially problematic issue to auditor independence in appearance, regulatory and professional bodies have been involved in "perception management" over the years by setting stringent legislation and rules on NAS (Francis 2006; van Liempd et al. 2018). Despite that, auditing literature pertaining to the investigation of

independence in appearance and auditor-provided NAS does not provide coherent findings nor reach the same conclusions as assumed by regulatory and professional initiatives on the restriction of NAS.

Extensive archival studies rooted in Anglo-Saxon countries find that the provision of NAS compromises auditor independence in appearance (e.g., Krishnan et al. 2005; Gul et al. 2006; Dhaliwal et al. 2008; Campa and Donnelly 2015). Employing earnings response coefficient (ERC) as a proxy for auditor independence in appearance, Krishnan et al. (2005) find that increased risks associated with clients' NAS purchases are expected to lower ERC since investors view NAS as inducing unreliable earnings information. Similar evidence is reported by Gul et al. (2006) and Campa and Donnelly (2015) in the Australian and U.K. settings. Other studies related to the bond market observe a positive association between auditor-provided NAS and cost of debt capital, implying that auditor independence is negatively perceived by creditors (Dhaliwal et al. 2008; Friedrich et al. 2022). In contrast, a few archival studies demonstrate that the provision of NAS does not entirely impair auditor independence in appearance (e.g., Ghosh et al. 2009; Koh et al. 2013). Koh et al. (2013) document a positive relation between NAS and earnings informativeness as a measure of investors perception of earnings quality, suggesting that investors perceive NAS as generating economic benefits such as knowledge spillovers between NAS and auditing. Further evidence that the negative relation between NAS and stock price reactions around the event dates related to the repel of Accounting Series Release No. 250 is insignificant contradicts the economic dependence concerns of regulators on impaired auditor independence (Koh et al. 2013).

In the European setting, studies that investigate auditor independence in appearance primarily cover surveys and experiments. For instance, in a survey study performed in Denmark, Quick and Warming-Rasmussen (2005) find that bank loan officers, business journalists and private

shareholders attribute impaired auditor independence to the provision of NAS. An empirical study by van Liempd et al. (2018) based on survey data from Danish stakeholders further shows that EU related actions on NAS restriction are overall justified in terms of an expectation gap in the types of NAS on the blacklist and the improper setting of NAS fee cap. Quick and Warming-Rasmussen (2015) and Meuwissen and Quick (2019) also derive similar conclusions from their experimental studies on German private investors and supervisory board members respectively. In summary, European studies predominantly observe threatened auditor independence in appearance related to auditor-provided NAS.

Overall, there have been mixed results on the association between auditor-provided NAS and auditor independence in appearance as documented in previous studies. In addition, related auditing research on NAS is primarily conducted within single-country settings (e.g., Campa and Donnelly 2015; van Liempd et al. 2018). There have been few archival studies on auditor independence in appearance in the European setting. As such, our archival study that explores variations of auditor independence in appearance across European countries will depict a comprehensive picture of how perceived auditor independence is related to auditor-provided NAS.

3. Hypothesis Development

A critical concern regarding the provision of NAS is the compromise of auditor independence, particularly auditor independence in appearance (Beck et al. 1988; Firth 1997; Frankel et al. 2002; Gul et al. 2006). We argue that generalized trust, as an important socio-economic factor, can influence auditor independence in appearance, and thus the demand and supply of NAS, in different ways.

Our first argument is based on agency theory. The relationships between auditors, clients and financial statement users are characterized by information asymmetries and agency conflicts, which also apply to the provision of NAS (e.g., Baiman 1979; Ye et al. 2011). The level of generalized trust shapes public perceptions and may diminish the impact of such agency conflicts (e.g., Su and Jiang 2023). As explained before, one reason clients may be hesitant to request NAS from their external auditors – despite potential benefits such as reduced transaction costs (e.g., Quick and Warming-Rasmussen 2009) – is that financial statement users might critically view these services in terms of auditor independence. Consequently, they have less confidence in the financial statement information, which could result in detrimental effects for the clients, such as a higher cost of capital (e.g., Dhaliwal et al. 2008; Friedrich et al. 2022). In high trust societies with lower agency conflicts, financial statement users are likely to be less skeptical about auditor independence when auditors concurrently provide NAS. Instead, they may have more confidence in the auditors' integrity and anticipate positive side effects of providing such services (e.g., spillover effects on the audit process). This notion is supported by evidence from Pevzner et al. (2015) that in countries with a higher level of generalized trust, investors assign a lower probability to managers behaving opportunistically and manipulating financial figures. The authors attribute this to lower agency conflicts, which leads investors in more trusting countries to perceive firms' financial disclosures as more credible. Accordingly, transferred to the NAS setting, when financial statement users have more confidence in auditing services when auditors simultaneously provide NAS, clients may be less concerned about independence in appearance associated with NAS and are more likely to demand such services.

A less skeptical perspective from financial statement users and regulators regarding the provision of NAS based on lower agency conflicts should not only impact the demand for such

services but also influence the supply by auditors. Regardless of the demand for NAS by clients, auditors may hesitate to offer these services with their fear for reputational damage and potential litigation claims (e.g., Hope and Langli 2010). Particularly in the aftermath of high-profile accounting scandals, there are often criticisms when the responsible auditor has also provided NAS, irrespective of whether these services have an actual adverse impact on auditor independence and the audit outcome. As a concurrent example, in response to the Carillon accounting scandal in the UK, the responsible audit firm KPMG opted to refrain from providing any NAS to large, listed UK clients to eliminate even the slightest perception of a possible conflict of interest. Similarly, PwC recently announced that they plan to curtail consulting work for US audit clients to reduce the risk of perceived conflicts of interest. If the financial statement users perceive the provision of NAS with less scrutiny in a high trust environment, auditors should be more willing to offer these services.

However, there is also a contrasting argument for an inverse relationship between generalized trust and the level of NAS. Drawing on an evolutionary economics perspective of audit demand, Knechel et al. (2019) find that clients in countries with high generalized trust demand high-quality audits, as evidenced by higher audit fees and a greater presence of Big N audit firms. The underlying rationale is that people in culturally established high-trust countries place a greater value on maintaining this trustworthy culture, which requires strict adherence to both formal (e.g., regulations, control) and informal (e.g., social punishment through loss of reputation and social exclusion) institutions. Accordingly, high-trust societies are likely to place a high value on high-quality audits as a mechanism to deter deviant behavior and maintain the trustworthiness of the culture over time. Accordingly, there may be particular concerns in these high-trusting countries that NAS could diminish the value of audits. Consequently, high-trusting societies may demand auditors who are

more focused on providing "pure" audit services, avoiding the provision of additional services that could compromise the quality of the primary audit service and which deters breaches of trust. In other words, auditor independence in appearance plays a particular important role in high-trust countries. These countries might therefore be characterized by more critical reactions from financial statements users to high levels of NAS, and consequently lower demand for and supply of NAS.

Based on the discussion above, we formulate a non-directional hypothesis regarding the effect of country-level generalized trust on auditor-provided NAS:

H: There is an association between auditor-provided NAS and country-level generalized trust.

4. Research Design

4.1 Measurement of Generalized Trust

We use survey data from IVS to measure generalized trust. The IVS combines the European Values Survey and World Values Survey which are large-scale surveys gathering cross-national and repeated cross-sectional longitudinal data on the basic values and beliefs of the public. In total, the IVS covers 464 surveys with more than half a million participants from 118 countries and territories.[5] Consistent with prior literature (e.g., Knack and Keefer 1997; Pevzner et al. 2015; Knechel et al. 2019; Hartlieb et al. 2020), the values of our generalized trust variable (*TRUST*) are based on responses to the following question in IVS: "Generally speaking, would you say that most people can be trusted or that you need to be very careful in dealing with people?". We code the response to 1 if participants answer that most people can be trusted, and 0 otherwise. Then we take the average of the responses in each country year as our measure of generalized trust. Following Bjørnskov (2006)

[5] See https://europeanvaluesstudy.eu/methodology-data-documentation/integrated-values-surveys/.

and Pevzner et al. (2015), we match the values of most recent waves available for each country as our empirical measure of generalized trust.[6]

4.2 Measurement of NAS

We measure levels of NAS in two ways: relative amount of NAS (the ratio of NAS fees to total fees) and absolute level of NAS (the natural logarithm of NAS fees). The natural logarithm of NAS fees captures the magnitude of NAS, which can significantly influence auditor independence in appearance (DeFond et al. 2002; Frankel et al. 2002; Ashbaugh et al. 2003; Friedrich et al. 2022). However, we also use the ratio of NAS fees to total fees, which facilitates the approximation of independence in appearance, as it reflects the relative importance of NAS to audit firms.

4.3 Model Specification

To test our hypothesis regarding the effect of generalized trust on auditor-provided NAS, we estimate the following equation:

$$\begin{aligned} Y_{i,t} = {} & \beta_0 + \beta_1 TRUST_c + \beta_2 SIZE_{i,t} + \beta_3 INVREC_{i,t} + \beta_4 LOSS_{i,t} + \beta_5 LEV_{i,t} + \beta_6 ROA_{i,t} \\ & + \beta_7 MB_{i,t} + \beta_8 INTANGIBLE_{i,t} + \beta_9 SPECIAL_{i,t} + \beta_{10} NGS_{i,t} + \beta_{11} BIG4_{i,t} \\ & + \beta_{12} JOINT_{i,t} + \beta_{13} AUDCH_{i,t} + \beta_{14} OPINION_{i,t} + \beta_{15} TRA_{i,t} + \beta_{16} GDP_c + \beta_{17} ASD_c \\ & + \beta_{18} REL\_IMP_c + \beta_{19} ROL\_STA_c + \beta_{20} CON\_COR_c + INDUSTRY\ FE + YEAR\ FE \\ & + \varepsilon_{i,t} \end{aligned} \quad (1)$$

where *c* indexes countries, *i* indexes companies, and *t* indexes years. The dependent variable Y is

[6] We match the mean values of generalized trust calculated from the data in EVS 5th wave (2017–2021) and WVS Wave 7 (2017–2022) to firms headquartered in 22 European countries including Austria, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Italy, Latvia, Lithuania, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Spain, Sweden, and Switzerland, and the United Kingdom. The available data of generalized trust for Belgium, Ireland, and Luxembourg is EVS 4th wave (2008–2010) latest. We therefore match the data for calculating generalized trust in EVS 4th wave (2008–2010) to the 3 countries.

the ratio of non-audit fees to total fees (*NASRATIO*) or natural logarithm of non-audit fees (in million EUR) (*LNNAF*). The variable of interest is *TRUST*. The coefficient of interest is β_1, the coefficient on *TRUST*, in Equation (1). If β_1 is positive and statistically significant, clients (auditors) demand (offer) more NAS in more trusting countries, arguably because auditor-independence in appearance is perceived less problematic. A significantly negative coefficient β_1 indicates that clients in high-trust countries demand "pure" auditors to ensure the quality of their primary audit service.

We also include a set of control variables based on prior research (e.g., Firth 1997; DeFond et al. 2002; Frankel et al. 2002; Ashbaugh et al. 2003; Whisenant et al. 2003; Lacker and Richardson 2004; Huang et al., 2021). Specifically, we control for company characteristics including market-to-book ratio (*MB*), financial performance (*LOSS*, *ROA*), total assets (*SIZE*), business segments (*NGS*), special items (*SPECIAL*), and leverage (*LEV*). To account for auditor characteristics, we control for auditor type (*BIG4*), joint audit (*JOINT*), and auditor switch (*AUDCH*). We also control for audit opinion (*OPINION*), the ratio of inventory and receivables to total assets (*INVREC*), the ratio of intangibles to total assets (*INTANGIBLE*), and institutional investors' ownership (*TRA*) as proxies for audit risk. In addition, we control for a range of country-level variables including GDP per capita (*GDP*), religion importance (*REL_IMP*), political stability (*POL_STA*), control of corruption (*CON_COR*), and the anti-self-dealing index (*ASD*) developed by Djankov et al. (2008) as a proxy for the strength of legal protection of minority shareholders against expropriation by corporate insiders. Finally, we include industry and year fixed effects to control for unobserved industry and time dimensional heterogeneities. To mitigate the influence of outliers, we winsorize all continuous variables at the 1st and 99th percentiles (Bertrand et al. 2004). Standard errors are adjusted for heteroskedasticity and clustered by client firm (Petersen 2009; Cameron and Miller 2015).

4.4 Sample

We obtain auditor-related data from Audit Analytics Europe, financial statement and other company data from S&P Capital IQ and WorldScope, and country-specific data from World Bank and Djankov et al. (2008)'s dataset. The sample selection process is outlined in Table 1. We begin with a sample of 55,739 company-year observations for the period 2011–2020[7], which represents the intersection of available data from the necessary datasets. Next, we exclude financial institutions (SIC 6000–6999) and public utilities (SIC 4900–4999) due to unique complexity and risks related to regulations and financial nature of their operations, reducing our sample by 17,048 firm-year observations. We also exclude firms that are not headquartered in our European countries,[8] filtering out 2,689 observations. We further drop 10,980 observations due to missing data for calculating *NASRATIO* and *LNNAF*.[9] Finally, we filter out 6,031 observations with missing data for firms-specific control variables, which yields a total of 18,991 observations consisting of 3,528 unique firms for the full sample.

[Insert Table 1 about here]

Table 2 presents sample distribution by year in Panel A and by country in Panel B. As shown in Panel A, there is not any significant clustering of observations around any particular year. Panel B presents that the number of firm-year observations of a country ranges from 5 for Latvia to 5,826 for the United Kingdom over the sample period 2011–2020. The number of firms also exhibits large

[7] Our sample period coincides with COVID-19 pandemic of 2020. In untabulated analysis we exclude observations in year 2020 and find that our inferences are unchanged.

[8] The 27 European countries that our study cover are Austria, Belgium, Bulgaria, Croatia, Czech Republic, Denmark, Finland, France, Germany, Greece. Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Spain, Sweden, Switzerland, and the United Kingdom.

[9] The blank values of audit fees and non-audit fees on Audit Analytics can be a lack of information disclosed by clients or "0". Our main results remain consistent though we impute the missing values with 0.

differences, ranging from 3 in Slovakia to 1,028 in the United Kingdom.

[Insert Table 2 about here]

5. Empirical Results

5.1 Summary Statistics

Table 3 reports summary statistics for the main variables of interest in Equation (1) by country. On average, the total fees paid to auditors are highest in the Netherlands (€3,044,390) and Switzerland (€2,970,498), but lowest in Lithuania (€55,269), Latvia (€108,919), and Poland (€134,185). We also identify large differences in clients' purchase of auditor-provided NAS across the 27 European countries. The average non-audit fees paid to auditors are highest in Germany (€689,752) and Switzerland (€627,181), but lowest in Lithuania (€9,686) and Latvia (€14,117). In general, the portion of NAS to total fees is overall lower than 50% in our sample countries. Specifically, the mean of *NASRATIO* is high in Nordic countries, with the highest value of 0.413 in Denmark. Relatively, countries located in Eastern Europe have lower mean values of *NASRATIO*, including Slovakia (0.112), Latvia (0.114), Lithuania (0.138), and Bulgaria (0.141). In terms of the level of NAS fees, Hungary has the highest mean value of *LNNAF* being 5.583, while Lithuania has the lowest mean value of *LNNAF* being 1.296. There is also a significant cross-country variation in the level of generalized trust, with the lowest mean value of 0.084 for Greece and the highest mean value of 0.774 for Denmark. This suggests that 8.4% respondents in Greece on average agree that "most people can be trusted", while that percentage of respondents in Denmark is 77.4%. Both the magnitude and cross-country variations of *TRUST* are consistent with prior studies (e.g., Bjørnskov 2006; Hartlieb et al. 2020).

[Insert Table 3 about here]

Table 4 presents descriptive statistics of variables included in Equation (1) for all observations. The mean (median) of total fees is approximately €1,395,100 (€294,000). The mean (median) of total NAS fees is approximately €365,202 (€61,000). The mean (median) of assets is approximately €4,055,972 (€263,623). The significant right skewness of the assets variable (*TA*) indicates the presence of disproportionally large firms in our sample; we therefore transform it to the logarithmic form in our regression models. The mean value of *NASRATIO* across all sample observations is 0.264, indicating that on average auditors gain 26.4 percent of their total fees from NAS. The mean of *LNNAF* is 4.137, the standard deviation is 1.877, and the difference between the 25th to 75th percentile is 2.687. These statistics indicate a substantial variation among NAS fees. The mean of *TRUST* is 0.458, implying that 45.8 percent of respondents on average agree that "most people can be trusted". In addition, the statistics of firm-level controls are comparable to prior studies (e.g., Knechel et al. 2019). For example, on average, 72.7 percent of clients are audited by Big 4 and 29.6 percent of clients report negative incomes.[10]

[Insert Table 4 about here]

Table 5 provides Pearson correlations of variables at both country-level (Panel A) and firm-level (Panel B). In Panel A, we observe that *TRUST* significantly and positively correlates with *PERCENT_NAS*, which indicates that there are more clients purchasing NAS in high-trust countries (p-value < 0.05). The positive and significant correlation between *TRUST* and *NAS_to_TA* suggests that auditors earn substantial revenues from their provision of NAS to clients in high-trust countries

[10] The cross-country study by Knechel et al. (2019) find 30% clients report loss and 55% clients hire Big 4 auditors.

(*p*-value < 0.05). In Panel B, we find a significant positive correlation between *TRUST* with either *NASRATIO* or *LNNAF* (both *p*-values < 0.05).[11] We also observe several significantly high correlations among country-level variables in Panel C, while no coefficient exceeds 0.8. For example, the Pearson correlation coefficient is 0.746 between GDP per capita (*GDP*) and control of corruption (*CON_COR*), and that between religious importance (*REL_IMP*) and control of corruption (*CON_COR*) is -0.746 (both *p*-values < 0.05). We perform collinearity diagnostics and find that all the variance inflation factors (VIFs) are lower than 10 (untabultaed).[12] As such, multicollinearity is not a serious problem in affecting our results.[13]

[Insert Table 5 about here]

5.2 Main Results

We test our hypothesis by using ordinary least squares (OLS) to estimate Equation (1). The results are presented in Table 6, with the dependent variables *NASRATIO* in column (1) and *LNNAF* in column (2). In column (1), the coefficient on *TRUST* is 0.253 with *t*-statistics being 8.066 and *p*-value less than 0.01. In economic term, a one-standard-deviation change in generalized trust increases the margin of NAS by 0.039 (0.154 × 0.253 = 0.039), which amounts to 14.8% of its sample mean (0.039 ÷ 0.264 = 0.148). In column (2), the coefficient on *TRUST* is 1.398 with *t*-statistics being 6.052 and *p*-value less than 0.01. Economically, one standard deviation change in generalized trust is associated with a 24.0% increase in the level of NAS (exp(0.154 × 1.398) - 1 =

[11] We also find the values of *NASRATIO* or *LNNAF* are higher in high-trust countries in the univariate test reported in Table OA1 of the Online Appendix.

[12] The majority of VIFs of variables in our analysis is below 5.00, with the exception of the VIFs if *POL_STA* and *CON_COR* being 5.88 and 8.19 respectively. However, as no VIF is greater than 10, the variance inflation does not seriously affect our results.

[13] See https://www3.nd.edu/~rwilliam/stats2/l11.pdf.

0.240), which yields 5.8% of its sample mean (0.240 ÷ 4.137 = 0.058). Accordingly, our results are statistically significant and economically relevant. Overall, these results indicate that more auditor-provided NAS are demanded by clients (or offered by audit firms) in countries with higher generalized trust, arguably because auditor independence in appearance is perceived less problematic.

The results for control variables are generally consistent with prior research (e.g., DeFond et al. 2002; Frankel et al. 2002; Ashbaugh et al. 2003). Specifically, clients with poor operating performance (*ROA*), more investment opportunities (*MB*), Big 4 auditors (*BIG4*), less likelihood of joint audits (*JOINT*), and without auditor change (*AUDCH*) purchase more NAS. In addition, we find that clients in countries with strengthened investor protection scheme (*ASD*) purchase more NAS. In a high litigation environment reflected by high investor protection, the threat of legal suits by investors may curb management and auditors' incentives to obfuscate firm performance as evidenced by less earnings management and high quality of audited information (Leuz et al. 2003; Jaggi and Low 2011). Given that auditors adhere to provide high quality audits in the high litigation environment, investors may perceive their independence less problematic when auditors provide NAS to their clients. The knowledge spillovers from auditors' provision of NAS contributes to the quality of audits. We also find that there is less purchase of auditor-provided NAS by clients in countries with higher political stability. In a politically stable environment that is characterized by stronger governance and orders, clients may adhere to NAS restrictions and reduce NAS purchase as to lessen regulators' concern over purchase of NAS. Faced with potential scrutiny and regulatory constraints when offering NAS to their audit clients, auditors may reduce these services to avoid potential conflicts of interest or regulatory violations.

[Insert Table 6 about here]

5.3 Additional Analyses

5.3.1 Effect of Generalized Trust on Capital Providers' Perceptions of NAS

Our main results suggest that generalized trust is associated with higher levels of NAS. An inherent assumption for this finding is that trust mitigates concerns regarding auditor independence in appearance: financial statement users arguably perceive NAS less critically in high trust countries, leading clients (auditors) to be more likely to buy (offer) NAS. We probe into more detail by investigating whether generalized trust mitigates concerns over independence in appearance. Previous studies find that investors and lenders require high cost of capital from clients with auditors who provide NAS, as investors and lenders suspect these auditors' dependency on clients that impairs the credibility of audited financial statements (e.g., Khurana and Raman 2006; Hollingsworth and Li 2012; Alsadoun et al. 2018; Friedrich et al. 2022). We therefore investigate whether generalized trust affects capital providers' perceptions of auditor-provided NAS as a direct test for auditor independence in appearance.[14] Consistent with Friedrich et al. (2022), we use cost of equity capital and cost of debt capital to examine investors and lenders' perceptions of auditor-provided NAS. Following Minnis (2001) and Pittman and Fortin (2004), we measure cost of debt capital as interest expense divided by the average of total short- and long-term debt during the year. For cost of equity capital, we follow prior literatures (e.g., Chen et al. 2011; Cao et al. 2015; Jing et al. 2023) and construct four measures of the company-level cost of equity estimated from Claus and

[14] Prior NAS studies use ERC to measure investors' reaction to the release and dissemination of the filings disclosing NAS fees in short windows (e.g., Krishnan et al. 2005). Given that generalized trust is time-invariant and constant over time, to what extent it influences investors' long-term considerations of risks associated with client firms' purchase of NAS is more adequately captured by cost of equity capital which reflects long-term perspectives.

Thomas (2001), Gebhardt et al. (2001), Easton (2004), and Ohlson and Juettner-Nauroth (2005). We then use an aggregate measure that averages these four individual measures to cancel out noise in the individual measures.[15]

We estimate the following equations to test how generalized trust influences lenders and investors' perceptions of auditor-provided NAS:

$$\begin{aligned} COD_{i,t} = {} & \beta_0 + \beta_1 TRUST_c + \beta_2 X_{i,t} + \beta_3 X_{i,t} \times TRUST_c + \beta_4 SIZE_{i,t} + \beta_5 LEV_{i,t} + \beta_6 ROA_{i,t} \\ & + \beta_7 INTCOV_{i,t} + \beta_8 CURRENT_{i,t} + \beta_9 LOSS_{i,t} + \beta_{10} SDR_{i,t} + \beta_{11} BIG4_{i,t} \\ & + \beta_{12} TRA_{i,t} + \beta_{13} GDP_c + \beta_{14} ASD_c + \beta_{15} REL\_IMP_c + \beta_{16} POL\_STA_c \\ & + \beta_{17} CON\_COR_c + INDUSTRY\ FE + YEAR\ FE + \varepsilon_{i,t} \end{aligned} \quad (2)$$

$$\begin{aligned} COE_{i,t} = {} & \beta_0 + \beta_1 TRUST_c + \beta_2 X_{i,t} + \beta_3 X_{i,t} \times TRUST_c + \beta_4 SIZE_{i,t} + \beta_5 LEV_{i,t} + \beta_6 MB_{i,t} \\ & + \beta_7 ANAL\_COV_{i,t} + \beta_8 BETA_{i,t} + \beta_9 DISP_{i,t} + \beta_{10} RETURN_{i,t} + \beta_{11} RMSE_{i,t} \\ & + \beta_{12} BIG4_{i,t} + \beta_{13} TRA_{i.t} + \beta_{14} GDP_c + \beta_{15} ASD_c + \beta_{16} REL\_IMP_c \\ & + \beta_{17} POL\_STA_c + \beta_{18} CON\_COR_c + INDUSTRY\ FE + YEAR\ FE + \varepsilon_{i,t} \end{aligned} \quad (3)$$

where *c* indexes countries, *i* indexes companies, and *t* indexes years. In Equation (2), the dependent variable *COD* is cost of debt capital. The dependent variable in Equation (3) is *COE*, which represents the aggregate cost of equity capital. *TRUST* is the country-level generalized trust. *X* represents the level of NAS (*NASRATIO* and *LNNAF*). Consistent with prior research (e.g., Khurana and Raman 2006; Friedrich et al. 2022), we expect a significantly positive coefficient on *X*, suggesting that lenders or shareholders perceive a lower quality of financial statement audits when

[15] We provide details about the cost of debt capital and the measures of implied cost of equity capital in Appendix A.

auditors simultaneously provide NAS to their clients. To account for the related information risk, lenders offer high interest rates and shareholders demand a higher rate of return on their investments. The coefficient of interest is the interaction of *TRUST* and *X*. A significantly negative coefficient on this interaction term indicates that country-level generalized trust may alleviate lenders or investors' negative concern over the credibility of accounting information audited by auditors who provide NAS to their clients.

We also include a set of controls in both Equations (2) and (3). Based on prior literature on cost of debt capital (e.g., Minnis 2001; Pittman and Fortin 2004; Friedrich et al. 2022), we control for total assets (*SIZE*), leverage (*LEV*), return on assets (*ROA*), interest coverage (*INTCOV*), liquidity (*CURRENT*), loss-making (*LOSS*), short-term debt ratio (*SDR*), auditor type (*BIG4*), and institutional investors' ownership (*TRA*) in Equation (2). Considering controls that are commonly used in studies investigating cost of equity capital (e.g., Khurana and Raman 2006; Hollingsworth and Li 2012; Cao et al. 2015), we include total assets (*SIZE*), leverage (*LEV*), market-to-book ratio (*MB*), analyst coverage (*ANAL_COV*), systematic risk (*BETA*), dispersion in analysts' earnings forecasts (*DISP*), stock returns (*RETURN*), idiosyncratic risk (*RMSE*), auditor type (*BIG4*), and institutional investors' ownership (*TRA*) in Equation (3). In both Equations (2) and (3), we further include the same set of country-level controls that are presented in Equation (1). As in Equation (1), we control for year and industry fixed effects and winsorize continuous variables at the 1st and 99th percentiles.[16] Standard errors are adjusted for heteroskedasticity and clustered by client firm.

Table 7 presents the results. Consistent with prior research (e.g., Friedrich et al. 2022), columns

[16] We truncate the cost of debt measure at the 5th and 95th before winsorization as prior studies note that the cost of debt measure contains significant noise (Pittman and Fortin, 2004; Minnis, 2011).

(1) and (2) show that both *NASRATIO* and *LNNAF* exhibit positive and significant coefficients, which indicates that lenders perceive a lower quality of financial statement audits when auditors simultaneously provide NAS to their clients, offering high interest rates to account for the related information risk. The coefficients on the interaction terms *NASRATIO*TRUST* and *LNNAF*TRUST* are negative and statistically significant (p-value < 0.05 and p-value < 0.10, respectively), suggesting that generalized trust reduces problems related to auditor independence in appearance: it lessens lenders' negative perceptions of impaired auditor independence when auditors provide NAS to their clients.

The results on investors' perceptions of auditor-provided NAS are reported in columns (3) and (4). The association between *LNNAF* and the average cost of equity measure is positive and statistically significant (p-value < 0.05), whereas the coefficient on *NASRATIO* is significant at 10% based on a one-tail test only. In line with the cost of debt analysis, this suggests that independence in appearance associated with NAS is a problem, as shareholders demand a higher rate of return on their investments due to the perceived information risk incurred from the quality of audited financial statement.[17] The coefficient on the interaction term *NASRATIO*TRUST* is statistically insignificant, but we find the expected negative and significant estimate on *LNNAF*TRUST* (p-value > 0.10 and p-value < 0.10, respectively). This suggests that investors in countries with high levels of trust may mitigate their negative concerns regarding auditor-provided non-audit services. Overall, we find certain evidence

[17] Our results on individual cost of equity measure show there is more significant evidence on the negative perceptions by investors on the level of NAS. In line with prior studies that argue it is the level of fees rather than ratio that leads to bonding between clients and auditors (Defond and Zhang 2014; Nesbitt et al. 2020), the results show that investors are more likely to perceive that the level of NAS fees, rather than the ratio, indicate deteriorate quality of audited financial statement when auditors provide NAS to their clients. We find weak evidence about the moderating effect of generalized trust on investors' perception as the results are significant for regression analyses with the level of NAS fees as the main variable of interest (see Table OA2 of the Online Appendix).

that both lenders and investors perceive low quality of audits when auditors simultaneously provide NAS, consistent with inferences from prior studies (e.g., Khurana and Raman, 2006; Hollingsworth and Li, 2012). However, generalized trust moderates this independence in appearance problem.

[Insert Table 7 about here]

5.3.2 The Role of Formal Institutions in the Effect of Generalized Trust on NAS

Prior research argues that the role of informal institutions such as generalized trust can be contingent on the strength of formal institutions such as regulations (e.g., Guiso et al. 2004; Knechel et al. 2019). Accordingly, we examine whether the effect of generalized trust varies by different levels of regulatory quality at country-level. To measure regulatory quality, we use data from the World Bank's Worldwide Governance Indicator 'Regulatory Quality' which captures the perceptions of the ability of the government to formulate and implement sound policies and regulations.

We divide our full sample into two groups based on whether their value of regulatory quality is above the median of regulatory quality (High Regulatory Quality) or below the median of regulatory quality (Low Regulatory Quality). We then re-estimate Equation (1) for both subsamples. Table 8 presents the result of the cross-sectional analysis based on regulatory quality. Panel A reports the analysis using *NASRATIO* as the dependent variable. The coefficients on *TRUST* are positive and statistically significant in columns (1) and (2) (both *p*-values < 0.01). We observe that the coefficient of *TRUST* in column (1) is greater than that in column (2), and the difference in coefficients in column (1) and column (2) is statistically significant (*p*-value < 0.01). Panel B reports the analysis using *LNNAF* as the dependent variable. We find positive and statistically significant coefficients on *TRUST* in columns (1) and (2) (*p*-value < 0.01 and *p*-value < 0.10, respectively). The difference in

coefficient is 0.665 which is insignificant based on a strict two-tail test (but marginally significant at 10% based on one-tail test). To summarize, this analysis indicates that the effect of generalized trust on auditor-provided NAS is more prominent in countries with low regulatory quality, suggesting that generalized trust and regulations act as substitute mechanisms. In countries where individuals have more confidence in formal institutions, the role of informal institutions may be less influential. Transferred to our setting, this suggests that particularly in countries where financial statement users have less confidence in the effectiveness of regulations and their enforcement, generalized trust plays an important role for decision to buy or offer NAS.

[Insert Table 8 about here]

5.3.3 Regulatory Actions, Generalized Trust and NAS: The Role of Amendment of Directive 2014/56/EU

In our study, we focus on the European setting, which is characterized by relatively consistent NAS regulations based on EU law. Especially Directive 2014/56/EU has contributed to the harmonization of NAS regulation, but member states have different choices on how to implement the directive. With this additional test, we further probe into the role of Directive 2014/56/EU and the relationship between the regulatory choices, generalized trust, and the level of NAS.

First, we create an aggregate measure, *STRICTNESS*, that reflects the overall strictness level of NAS requirements regarding NAS fee cap, NAS whitelist or blacklist, and derogation of prohibition on tax and valuation services under Directive 2014/56/EU.[18] Panel A of Table 9 documents a

[18] The sample period spans 2016-2020 following the amendment of Directive 2014/56/EU. We exclude observations from Switzerland from analyses in Panels A and B as Switzerland is not bound by Directive 2014/56/EU. Iceland and Norway are part of the EEA Contracting Parties and are also implementing the EU Audit Reform.

significant negative correlation between *STRICTNESS* and *TRUST* (p-value < 0.05). This implies that regulators set less restrictions on NAS in high-trust countries, arguably because they see independence in appearance as a less severe threat. In Panel B of Table 9, the insignificant coefficient on the interaction term *STRICTNESS*TRUST* indicates that the strictness level of NAS requirements does not moderate the positive effect of generalized trust on auditor-provided NAS. Hence, our main results on the effect of generalized trust on NAS are not significantly affected by national differences in the strictness of NAS regulations.

Second, we also assess whether the amendment of Directive 2014/56/EU changes the association between generalized trust and auditor-provided NAS by splitting our sample into early years (2011-2015) and later years (2017-2020).[19] In Panel C and Panel D of Table 9, we find positive and significant coefficients on *TRUST* for both subsamples (all p-values < 0.01). Though the coefficients on *TRUST* are greater in recent years, the differences between the coefficients in early years and in later years are statistically insignificant. We therefore conclude that the amendment of the Directive 2014/56/EU does not affect the positive effect of generalized trust on auditor-provided NAS.

[Insert Table 9 about here]

5.3.4 Effect of Generalized Trust on Different Types of NAS

We also examine whether the effect of generalized trust on auditor-provided NAS varies among different types of NAS. In the notes to the financial statements, fees of various NAS that

[19] We drop observations in 2016. While most countries enacted legislation by June 2016 as required by Directive 2014/56/EU, their national laws that incorporated requirements by Directive 2014/56/EU came into effect since 2017. We also exclude observations from Croatia, Iceland, Norway that do not transpose requirements by Directive 2014/56/EU into their national law by 2017.

firms disclose are categorized as follows based on EU-law: audit-related NAS fees, tax-related NAS fees, and other NAS fees (Eilifsen et al. 2018). Specifically, audit-related NAS fees include fees for general assurance and related services such as due diligence services and consultation concerning financial accounting and reporting standards. Tax-related NAS fees include fees for tax advice and tax planning. Other NAS fees comprise fees paid to auditors for services that are not related to the audit or review of the financial statements.

Prior literature has shown that empirical results can vary depending on the specific type of NAS (e.g., Paterson and Valencia 2011; Beardsley et al. 2021). Svanström (2013) and Hohenfels and Quick (2018) find that audit-related NAS generate benefits in terms of knowledge spillovers for the financial statement audits, while some services (e.g., due diligence and assurance related to bond issues) may threaten auditor independence. Moreover, prior studies primarily find positive knowledge-spillovers from auditors' provision of tax-related NAS (e.g., Kinney et al. 2004; Robinson 2008). Regarding other NAS, previous studies yield mixed results. Kinney et al. (2004) indicate that other NAS may create auditors' economic dependence on clients, which leads to a lower audit quality. Contradictory to the negative effect of other NAS, Huang et al. (2007) find that other NAS generate knowledge spillovers.

Due to the differing natures of the three NAS types, we examine whether our main results relate to any specific NAS fee type (i.e., audit-related NAS fees, tax-related NAS fees, or other NAS fees) by re-estimating Equation (1). The results regarding the effects of generalized trust on the three NAS types are reported in Table 10, with the ratio of fees for three NAS types as dependent variable in Panel A and the natural logarithm of fees for three NAS types as dependent variable in Panel B. We find that the coefficient on *TRUST* is positive and statistically significant in columns (3) and (6)

(both p-values < 0.01), however, none of the coefficients on *TRUST* are significant in other columns (all p-values > 0.10).[20] These results suggest that our primary finding likely result from the positive effect of other NAS rather than audit-related NAS and tax-related NAS. Since other NAS are unrelated to the audit or review of the financial statements, individuals may perceive these services as particularly likely to threaten auditor independence, without creating any knowledge-spillovers. Accordingly, generalized trust plays a particular important role for those other NAS, where the threat to independence in appearance is particular significant.

[Insert Table 10 about here]

5.4 Robustness Checks

We conduct a variety of additional tests to check the robustness of our main inference. The results are summarized in Table 11 and discussed in the following.

[Insert Table 11 about here]

5.4.1 Controlling for Different Sample Sizes at the Country-Level

The observations of our full sample are distributed unevenly across our 27 European countries as shown in Table 2. Particularly, there is a disproportionally large representation in the firm-year observations by firms from U.K., Sweden, Poland, Germany, and France. We adopt the two approaches to check whether the difference in sample size per country affects our results. The first approach is using country-weighted least squares to estimate Equation (1) to address the possible

[20] The blank value on Audit Analytics indicates that the client didn't specifically disclose the information on their purchase of specific NAS. The value of clients' purchase of specific NAS can be 0, or there is missing information as client did not disclose those fees of specific NAS. In our analysis, we drop the missing values of specific NAS, but our results remain unchanged by replacing the missing values of clients' purchase of specific NAS with 0.

bias towards countries that are more heavily represented following Hope et al. (2009). The weight is inversely proportional to the number of observations per country. In the second approach, we rerun Equation (1) by excluding the countries with the largest number of observations in our sample (U.K., Sweden, Poland, Germany, and France) and estimating the results for the remaining 22 European countries of our study.[21] The results in Panel A show that the coefficients on *TRUST* are positive and statistically significant using the two approaches (all *p*-values < 0.01). These results therefore mitigate the concern that our main findings are driven by a few countries with large sample size.

5.4.2 Alternative Measure of NAS

We also use alternative left-hand-side variables for NAS. First, we follow Friedrich et al. (2022) who apply the concept of NAS proportion that EU regulators have addressed: the ratio of non-audit fees in year *t* to the average of total fees from years *t*-2 to *t*. We rerun the main test using this measure as the dependent variable in column (1) of Panel B. We find statistically significant and positive coefficient on *TRUST* (*p*-value < 0.01), showing that our main inference is robust to the alternative measure of NAS.[22] Second, we use an indicator variable for clients that purchase NAS or not (*DUM_NAS)* and continue to find a positive and significant coefficient for *TRUST* in column (2) of Panel B (*p*-value < 0.01).

5.4.3 Alternative Measure of Generalized Trust

To check the robustness of our results to alternative measures of generalized trust, we use a

[21] We also repeat our analyses after excluding the observations from each of these countries one at a time, and find that the coefficient on *TRUST* is positive and statistically significant (Table OA3 of Online Appendix).

[22] Using EU regulators' concept, the calculation of the level of NAS in 2011 requires total fees from 2009 to 2011 as the denominator. The data on total fees is not available in 2009 as Audit Analytics Europe covers data on audit fees and non-audit fees since 2010. We exclude observations in 2011 due to data availability from Audit Analytics Europe. As a result, the sample period spans 2012–2020.

different computation for *TRUST* following Pevzner et al. (2015) and Ahn and Akamah (2022). We replace the measure of generalized trust with the trust index for each country calculated by the formula: 100 + (% of participants who respond "most people can be trusted") – (% of participants who respond "can't be too careful"). The results using this alternative measure are reported in Panel C. The coefficients on *TRUST* are positive and statistically significant in columns (1) and (2) (both *p*-values < 0.01). Therefore, our main inferences hold using the alternative measure of generalized trust

5.4.4 Additional Cultural Control

In our study, we focus on generalized trust as an important informal institutional factor. Another informal institutional factor that has been shown to influence managers' decisions and auditors' behaviors is national culture (e.g., Guiso et al. 2006; Hope et al. 2008; Hope et al. 2009). In linking national culture to financial reporting, Hope et al. (2008) construct a secrecy measure based on three cultural dimensions developed by Hofstede (1980). Using a cross-country sample, Hope et al. (2008) find that firms in more secretive cultures are less likely to hire a Big 4 auditor, as managers tend to withhold material information and avoid the precision of accounting information. To mitigate the concern that our main results may be driven by national culture, we add the secrecy measure developed by Hope et al. (2008) and rerun the main regression.[23] In Panel D, the coefficients on *TRUST* are positive and significant (both *p*-values < 0.01). Our main results are therefore robust to adding the secrecy measure.[24]

[23] The number of observations drops to 18,948 after excluding 43 observations from Iceland with missing values of *SECRECY*, as Hofstede (1980)'s cultural scores do not cover Iceland.

[24] We also rerun the main analyses for observations of the five Nordic countries that have similar culture (Finland, Norway, Denmark, Iceland, and Sweden), and continue to find a positive and significant association between generalized trust and auditor-provided NAS (Table OA4 of Online Appendix). Moreover, the positive association also holds in the tests for high-trust countries (*TRUST*$\geqslant$0.5) and low-trust countries (*TRUST*<0.5), with positive and significant coefficients on *TRUST* for both subsamples (Table OA5 of Online Appendix).

5.4.5 Hierarchical Linear Model

Due to the time-invariant nature of our measure of country-level generalized trust, we cannot analyze country fixed effect to account for unobserved differences between countries. To address this concern, we perform HLM to assess the extent to which unobservable country-level factors influence our main inference. Using HLM allows estimating the extent to which auditor-provided NAS varies with unobservable country differences represented by the random intercepts and generalizes the results beyond the observations included in our sample (West et al. 2015; Czerney et al. 2019; Beardsley et al. 2021).

To estimate HLM, we first identify the country as the macro-unit and clients as the micro-units since correlations exist among micro-unit observations because of a common effect, which is the country in our case. We estimate a two-level model with only random intercepts for the second level model. In Panel E, we find that the coefficients on *TRUST* are positive and significant in all columns (both *p*-values < 0.01). The estimates of the random intercept variances, which represent the between-country variance, for *NASRATIO* and *LNNAF* are 0.003 and 0.192 respectively. The intraclass correlation coefficients (ICCs) indicate that the random intercepts explain 8 percent and 12.7 percent of the variance in *NASRATIO* and *LNNAF*, respectively.[25] These results indicate that our results are not sensitive to controlling for unobserved differences among countries, although these differences explain a significant portion of the variation in NAS measures.

5.4.6 Using Different Clustering Specifications of Standard Errors

In previous regressions, we cluster the standard errors by client firm to address

[25] The ICC is calculated as the random intercept variance divided by the sum of the random intercept variance and the residual variance.

heteroskedasticity related to within-firm serial correlation. As our sample is represented by 27 European countries, a potential concern about the validity of our findings may be related to the standard errors biased by interdependence of observations within countries. While clustering standard errors by country is plausible and would yield 27 clusters based on our sample, this choice may cause a small cluster problem that leads to biased coefficients and misleading inferences (Petersen 2009; Cameron and Miller 2015). To provide evidence on whether different clustering specifications of standard errors change our inferences, we re-examine our main findings based on clustered standard errors by (1) two-way clustering at client firm and year, (2) two-way clustering at country and year, (3) firm × year, and (4) country × year. Panel F reports the results based on different clustered standard errors. The coefficients on *TRUST* remain positive and statistically significant for all regressions (all *p*-values < 0.01). As such, our main results remain robust to different clustering specifications of standard errors.

5.4.7 Using Regional Fixed Effects

As shown in Table 3, high-trust countries are mainly concentrated in Northern Europe. One related concern is that omitted variables that capture regional differences might bias our results. To mitigate this concern, we construct four indicator variables that capture whether a firm is headquartered in Eastern Europe (Bulgaria, Czech Republic, Hungary, Poland, Romania, and Slovakia), Western Europe (Austria, Belgium, France, Germany, Luxembourg, Netherlands, and Switzerland), Northern Europe (Denmark, Finland, Iceland, Ireland, Latvia, Lithuania, Norway, Sweden, and United Kingdom), or Southern Europe (Croatia, Greece, Italy, Portugal, and Spain),

based on the United Nations geoscheme classifications.[26]

We include these indicator variables in our main model to control for unobservable regional characteristics. Although these additional regional indicators absorb the effect of generalized trust to some extent, as generalized trust does not vary much within a particular region and remains consistent over time, the results in Panel G show positive and significant coefficients on *TRUST* (both *p*-values < 0.01). Hence, despite the partial absorption of the effect of generalized trust, we continue to find that our main results remain consistent.

6. Conclusion

Over the past few decades, corporate collapses associated with accounting scandals have raised concerns from regulators, investors, and academics about auditor independence especially related to auditors' provision of NAS. These concerns generally express that auditor-provided NAS threatens auditor independence and thus affects the credibility of audited financial statement. To restore public confidence in audited financial statements, regulators have implemented a series of legislations to restrict NAS provision in Europe and other jurisdictions. However, some types of NAS are still allowed, perhaps because of positive effects of NAS on audit quality. Auditors' understanding of the client company is a prerequisite of high-quality audit, and auditor's knowledge acquired through NAS is likely to contribute to this understanding. However, despite this positive knowledge spillover effect of NAS, some large audit firms have recently voluntary refrained from offering NAS beyond existing regulations due to concerns that such services might be negatively perceived by the public.

Motivated by this controversy over auditor-provided NAS, we provide archival evidence on the

[26] See https://unstats.un.org/unsd/methodology/m49/.

effect of an informal institution, generalized trust, on auditor-provided NAS in European countries. Our results show higher levels of NAS in countries with high-level generalized trust. This finding suggests that financial statement users in high-trust countries have greater confidence in the auditor's work and audit clients benefit more from the positive effects of providing NAS when there is less concern on auditors' independence. This inference is supported by an additional analysis where we find that generalized trust moderates the negative impact of NAS provision on cost of capital. In addition, we find significant evidence that the positive effect of generalized trust on auditor-provided NAS is more prominent in countries with lower regulatory quality. This cross-sectional variation is consistent with prior studies that generalized trust and formal institutions are substitutes (e.g., Guiso et al. 2004; Knechel et al. 2019). We also investigate the effect of Directive (2014/56/EU) restricting provision of NAS to audit clients and find that our main findings remain the unchanged following the enactment of the Directive. Finally, we examined whether our results are different for different types of NAS and found that the positive effect of generalized trust on auditor-provided NAS likely results from the positive effect of other NAS rather than audit-related NAS and tax-related NAS.

Our study is subject to several limitations. First, the measure of generalized trust represents self-reported answers to the question in IVS which may be subject to bias such as social desirability, acquiescence, and primacy (Dillman et al. 2014). We therefore cannot fully eliminate endogeneity associated with measurement errors in the empirical measure of generalized trust. Second, as with any observational study, there is a remote possibility that an omitted variable could affect inferences. To address this concern, we have included a large set of control variables in our models. Third, we study European listed companies, which should be kept in mind when generalizing our findings to other countries. Fourth, as our sample comprises publicly listed clients only, our findings may not apply to

the private client setting. Despite these limitations, our study provides the first evidence that highlights generalized trust as an important socio-economic factor contributing to cross-country variations in clients' demand and auditors' supply of NAS. Therefore, our study generates important implications for practitioners and regulators, specifically in an era where NAS is becoming increasingly regulated and audit firms voluntarily refrain from offering NAS to their clients.

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References

Ahn, J., and H. Akamah. 2022. Is There a Dark Side to Societal Trust in Auditors' Going Concern Assessments? *Auditing: A Journal of Practice & Theory* 41 (3): 21–44.

Alsadoun, N., V. Naiker, F. Navissi, and D. S. Sharma. 2018. Auditor-Provided Tax Nonaudit Services and the Implied Cost of Equity Capital. *Auditing: A Journal of Practice & Theory* 37 (3): 1–24.

Antle, R. 1984. Auditor Independence. *Journal of Accounting Research* 22 (1): 1–20.

Ashbaugh, H., R. LaFond, and B. W. Mayhew. 2003. Do Nonaudit Services Compromise Auditor Independence? Further Evidence. *The Accounting Review* 78 (3): 611–639.

Baiman, S. 1979. Discussion of Auditing: Incentives and Truthful Reporting. *Journal of Accounting Research* 17: 25–29.

BBC. 2018. KPMG stops consultancy for audit clients. *BBC*. Available at: https://www.bbc.com/news/business-46145219.

Beardsley, E. L., A. J. Imdieke, and T. C. Omer. 2021. The distraction effect of non-audit services on audit quality. *Journal of Accounting and Economics* 71(2–3): 101380.

Beck, P. J., T. J. Frecka, and I. Solomon. 1988. A Model of the Market for MAS and Audit Services: Knowledge Spillovers and Auditor-Auditee Bonding. *Journal of Accounting Literature* 7 (1): 50–64.

Bjørnskov, C. 2006. Determinants of generalized trust: A cross-country comparison. *Public Choice* 130 (1–2): 1–21.

Cameron, A. C., and D. L. Miller. 2015. A Practitioner's Guide to Cluster-Robust Inference. *Journal*

of Human Resources 50 (2): 317–372.

Campa, D., and R. Donnelly. 2015. Non-audit services provided to audit clients, independence of mind and independence in appearance: latest evidence from large UK listed companies. *Accounting and Business Research* 46 (4): 422–449.

Cao, Y., J. N. Myers, L. A. Myers, and T. C. Omer. 2015. Company reputation and the cost of equity capital. *Review of Accounting Studies* 20 (1): 42–81.

Castillo-Merino, D., J. Garcia-Blandon, and M. Martinez-Blasco. 2020. Auditor independence, current and future NAS fees and audit quality: Were European regulators right? *European Accounting Review* 29 (2): 233–262.

Chen, K. C., Z. Chen, and K. J. Wei. 2011. Agency Costs of Free Cash Flow and the Effect of Shareholder Rights on the Implied Cost of Equity Capital. *Journal of Financial and Quantitative Analysis* 46 (1): 171–207.

Chen, D., L. Li, X. Liu, and G. J. Lobo. 2018. Social Trust and Auditor Reporting Conservatism. *Journal of Business Ethics* 153: 1083–1108.

Claus, J., and J. Thomas. 2001. Equity Premia as Low as Three Percent? Evidence from Analysts' Earnings Forecasts for Domestic and International Stock Markets. *Journal of Finance* 56 (5): 1629–1666.

Czerney, K., D. Jang, and T. C. Omer. 2019. Client Deadline Concentration in Audit Offices and Audit Quality. *Auditing: A Journal of Practice & Theory* 38 (4): 55–75.

DeAngelo, L. E. 1981. Auditor independence, 'low balling', and disclosure regulation. *Journal of Accounting and Economics* 3 (2): 113–127.

DeFond, M. L., K. Raghunandan, and K. R. Subramanyam. 2002. Do Non–Audit Service Fees Impair Auditor Independence? Evidence from Going Concern Audit Opinions. *Journal of Accounting Research* 40 (4): 1247–1274.

Dhaliwal, D. S., C. A. Gleason, S. Heitzman, and K. D. Melendrez. 2008. Auditor Fees and Cost of Debt. *Journal of Accounting, Auditing & Finance* 23 (1): 1–22.

Dillman, D. A., J. D. Smyth, and L. M. Christian. 2014. *Internet, Phone, Mail, and Mixed-Mode Surveys: The Tailored Design Method (4th Edition)*. Hoboken, New Jersey: John Wiley & Sons.

Djankov, S., R. La Porta, F. Lopez-de-Silanes, and A. Shleifer. 2008. The law and economics of self-dealing. *Journal of Financial Economics* 88 (3): 430–465.

Doney, P. M., J. P. Cannon, and M. R. Mullen. 1998. Understanding the influence of national culture on the development of trust. *Academy of Management Review* 23 (3): 601–620.

Eaglesham, J., Maurer, M., and A. Saeedy. 2023. EY Breakup Plan Is Really Dead. *The Wall Street Journal*. Available at: https://www.wsj.com/articles/ey-breakup-plan-is-really-dead-493d53a9.

Easton, P. D. 2004. PE ratios, PEG ratios, and estimating the implied expected rate of return on equity capital. *The Accounting Review* 79 (1): 73–95.

Eierle, B., S. Hartlieb, D. Hay, L. Niemi, and H. Ojala. 2021. Importance of country factors for global differences in audit pricing—New empirical evidence. *International Journal of Auditing* 25 (2): 303–331.

Eierle, B., S. Hartlieb, D. C. Hay, L. Niemi, and H. Ojala. 2022. External Factors and the Pricing of Audit Services: A Systematic Review of the Archival Literature using a PESTLE

Analysis. *Auditing: A Journal of Practice & Theory* 41 (3): 95–119.

Eilifsen, A., R. Quick, F. Schmidt, and S. Umlauf. 2018. Investors' perceptions of nonaudit services and their type in Germany: The financial crisis as a turning point. *International Journal of Auditing* 22 (2): 298–316.

European Commission. 2010. *Green Paper. Audit policy: Lessons from the crisis*. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A52010DC0561.

European Commission. 2011. *Proposal for a regulation of the European Parliament and of the Council on specific requirements regarding statutory audit of public-interest entities.* Available at: https://op.europa.eu/en/publication-detail/-/publication/6de7d1dc-7261-4eb8-ae57-5e9afbda7463/language-en.

European Parliament. 2014. *Regulation (EU) No. 537/2014 of the European Parliament and of the Council of 16 April 2014 on specific requirements regarding statutory audit of public-interest entities and repealing Commission Decision 2005/909/EC*. Available at: https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32014R0537&from=EN.

Firth, M. 1997. The Provision of Non-Audit Services by Accounting Firms to their Audit Clients. *Contemporary Accounting Research* 14 (2): 1–21.

Francis, J. R. 2006. Are Auditors Compromised by Nonaudit Services? Assessing the Evidence. *Contemporary Accounting Research* 23 (3): 747–760.

Frankel, R. M., M. F. Johnson, and K. K. Nelson. 2002. The Relation between Auditors' Fees for Nonaudit Services and Earnings Management. *The Accounting Review* 77 (Supplement): 71–105.

Friedrich, C., R. Quick, and F. Schmidt. 2022. Auditor-provided non-audit services and perceived audit quality: Evidence from the cost of equity and debt capital. *International Journal of Auditing* (Special Issue): 1–20.

Fukuyama, F. 1995. *Trust: The Social Virtues and Creation of Prosperity*. London, UK: Hamish Hamilton.

Gebhardt, W. R., C. M. C. Lee, and B. Swaminathan. 2001. Toward an implied cost of capital. *Journal of Accounting Research* 39 (1): 135–176.

Ghosh, A., S. Kallapur, and D. Moon. 2009. Audit and non-audit fees and capital market perceptions of audit independence. *Journal of Accounting and Public Policy* 28 (5): 369–385.

Guiso, L., P. Sapienza, and L. Zingales. 2004. The Role of Social Capital in Financial Development. *The American Economic Review* 94 (3): 526–556.

Guiso, L., P. Sapienza, and L. Zingales. 2006. Does Culture Affect Economic Outcomes? *Journal of Economic Perspectives* 20 (2): 23–48.

Guiso, L., P. Sapienza, and L. Zingales. 2009. Cultural Biases in Economic Exchange? *The Quarterly Journal of Economics* 124 (3): 1095–1131.

Gul, F. A., J. Tsui, and D. S. Dhaliwal. 2006. Non-audit services, auditor quality and the value relevance of earnings. *Accounting & Finance* 46 (5): 797–817.

Hartlieb, S., T. R. Loy, and B. Eierle. 2020. The Effect of Generalized Trust on Cost Stickiness: Cross-Country Evidence. *The International Journal of Accounting* 55 (4): 2050018.

Hofstede, G. 1980. *Culture's Consequences: International Differences in Work Related Values*. Beverly

Hills, CA: Sage Publications.

Hohenfels, D., and R. Quick. 2018. Non-audit services and audit quality: evidence from Germany. *Review of Managerial Science* 14: 959–1007.

Hollingsworth, C., and C. Li. 2012. Investors' Perceptions of Auditors' Economic Dependence on the Client: Post-SOX Evidence. *Journal of Accounting, Auditing and Finance* 27 (1): 100–122.

Hope, O. K., and J. C. Langli. 2010. Auditor Independence in a Private Firm and Low Litigation Risk Setting. *The Accounting Review* 85 (2): 573-605.

Hope, O. K., T. Kang, W. B. Thomas, and Y. K. Yoo. 2008. Culture and auditor choice: A test of the secrecy hypothesis. *Journal of Accounting and Public Policy* 27 (5): 357–373.

Hope, O. K., T. Kang, W. B. Thomas, and Y. K. Yoo. 2009. Impact of Excess Auditor Remuneration on the Cost of Equity Capital around the World. *Journal of Accounting, Auditing & Finance* 24 (2): 177–210.

Huang, H.-W., S. Mishra, and K. Raghunandan. 2007. Types of Nonaudit Fees and Financial Reporting Quality. *Auditing: A Journal of Practice & Theory* 26 (1): 133–145.

Huang, P., Y. Lu, and R. Faff. 2021. Social trust and the speed of corporate leverage adjustment: evidence from around the globe. *Accounting & Finance* 61 (2): 3261–3303.

Humphrey, C., A. Loft, and M. Woods. 2009. The global audit profession and the international financial architecture: Understanding regulatory relationships at a time of financial crisis. *Accounting, Organizations and Society* 34 (6–7): 810–825.

International Federation of Accountants (IFAC). 2021. *International Code of Ethics for Professional*

Accountants (including International Independence Standards). New York, NY: International Federation of Accountants.

Jaggi, B., and P. Y. Low. 2011. Joint Effect of Investor Protection and Securities Regulations on Audit Fees. *The International Journal of Accounting* 46 (3): 241–270.

Jensen, M. C., and W. H. Meckling. 1976. Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics* 3 (4): 305–360.

Jha, A., and Y. Chen. 2015. Audit fees and social capital. *The Accounting Review* 90 (2): 611–639.

Jing, J., L. A. Myers, J. Ng, and L. Su. 2023. Customer referencing and capital market benefits: Evidence from the cost of equity. *Contemporary Accounting Research* 40: 1448–1486.

Jolly, J. 2018. KPMG to drop non-audit services for its FTSE 350 clients. *The Guardian*. Available at: https://www.theguardian.com/business/2018/nov/08/kpmg-to-drop-non-audit-services-for-its-ftse-350-clients.

Kanagaretnam, K., J. Lee, C. Y. Lim, and G. Lobo. 2018. Societal trust and corporate tax avoidance. *Review of Accounting Studies* 23 (4): 1588–1628.

Khurana, I. K., and K. K. Raman. 2006. Do Investors Care about the Auditor's Economic Dependence on the Client? *Contemporary Accounting Research* 23 (4): 977–1016.

Kinney, W. R., Z.-V. Palmrose, and S. Scholz. 2004. Auditor Independence, Non-Audit Services, and Restatements: Was the U.S. Government Right? *Journal of Accounting Research* 42 (3): 561–588.

Knack, S., and P. Keefer. 1997. Does social capital have an economic payoff? A cross-country investigation. *The Quarterly Journal of Economics* 112 (4): 1251–1288.

Knechel, W. R., N. Mintchik, M. Pevzner, and U. Velury. 2019. The Effects of Generalized Trust and Civic Cooperation on the Big N Presence and Audit Fees Across the Globe. *Auditing: A Journal of Practice & Theory* 38 (1): 193–219.

Koh, K., S. Rajgopal, and S. Srinivasan. 2013. Non-audit services and financial reporting quality: evidence from 1978 to 1980. *Review of Accounting Studies* 18 (1): 1–33.

Krishnan, J., H. Sami, and Y. Zhang. 2005. Does the Provision of Nonaudit Services Affect Investor Perceptions of Auditor Independence? *Auditing: A Journal of Practice & Theory* 24 (2): 111–135.

Leuz, C., D. Nanda, and P. D. Wysocki. 2003. Earnings management and investor protection: an international comparison. *Journal of Financial Economics* 69 (3): 505–527.

Maurer, M. 2023. PwC to Limit Consulting Services It Offers to U.S. Audit Clients. *The Wall Street Journal*. Available at: https://www.wsj.com/articles/pwc-to-limit-consulting-services-it-offers-to-u-s-audit-clients-5c843b7c.

Meuwissen, R., and R. Quick. 2019. The effects of non-audit services on auditor independence: An experimental investigation of supervisory board members' perceptions. *Journal of International Accounting, Auditing and Taxation 36*: 100264.

Minnis, M. 2011. The Value of Financial Statement Verification in Debt Financing: Evidence from Private US Firms. *Journal of Accounting Research* 49 (2): 457–506.

Nesbitt, W. L., Persson, A., and Shaw, J. 2020. Auditor-Provided Tax Services and Clients' Tax Avoidance: Do Auditors Draw a Line in the Sand for Tax Advisory Services? Available at: https://ssrn.com/abstract=3556702.

Ohlson, J. A., and B. Juettner-Nauroth. 2005. Expected EPS and EPS Growth as Determinants of Value. *Review of Accounting Studies* 10 (2–3): 349–365.

Paterson, J. S., and A. Valencia. 2011. The Effects of Recurring and Nonrecurring Tax, Audit-Related, and Other Nonaudit Services on Auditor Independence. *Contemporary Accounting Research* 28 (5): 1510–1536.

Petersen, M. A. 2009. Estimating Standard Errors in Finance Panel Data Sets: Comparing Approaches. *Review of Financial Studies* 22 (1): 435–480.

Pevzner, M., F. Xie, and X. Xin. 2015. When firms talk, do investors listen? The role of trust in stock market reactions to corporate earnings announcements. *Journal of Financial Economics* 117 (1): 190–223.

Pittman, J. A., and S. Fortin. 2004. Auditor Choice and the Cost of Debt Capital for Newly Public Firms. *Journal of Accounting and Economics* 37 (1): 113–136.

Quick, R., and B. Warming-Rasmussen. 2005. The impact of MAS on perceived auditor independence-Some evidence from Denmark. *Accounting Forum* 29: 137–168.

Quick, R. and B. Warming-Rasmussen. 2009. Auditor independence and the provision of non-audit services: Perceptions by German investors. *International Journal of Auditing* 13 (2): 141–162.

Quick, R., and B. Warming-Rasmussen. 2015. An Experimental Analysis of the Effects of Non-audit Services on Auditor Independence in Appearance in the European Union: Evidence from Germany. *Journal of International Financial Management & Accounting* 26 (2): 150–187.

Robinson D. 2008. Auditor Independence and Auditor-Provided Tax Service: Evidence from Going-

Concern Audit Opinions Prior to Bankruptcy Filings. *Auditing: A Journal of Practice & Theory* 27 (2): 31–54.

Simunic, D. A. 1984. Auditing, Consulting, and Auditor Independence. *Journal of Accounting Research* 22 (2): 679–702.

Su, K., and H. Jiang. 2023. Does social trust restrict dual agency costs? Evidence from China. *The European Journal of Finance* 29 (3): 278–306.

Svanström, T. 2013. Non-Audit Services and Audit Quality: Evidence from Private Firms. *European Accounting Review* 22 (2): 337–366.

Svanström, T., and S. Sundgren. 2012. The demand for non-audit services and auditor-client relationships: Evidence from Swedish small and medium-sized enterprises. *International Journal of Auditing* 16 (1): 54–78.

Uslaner, E. M., and R. S. Conley. 2003. Civic Engagement and Particularized Trust: The Ties that Bind People to Their Ethnic Communities. *American Politics Research* 31 (4): 331–360.

van Liempd, D., R. Quick, and B. Warming-Rasmussen. 2018. Auditor-provided nonaudit services: Post-EU-regulation evidence from Denmark. *International Journal of Auditing* 23 (1): 1–19.

Watts, R., and J. L. Zimmerman. 1983. Agency Problems, Auditing, and the Theory of the Firm: Some Evidence. *Journal of Law and Economics* 26 (3): 613–633.

West, B. T., K. B. Welch, and A. T. Galecki. 2015. *Linear Mixed Models: A Practical Guide Using Statistical Software*. 2nd edition. Boca Raton, FL: CRC Press.

Whisenant, S., S. Sankaraguruswamy, and K. Raghunandan. 2003. Evidence on the Joint Determination of Audit and Non-Audit Fees. *Journal of Accounting Research* 41 (4): 721–744.

Willekens, M., S. Dekeyser, and I. Simac. 2019. *EU Statutory Audit Reform: Impact on Costs, Concentration and Competition, Study for the Committee on Economic and Monetary Affairs, Policy Department for Economic, Scientific and Quality of Life Policies*. Luxembourg: European Parliament. Available at: https://www.europarl.europa.eu/RegData/etudes/STUD/2019/631057/IPOL_STU(2019)631057_EN.pdf.

Ye, P., E. Carson, and R. Simnett. 2011. Threats to Auditor Independence: The Impact of Relationship and Economic Bonds. *Auditing: A Journal of Practice & Theory* 30 (1): 121–148.

Zak, P. J., and S. Knack. 2001. Trust and growth. *Economic Journal* 111 (470): 295–321.

Appendix A: Variable Definition

Variable	Definition	Source
ANAL_COV	Natural logarithm of the number of analysts following a firm.	I/B/E/S
ASD	Anti-self-dealing index measuring legal protection for minority shareholders against corporate insiders' expropriation in both private and public enforcement mechanisms.	Djankov et al. (2008)
AUDCH	An indicator variable equal to 1 if a firm's auditor is in the first year of an audit engagement, and 0 otherwise.	Audit Analytics Europe
AUD_LNNAF	Natural logarithm of non-audit fees for other assurance services (in million EUR).	Audit Analytics Europe
AUD_NASRATIO	Non-audit fees for other assurance services divided by total fees.	Audit Analytics Europe
BETA	Systematic risk obtained by regressing firm monthly returns on the market index over the 36 months preceding the measurement of cost of equity.	Refinitiv Datastream
BIG4	An indicator variable equal to 1 if a firm is audited by Big4 auditors, and 0 otherwise.	Audit Analytics Europe
COD	A firm's aggregate interest expenses in year *t* divided by the average total debt in years *t* and *t*-1.	Worldscope
COE	The average of the four cost of equity measures r_{CT}, r_{GLS}, r_{OJN}, and r_{PEG}.	I/B/E/S Refinitiv Datastream
CON_COR	A continuous variable capturing perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as "capture" of the state by elites and private interests.	World Governance Indicator
CURRENT	Current assets divided by current liabilities.	Worldscope
DISP	Dispersion in analysts' estimates for year *t* earnings divided by the consensus forecast for year *t* earnings.	I/B/E/S
DUM_NAS	An indicator variable equal to 1 if a firm purchases non-audit services from an auditor, and 0 otherwise.	Audit Analytics Europe
GDP	Natural logarithm of a country's GDP per capita (in USD).	World Bank
INTANGIBLE	Intangibles divided by total assets.	Worldscope
INTCOV	Earnings before interest, taxes, depreciation, and amortization divided by interest expenses.	Worldscope
INVREC	The sum of inventories and account receivables divided by total assets.	Worldscope
JOINT	An indicator variable equal to 1 if a firm is audited by at least two auditors, and 0 otherwise.	Audit Analytics Europe
LEV	Total liabilities divided by total assets.	Worldscope
LNNAF	Natural logarithm of non-audit fees (in million EUR).	Audit Analytics Europe
LOSS	An indicator variable equal to 1 if a firm reports negative net income, and 0 otherwise.	Worldscope
MB	A firm's market capitalization divided by total equity of the firm.	Worldscope
NAF	Amount of non-audit fees paid to auditors (in EUR).	Audit Analytics Europe
NAS_to_TA	Total amounts of NAS fees in a country divided by total assets in a country.	Audit Analytics Europe WorldScope
NASRATIO	Non-audit fees divided by total fees.	Audit Analytics Europe
NASRATIO_ALTERNATIVE	Ratio of non-audit fees in year *t* to the average of total fees from years *t*-2 to *t*.	Audit Analytics Europe
NGS	Natural logarithm of 1 plus the number of geographical segments.	Worldscope
OPINION	An indicator variable equal to 1 if a firm receives a standard unqualified audit opinion, and 0 otherwise.	Audit Analytics Europe
OTH _LNNAF	Natural logarithm of non-audit fees for other consultancy services (in million EUR).	Audit Analytics Europe
OTH_NASRATIO	Non-audit fees for other consultancy services divided by total fees.	Audit Analytics Europe
PERCENT_NAS	The percentage of firms that purchase NAS per country.	Audit Analytics Europe

(Continued on the next page)

Variable	Definition	Source
POL_STA	A continuous variable measuring perceptions of political stability and absence of violence or terrorism.	World Governance Indicator
REG_QUA	A continuous variable measuring perceptions of the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development.	World Governance Indicator
REL_IMP	A continuous variable measuring religious importance at the country level, based on the proportion of responses to the question "How important religion is in your life?". We recode the response to the question to 0 if the respondent chooses the option "not at all important" and 1 otherwise. We use the average response in each country year to measure the degree of religious importance.	IVS
RETURN	Recent one-year stock return calculated over the 12-month period preceding the measurement of cost of equity.	Refinitiv Datastream
RMSE	Idiosyncratic risk calculated as the standard deviation of residuals of the market model regression using monthly returns over the 36 months preceding the measurement of cost of equity.	Refinitiv Datastream
ROA	Net income divided by lagged total assets.	Worldscope
r_{CT}	Implied cost of equity based on Claus and Thomas (2001): $$P_t = B_t + \frac{ae_{t+1}}{(1+r_{CT})} + \frac{ae_{t+2}}{(1+r_{CT})^2} + \frac{ae_{t+3}}{(1+r_{CT})^3} + \frac{ae_{t+4}}{(1+r_{CT})^4}$$ $$+ \frac{ae_{t+5}}{(1+r_{CT})^5} + \frac{ae_{t+5} \times (1+g_{ae})}{(r_{CT} - g_{ae}) \times (1+r_{CT})}$$ where B_t is book value per share in year *t*; ae_{t+1} is abnormal earnings calculated as $FEPS_{t+i} - r_{CT} \times B_{t+i-1}$, where B_{t+i} is calculated as $B_t + FEPS_{t+i} \times (1-k)$, and k is the current dividend payment ratio estimated by dividends for the most recent fiscal year divided by earnings over the same time period; $FEPS_{t+i}$ is the consensus forecast for the year *t*+*i*, if available, otherwise $FEPS_{t+i} = FEPS_{t+i-1} \times (1 + ltg)$, where ltg is the long-term growth rate; g_{ae} is growth in abnormal earnings calculated as $r_f - 0.03$.	I/B/E/S Refinitiv Datastream
r_{GLS}	Implied cost of equity following Gebhardt et al. (2001): $$P_t = B_t + \frac{FROE_{t+1} - r_{GLS}}{(1+r_{GLS})} \times B_t + \frac{FROE_{t+1} - r_{GLS}}{(1+r_{GLS})^2} \times B_{t+1} + TV$$ $$TV = \sum_{i=3}^{11} \frac{FROE_{t+i} - r_{GLS}}{(1+r_{GLS})^i} \times B_{t+i-1} + \frac{FROE_{t+T} - r_{GLS}}{r_{GLS} \times (1+r_{GLS})^{11}} \times B_{t+11}$$ Where B_t is book value per share in year *t*; P_t is price per share at the end of 4 months after fiscal year-end; B_{t+i} is book value per share in year *t*+*i*, calculated as $B_t + FEPS_{t+i} \times (1-k)$, where k is the current dividend payment ratio estimated by dividends for the most recent fiscal year divided by earnings over the same time period; $FROE_{t+i}$ is forecasted return on equity for year *t*+*i*. For years one through three, it is computed as $FEPS_{t+i}/B_{t+i-1}$. Beyond year three, $FROE_{t+i}$ is estimated by the linear interpolation to the industry median ROE. Industry median ROE is defined as the moving median ROE for the prior 5–10 years for the firms in the same industry using the Fama-French 48 industry classification, with loss firms excluded from the calculation.	I/B/E/S Refinitiv Datastream

(Continued on the next page)

Variable	Definition	Source
r_{OJN}	Implied cost of equity estimated by Ohlson and Juettner-Nauroth (2005) model: $$r_{OJN} = A + \sqrt{A^2 + \frac{FEPS_{t+1}}{P_t}[g_2 - (r_f - 0.03)]}$$ $$A = 0.5[(r_f - 0.03) + \frac{DPS_{t+1}}{P_t}]$$ $$g_2 = \frac{FEPS_{t+2} - FEPS_{t+1}}{FEPS_{t+1}}$$ where P_t is price per share at the end of four months after fiscal year-end; $FEPS_{t+1}$ is the 1-year ahead mean analysts' earnings forecast per share at the end of four months after fiscal year-end; $FEPS_{t+2}$ is the 2-year ahead mean analysts' earnings forecast per share at the end of four months after fiscal year-end; DPS_{t+1} is expected dividends per share paid during year t+1, proxied by DPS_t; r_f is the risk-free rate equal to the yield on a 10-year treasury bonds in June of year t.	I/B/E/S Refinitiv Datastream
r_{PEG}	Implied cost of equity capital estimated using the modified PEG approach in Easton (2004), calculated as: $$r_{PEG} = \sqrt{\frac{FEPS_{t+2} - FEPS_{t+1}}{P_t}}$$ where $FEPS_{t+1}$ is the 1-year ahead mean analysts' earnings forecast per share at the end of 4 months after fiscal year-end; $FEPS_{t+2}$ is the 2-year ahead mean analysts' earnings forecast per share at the end of 4 months after fiscal year-end t; P_t is price per share at the end of 4 months after fiscal year-end. This model requires $FEPS_{t+2} \geq FEPS_{t+1} > 0$.	I/B/E/S Refinitiv Datastream
SDR	Short-term debt divided by total debts.	Worldscope
SECRECY	A measure indicating a preference for confidentiality and the restriction of disclosure of information about the business only to those who are closely involved with its management and financing, calculated as the sum of uncertainty avoidance and power distance scores less the individualism score.	Hofestde (1980) Hope et al. (2008)
SIZE	Natural logarithm of total assets (in million EUR).	Worldscope
SPECIAL	An indicator variable equal to 1 if a firm reports non-missing special items, and 0 otherwise.	Worldscope
STRICTNESS	Strictness of NAS requirements based on three dimensions in Directive 2014/56/EU: (1) NAS fee cap; (2) NAS whitelist or blacklist; (3) derogation of prohibition on tax and valuation services. For the NAS fee cap dimension, we assign 0 to the country that implements the baseline requirement of NAS fee cap at 70%, 0.5 to the country that sets fee cap at 50%, and 1 to the country that sets fee cap at 30%. For the NAS whitelist and blacklist dimension, we assign 0 to the country that follows whitelist approach, 0.5 to the country that implements blacklist, and 1 to the country that imposes more additional restrictions than whitelist or blacklist. For the derogation of prohibition on tax and valuation services dimension, we assign 0 to the country that allows certain tax and valuation services under Directive 2014/56/EU, 0.5 to the country that allows certain tax services under Directive 2014/56/EU, and 1 to the country that prohibits tax and valuation services. We then add up all the values of each dimension and compose the aggregate measure of strictness of NAS requirements.	Audit Analytics Europe Accountancy Europe

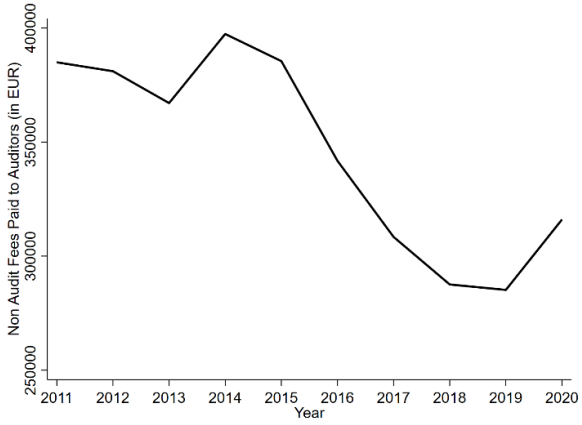
(Continued on the next page)

Variable	Definition	Source
TA	A firm's total assets (in thousand EUR).	Worldscope
TAX_ LNNAF	Natural logarithm of non-audit fees for tax services (in million EUR).	Audit Analytics Europe
TAX_ NASRATIO	Non-audit fees for tax services divided by total fees.	Audit Analytics Europe
TF	Amount of total fees paid to auditors (in EUR).	Audit Analytics Europe
TRA	Percentage of a specific firm's equity held by transient institutional investors at the end of the fiscal year.	S&P Capital IQ
TRUST	A continuous variable capturing the country-level generalized trust, based on the proportion of responses to the question "Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?". We recode the response to 1 if the respondent chooses the answer "most people can be trusted" and 0 otherwise. We calculate the mean of the responses by country-year as the measure of generalized trust.	IVS
TRUST_ALTERNATIVE	Trust index calculated for each country as 100 + (percentage of participants that respond "most people can be trusted") – (percentage of participants that respond "can't be too careful").	IVS

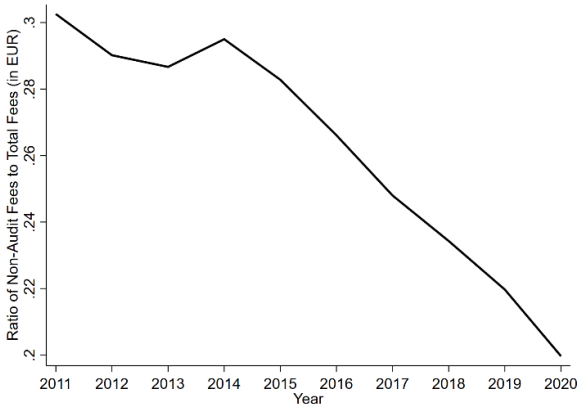
Note: Variables are listed in alphabetical order.

Figure 1: Trend of Auditor-Provided NAS in Europe

Panel A: Trend of NAS fees paid to auditors



Panel B: Trend of NAS fees paid to auditors as a percentage of total fees



Note: This figure illustrates the trend of auditor-provided NAS in Europe over the period 2011─2020. Panel A shows the trend of NAS fees paid to auditors in Europe over the period 2011 through 2020. Panel B presents the trend of NAS fees paid to auditors as a percentage of total fees in Europe over the period 2011 through 2020.

Table 1: Sample Selection

	Firm-Year Observations
Initial observations with available data of all firms from Audit Analytics Europe from 2010 to 2020, after merging with S&P Capital IQ, WorldScope, World Governance Indicator, World Bank, and Djankov et al. (2008)'s dataset	55,739
Less:	
Financial institutions (SIC 6000-6999) and public utilities (SIC 4900-4999)	(17,048)
Firms that are not headquartered in the 27 European countries	(2,689)
Missing data for audit fees and non-audit fees	(10,980)
Missing data for control variables	(6,031)
Final sample size	18,991
Unique firms	3,528

Note: This table presents the sample selection process. The sample period spans 2011─2020. See Appendix A for variable definitions.

Table 2: Sample Distribution

Panel A: Sample distribution by year

Year	# Obs.	%	# Unique Firms	%
2011	1,816	9.562	324	9.184
2012	1,826	9.615	337	9.552
2013	1,904	10.026	336	9.524
2014	1,974	10.394	344	9.750
2015	2,052	10.805	347	9.836
2016	2,028	10.679	381	10.799
2017	1,980	10.426	346	9.807
2018	1,998	10.521	397	11.253
2019	1,866	9.826	363	10.289
2020	1,547	8.146	353	10.006
Total	18,991	100.000	3,528	100.000

Panel B: Sample distribution by country

Country	# Obs.	%	# Unique Firms	%
Austria	367	1.932	51	1.446
Belgium	525	2.765	73	2.069
Bulgaria	11	0.058	8	0.227
Croatia	24	0.127	9	0.255
Czech Republic	20	0.105	4	0.113
Denmark	574	3.022	85	2.409
Finland	637	3.354	110	3.118
France	1,937	10.200	385	10.913
Germany	2,360	12.427	389	11.026
Greece	134	0.706	37	1.049
Hungary	27	0.142	7	0.199
Iceland	43	0.226	12	0.340
Ireland	313	1.648	53	1.502
Italy	954	5.023	192	5.442
Latvia	5	0.026	4	0.113
Lithuania	12	0.063	5	0.142
Luxembourg	130	0.685	27	0.766
Netherlands	496	2.612	88	2.494
Norway	808	4.255	143	4.053
Poland	997	5.250	250	7.086
Portugal	205	1.079	33	0.935
Romania	25	0.132	8	0.227
Slovakia	12	0.063	3	0.085
Spain	444	2.338	96	2.721
Sweden	1,180	6.213	289	8.192
Switzerland	925	4.871	139	3.940
United Kingdom	5,826	30.678	1,028	29.138
Total	18,991	100.000	3,528	100.000

Note: This table presents sample distribution for the full sample. The sample period spans 2011–2020. Panel A reports sample distribution by year. Panel B reports sample distribution by country.

Table 3: Summary Statistics (*N*=18,991)

Country	Mean *TF* (€)	Mean *NAF* (€)	Mean *NASRATIO*	Mean *LNNAF*	Mean *TRUST*
Austria	627,141	199,116	0.340	4.367	0.485
Belgium	1,098,240	346,576	0.267	4.387	0.346
Bulgaria	166,808	21,846	0.141	1.787	0.181
Croatia	159,707	25,741	0.202	2.383	0.176
Czech Republic	361,434	69,696	0.197	4.050	0.288
Denmark	1,215,296	497,684	0.413	4.964	0.774
Finland	1,315,519	386,049	0.310	4.589	0.722
France	1,786,916	314,584	0.165	3.897	0.281
Germany	2,299,220	689,752	0.257	4.518	0.453
Greece	430,810	129,254	0.316	3.832	0.084
Hungary	1,673,239	569,990	0.372	5.583	0.285
Iceland	656,631	175,439	0.269	4.705	0.658
Ireland	1,115,664	314,592	0.297	4.315	0.389
Italy	1,340,676	248,490	0.220	4.397	0.285
Latvia	108,919	14,117	0.114	2.196	0.226
Lithuania	55,269	9,686	0.138	1.296	0.328
Luxembourg	2,173,920	445,980	0.190	5.034	0.311
Netherlands	3,044,390	594,411	0.179	4.979	0.617
Norway	665,053	205,889	0.304	4.228	0.751
Poland	134,185	39,399	0.297	2.245	0.255
Portugal	615,239	182,664	0.212	3.939	0.168
Romania	299,257	115,442	0.290	3.479	0.126
Slovakia	146,583	18,083	0.112	2.271	0.213
Spain	788,831	217,140	0.272	4.029	0.410
Sweden	441,487	136,548	0.288	3.390	0.674
Switzerland	2,970,498	627,181	0.211	4.944	0.608
United Kingdom	1,248,392	359,917	0.281	4.123	0.442

Note: This table summarizes the mean values of audit fees, non-audit fees, and the main variables in Equation (1) by country. The sample period spans 2011–2020. See Appendix A for variable definitions.

Table 4: Descriptive Statistics (*N*=18,991)

Variables	Mean	S.D.	p5	p25	Median	p75	p95
TF (€)	1,395,100	4,062,864	28,148	103,777	294,000	949,000	6,000,000
NAF (€)	365,202	1,263,155	3,000	16,000	61,000	235,000	1,429,000
NASRATIO	0.264	0.186	0.031	0.113	0.227	0.378	0.635
LNNAF	4.137	1.877	1.099	2.773	4.111	5.460	7.265
TRUST	0.458	0.154	0.255	0.346	0.442	0.485	0.751
TA (€000)	4,055,972	18,909,462	6,997	54,170	263,623	1,489,743	14,108,646
SIZE	5.668	2.321	1.945	3.992	5.575	7.306	9.555
INVREC	0.293	0.191	0.024	0.138	0.275	0.421	0.642
LOSS	0.296	0.456	0.000	0.000	0.000	1.000	1.000
LEV	0.523	0.251	0.126	0.355	0.523	0.669	0.900
ROA	-0.014	0.220	-0.427	-0.020	0.034	0.076	0.184
MB	2.796	3.816	0.328	1.002	1.778	3.239	9.143
INTANGIBLE	0.237	0.221	0.000	0.042	0.173	0.390	0.673
SPECIAL	0.959	0.198	1.000	1.000	1.000	1.000	1.000
NGS	1.258	0.688	0.000	0.693	1.386	1.792	2.303
BIG4	0.727	0.445	0.000	0.000	1.000	1.000	1.000
JOINT	0.100	0.300	0.000	0.000	0.000	0.000	1.000
AUDCH	0.118	0.323	0.000	0.000	0.000	0.000	1.000
OPINION	0.995	0.072	1.000	1.000	1.000	1.000	1.000
TRA	0.345	0.272	0.008	0.124	0.283	0.511	0.900
GDP	3.774	0.397	2.755	3.716	3.778	3.910	4.459
ASD	0.540	0.287	0.217	0.287	0.421	0.950	0.950
REL_IMP	2.345	0.300	2.070	2.185	2.318	2.318	3.169
POL_STA	0.660	0.368	0.080	0.386	0.540	0.945	1.334
CON_COR	1.622	0.553	0.265	1.478	1.786	1.937	2.240

Note: This table reports descriptive statistics for the firm-year observations from 2011 to 2020. All continuous variables included in Equation (1) are winsorized at the 1st and 99th percentiles. See Appendix A for variable definitions.

Table 5: Pearson Correlation Matrix

Panel A: Country-level correlations (*N*=27)

	TRUST
PERCENT_NAS	**0.673**
NAS_to_TA	**0.731**

Panel B: Pearson correlation matrix for variables (*N*=18,991)

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
(1) *NASRATIO*	-										
(2) *LNNAF*	**0.472**	-									
(3) *TRUST*	**0.131**	**0.125**	-								
(4) *SIZE*	**-0.073**	**0.704**	**-0.093**	-							
(5) *INVREC*	**-0.088**	**-0.085**	**-0.052**	**-0.069**	-						
(6) *LOSS*	**0.042**	**-0.190**	**0.054**	**-0.356**	**-0.178**	-					
(7) *LEV*	**-0.055**	**0.215**	**-0.082**	**0.244**	**0.193**	**0.017**	-				
(8) *ROA*	**-0.046**	**0.195**	**-0.047**	**0.380**	**0.172**	**-0.628**	**-0.054**	-			
(9) *MB*	**0.045**	**0.020**	**0.121**	**-0.076**	**-0.028**	-0.009	**-0.023**	**-0.032**	-		
(10) *INTANGIBLE*	**0.015**	**0.127**	0.011	**0.039**	**-0.318**	**0.027**	**-0.055**	-0.008	0.011	-	
(11) *SPECIAL*	0.010	**0.014**	-0.005	**0.028**	-0.010	**-0.019**	-0.001	**0.014**	0.002	**-0.026**	-
(12) *NGS*	**-0.055**	**0.386**	0.003	**0.453**	**0.082**	**-0.203**	**0.059**	**0.222**	0.004	**0.023**	**0.120**
(13) *BIG4*	**0.056**	**0.438**	**0.219**	**0.447**	**-0.025**	**-0.144**	**0.139**	**0.167**	**0.039**	-0.002	**0.023**
(14) *JOINT*	**-0.180**	**-0.034**	**-0.373**	**0.178**	**0.050**	**-0.033**	**0.099**	0.005	**-0.056**	0.012	**0.038**
(15) *AUDCH*	**-0.102**	**-0.089**	**-0.214**	**0.038**	**0.033**	-0.006	**0.045**	-0.007	**-0.038**	-0.005	0.010
(16) *OPINION*	0.007	**0.028**	**0.042**	**0.042**	-0.005	**-0.064**	**-0.094**	**0.058**	**0.020**	0.013	-0.008
(17) *TRA*	**0.058**	**0.280**	**0.066**	**0.201**	**-0.096**	**-0.111**	**-0.037**	**0.110**	**0.080**	**0.232**	-0.010
(18) *GDP*	0.005	**0.223**	**0.687**	**0.057**	**-0.073**	**0.041**	**-0.033**	**-0.054**	**0.090**	**0.061**	-0.006
(19) *ASD*	**0.074**	**0.001**	**-0.069**	**-0.200**	**-0.134**	**0.106**	**-0.112**	**-0.094**	**0.027**	**0.188**	0.013
(20) *REL_IMP*	**0.023**	**-0.162**	**-0.537**	**-0.035**	**0.023**	-0.016	**0.020**	**0.049**	**-0.103**	**-0.070**	-0.009
(21) *POL_STA*	**0.084**	**0.073**	**0.633**	**0.024**	**0.017**	**-0.037**	**-0.027**	**0.032**	**0.026**	**-0.101**	**-0.048**
(22) *CON_COR*	**0.076**	**0.132**	**0.791**	**-0.077**	**-0.081**	**0.044**	**-0.110**	**-0.066**	**0.106**	**0.071**	-0.013

Panel C: Pearson correlation matrix for variables (*N*=18,991) (Continued)

	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
(1) *NASRATIO*											
(2) *LNNAF*											
(3) *TRUST*											
(4) *SIZE*											
(5) *INVREC*											
(6) *LOSS*											
(7) *LEV*											
(8) *ROA*											
(9) *MB*											
(10) *INTANGIBLE*											
(11) *SPECIAL*											
(12) *NGS*	-										
(13) *BIG4*	**0.230**	-									
(14) *JOINT*	**0.041**	**-0.077**	-								
(15) *AUDCH*	-0.007	**-0.122**	**0.435**	-							
(16) *OPINION*	**0.036**	**0.027**	0.005	**-0.025**	-						
(17) *TRA*	**0.183**	**0.147**	**-0.162**	**-0.102**	**0.033**	-					
(18) *GDP*	**0.094**	**0.207**	**-0.065**	**-0.109**	**0.056**	**0.060**	-				
(19) *ASD*	**-0.074**	**-0.165**	**-0.185**	**-0.094**	-0.004	**0.543**	**0.025**	-			
(20) *REL_IMP*	**-0.058**	**-0.083**	**-0.171**	-0.012	**-0.045**	**-0.044**	**-0.642**	0.006	-		
(21) *POL_STA*	**0.056**	**0.219**	**-0.345**	**-0.171**	**0.036**	**-0.175**	**0.458**	**-0.476**	**-0.116**	-	
(22) *CON_COR*	**0.025**	**0.089**	**-0.174**	**-0.128**	**0.068**	**0.204**	**0.746**	**0.163**	**-0.746**	**0.435**	-

Note: This table presents Pearson correlation coefficients for variables at both the country-level and firm-level over the sample period 2011–2020. Correlation coefficients in bold indicate significance at 5 percent based on two-tailed tests. All continuous variables are winsorized at the 1st and 99th percentiles. See Appendix A for variable definitions.

Table 6: Effect of Generalized Trust on NAS

	(1) *NASRATIO*	(2) *LNNAF*
TRUST	0.253***	1.398***
	(8.066)	(6.052)
SIZE	0.002	0.597***
	(1.365)	(57.706)
INVREC	-0.070***	0.141
	(-4.811)	(1.390)
LOSS	0.007	0.137***
	(1.390)	(4.346)
LEV	-0.019*	0.422***
	(-1.938)	(6.259)
ROA	-0.023*	-0.544***
	(-1.868)	(-7.083)
MB	0.001***	0.018***
	(2.731)	(5.118)
INTANGIBLE	-0.016	0.456***
	(-1.460)	(5.811)
SPECIAL	0.018**	-0.076
	(2.418)	(-1.167)
NGS	-0.011***	0.140***
	(-3.121)	(5.897)
BIG4	0.024***	0.358***
	(3.661)	(8.663)
JOINT	-0.049***	-0.804***
	(-5.178)	(-10.254)
AUDCH	-0.013***	-0.146***
	(-3.001)	(-4.662)
OPINION	-0.000	-0.243*
	(-0.011)	(-1.727)
TRA	-0.008	0.050
	(-0.699)	(0.653)
GDP	-0.063***	0.356***
	(-6.638)	(5.287)
ASD	0.023*	0.560***
	(1.691)	(5.658)
REL_IMP	0.059***	-0.214**
	(4.011)	(-2.111)
POL_STA	-0.028**	-0.435***
	(-2.527)	(-5.120)
CON_COR	0.023**	-0.029
	(2.318)	(-0.414)
Constant	0.270***	-0.927**
	(4.460)	(-2.227)
Industry FE	Yes	Yes
Year FE	Yes	Yes
Observations	18,991	18,991
Adj. R^2	0.109	0.617

Note: This table reports the estimates from regressing two NAS measures on generalized trust and control variables in Equation (1) using OLS, with *NASRATIO* as the dependent variable in column (1) and *LNNAF* as the dependent variable in column (2). *, **, and *** denote significance levels of 10 percent, 5 percent, and 1 percent, respectively, based on two-tailed tests. In the parentheses below coefficient estimates are robust *t*-statistics based on standard errors adjusted for heteroskedasticity and firm-level clustering. See Appendix A for variable definitions.

Table 7: Regression Analysis of Cost of Capital, NAS, and Generalized Trust

	(1)	(2)	(3)	(4)
	COD		*COE*	
*NASRATIO*TRUST*	-0.023**		0.031	
	(-2.130)		(1.201)	
*LNNAF*TRUST*		-0.002*		-0.005*
		(-1.653)		(-1.803)
NASRATIO	0.004**		0.005	
	(2.361)		(1.573)	
LNNAF		0.001***		0.001**
		(5.096)		(2.231)
TRUST	-0.011**	-0.014**	0.053***	0.053***
	(-2.072)	(-2.507)	(5.356)	(5.202)
SIZE	-0.002***	-0.003***	-0.000	-0.001
	(-6.753)	(-8.202)	(-0.460)	(-1.277)
LEV	0.004*	0.003	0.037***	0.036***
	(1.855)	(1.569)	(8.047)	(7.877)
BIG4	-0.000	-0.001	-0.001	-0.001
	(-0.289)	(-0.999)	(-0.252)	(-0.672)
ROA	-0.025***	-0.024***		
	(-7.243)	(-7.089)		
INTCOV	0.000***	0.000***		
	(2.580)	(2.605)		
CURRENT	0.002***	0.002***		
	(3.600)	(3.628)		
LOSS	0.007***	0.007***		
	(7.249)	(7.085)		
SDR	0.004***	0.004***		
	(2.659)	(2.669)		
ANAL_COV			-0.010***	-0.010***
			(-7.114)	(-7.109)
BETA			0.006***	0.006***
			(4.850)	(4.857)
DISP			0.053***	0.053***
			(12.367)	(12.401)
RETURN			-0.029***	-0.029***
			(-16.910)	(-16.936)
RMSE			0.118***	0.118***
			(14.215)	(14.254)
TRA	-0.000	-0.000	-0.008**	-0.009**
	(-0.187)	(-0.213)	(-2.271)	(-2.542)
GDP	-0.006***	-0.008***	-0.007*	-0.008**
	(-3.858)	(-4.466)	(-1.789)	(-2.035)
ASD	0.007***	0.005**	0.004	0.003
	(2.892)	(2.238)	(0.860)	(0.606)
REL_IMP	-0.003	-0.002	0.010**	0.012**
	(-1.303)	(-0.821)	(2.065)	(2.319)
POL_STA	0.003*	0.003*	-0.006	-0.007
	(1.685)	(1.808)	(-1.436)	(-1.552)
CON_COR	0.007***	0.007***	-0.002	-0.001
	(4.035)	(4.458)	(-0.593)	(-0.337)
Constant	0.005***	0.006***	0.017***	0.018***
	(4.723)	(5.108)	(7.308)	(7.777)
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	14,488	14,488	7,634	7,634
Adj. R^2	0.158	0.160	0.463	0.463

Note: This table presents the OLS regression results of whether generalized trust impacts the effect of NAS on cost of capital, with cost of debt capital as the dependent variable in columns (1) and (2) and cost of equity capital as the dependent variable in columns (3) and (4). *, **, and *** denote significance levels of 10 percent, 5 percent, and 1 percent, respectively, based on two-tailed tests. In the parentheses below coefficient estimates are robust *t*-statistics based on standard errors adjusted for heteroskedasticity and firm-level clustering. All continuous variables are winsorized at the 1st and 99th percentiles. See Appendix A for variable definitions.

Table 8: Cross-Sectional Test based on Regulatory Quality

Panel A: Regression analysis with the ratio of non-audit fees to total fees (*NASRATIO*) as the dependent variable

	Low Regulatory Quality	High Regulatory Quality	
	(1)	(2)	(3)
	NASRATIO	*NASRATIO*	Test on diff. in coeff.
TRUST	0.302***	0.095**	0.207***
	(6.556)	(2.046)	(3.388)
Control Variables	Yes	Yes	
Industry FE	Yes	Yes	
Year FE	Yes	Yes	
Observations	9,220	9,771	
Adj. R^2	0.131	0.108	

Panel B: Regression analysis with the natural logarithm of non-audit fees (*LNNAF*) as the dependent variable

	Low Regulatory Quality	High Regulatory Quality	
	(1)	(2)	(3)
	LNNAF	*LNNAF*	Test on diff. in coeff.
TRUST	1.264***	0.599*	0.665
	(3.900)	(1.652)	(1.510)
Control Variables	Yes	Yes	
Industry FE	Yes	Yes	
Year FE	Yes	Yes	
Observations	9,220	9,771	
Adj. R^2	0.604	0.634	

Note: This table presents the results from estimating Equation (1) using OLS regression in samples of firms in countries with low regulatory quality and in countries with high regulatory quality respectively, with *NASRATIO* as the dependent variable in Panel A and *LNNAF* as the dependent variable in Panel B. Column (1) reports the coefficient of *TRUST* by estimating Equation (1) using OLS regression for firms in countries with low regulatory quality. Column (2) reports the coefficient of *TRUST* by estimating Equation (1) using OLS regression for firms in countries with high regulatory quality. Column (3) reports the difference in coefficients of *TRUST* between firms in countries with low regulatory quality and firms in countries with high regulatory quality. We calculate low and high regulatory quality using a median split of *REG_QUA*. For brevity, we do not tabulate the estimates of coefficients for the control variables. *, **, and *** denote significance levels of 10 percent, 5 percent, and 1 percent, respectively, based on two-tailed tests. In the parentheses below coefficient estimates are robust *t*-statistics based on standard errors adjusted for heteroskedasticity and firm-level clustering. All continuous variables are winsorized at the 1st and 99th percentiles. See Appendix A for variable definitions.

Table 9: Regression Analysis of the Amendment of Directive 2014/56/EU

Panel A: Correlation between generalized trust and the strictness of NAS requirements ($N = 26$)

	TRUST
STRICTNESS	**-0.567**

Panel B: Regression analysis on the strictness of NAS requirements

	(1) *NASRATIO*	(2) *LNNAF*
*STRICTNESS * TRUST*	-0.063	-0.072
	(-1.089)	(-0.181)
TRUST	0.217***	1.452***
	(5.314)	(4.728)
STRICTNESS	-0.044***	-0.152**
	(-4.578)	(-2.400)
Industry FE	Yes	Yes
Year FE	Yes	Yes
Observations	8,935	8,935
Adj. R^2	0.090	0.592

Panel C: Regression analysis with the ratio of non-audit fees to total fees (*NASRATIO*) as the dependent variable

	Before the Amendment of Directive 2014/56/EU	After the Amendment of Directive 2014/56/EU	
	(1) *NASRATIO*	(2) *NASRATIO*	(3) Test on diff. in coeff.
TRUST	0.235***	0.259***	-0.024
	(5.403)	(6.077)	(-0.434)
Control Variables	Yes	Yes	
Industry FE	Yes	Yes	
Year FE	Yes	Yes	
Observations	8,715	6,633	
Adj. R^2	0.125	0.083	

Panel D: Regression analysis with the natural logarithm of non-audit fees (*LNNAF*) as the dependent variable

	Before the Amendment of Directive 2014/56/EU	After the Amendment of Directive 2014/56/EU	
	(1) *LNNAF*	(2) *LNNAF*	(3) Test on diff. in coeff.
TRUST	1.536***	1.712***	-0.176
	(5.233)	(5.553)	(-0.511)
Control Variables	Yes	Yes	
Industry FE	Yes	Yes	
Year FE	Yes	Yes	
Observations	8,715	6,633	
Adj. R^2	0.656	0.594	

Note: This table presents the results on the role of the amendment of Directive 2014/56/EU in the effect of generalized trust on NAS. Panel A presents the correlation between the correlation of the strictness of NAS requirements and generalized trust. Panel B presents the OLS regression results of the role of the strictness of NAS requirements in the effect of generalized trust on NAS. Switzerland which does not implement Directive 2014/56/EU is excluded from this analysis. Panels C and D report the OLS regression results of estimating Equation (1) before the amendment of Directive 2014/56/EU and after the amendment of Directive 2014/56/EU, with *NASRATIO* as the dependent variable in Panel C and *LNNAF* as the dependent variable in Panel D. Column (1) reports the OLS regression result on the effect of generalized trust on NAS during 2011-2015 in the 23 European countries except Croatia, Iceland, Norway, and Switzerland. Column (2) reports the OLS regression result on the effect of generalized trust on NAS during 2017-2020 in the 23 European countries except Croatia, Iceland, Norway, and Switzerland. Column (3) reports the difference in coefficients of *TRUST* in column (1) and column (2). For brevity, we do not tabulate the estimates of coefficients for the control variables. In Panel A, the correlation coefficient in bold indicates significance at 5 percent based on two-tailed tests. In Panel B, C, and D, *, **, and *** denote significance levels of 10 percent, 5 percent, and 1 percent, respectively, based on two-tailed tests. In the parentheses below coefficient estimates are robust *t*-statistics based on standard errors adjusted for heteroskedasticity and firm-level clustering. All continuous variables are winsorized at the 1st and 99th percentiles. See Appendix A for variable definitions.

Table 10: Regression Analysis of Different Types of NAS and Generalized Trust

Panel A: Regression analysis of the association between the ratios of different types of NAS and generalized trust

	(1)	(2)	(3)
	AUD_NASRATIO	*TAX_NASRATIO*	*OTH_NASRATIO*
TRUST	-0.016	-0.044	0.206***
	(-0.587)	(-1.261)	(7.307)
Control Variables	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	10,345	9,110	12,660
Adj. R^2	0.170	0.092	0.064

Panel B: Regression analysis of the association between the natural logarithm of fees for different types of NAS and generalized trust

	(1)	(2)	(3)
	AUD_LNNAF	*TAX_LNNAF*	*OTH_LNNAF*
TRUST	0.085	-0.235	2.004***
	(0.294)	(-0.608)	(6.953)
Control Variables	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes
Year FE	Yes	Yes	Yes
Observations	10,345	9,110	12,660
Adj. R^2	0.586	0.533	0.494

Note: This table presents the OLS regression results of the association between three types of NAS and generalized trust. Panel A reports the results with the ratio of different types of NAS as the dependent variable in columns (1), (2) and (3). Panel B reports the results with the natural logarithm of non-audit fees for different types of NAS as the dependent variables in columns (1), (2), and (3). The three types of NAS are audit-related NAS, tax-related NAS, and other NAS. For brevity, we do not tabulate the estimates of coefficients for the control variables. *, **, and *** denote significance levels of 10 percent, 5 percent, and 1 percent, respectively, based on two-tailed tests. In the parentheses below coefficient estimates are robust *t*-statistics based on standard errors adjusted for heteroskedasticity and firm-level clustering. All continuous variables are winsorized at the 1st and 99th percentiles. See Appendix A for variable definitions.

Table 11: Robustness Checks

Panel A: Robustness tests concerning differences in sample size

	(1) Country-Weighted Least Squares		(2) Exclude Countries with large number of observations	
	NASRATIO	*LNNAF*	*NASRATIO*	*LNNAF*
TRUST	0.324***	2.365***	0.274***	1.856***
	(6.871)	(6.050)	(6.302)	(5.819)
Control Variables	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	18,991	18,991	6,691	6,691
Adj. R^2	0.156	0.631	0.108	0.542

Panel B: Robustness tests using alternative NAS measures

	(1) *NASRATIO_ALTERNATIVE*	(2) *DUM_NAS*
TRUST	0.262***	3.175***
	(6.999)	(6.134)
Control Variables	Yes	Yes
Industry FE	Yes	Yes
Year FE	Yes	Yes
Observations	15,919	25,093
R^2	0.070	0.218

Panel C: Robustness tests using an alternative measure for generalized trust

	(1) *NASRATIO*	(2) *LNNAF*
TRUST_ALTERNATIVE	0.127***	0.698***
	(8.068)	(6.048)
Control Variables	Yes	Yes
Industry FE	Yes	Yes
Year FE	Yes	Yes
Observations	18,991	18,991
Adj. R^2	0.109	0.617

Panel D: Robustness tests including secrecy measure

	(1) *NASRATIO*	(2) *LNNAF*
TRUST	0.238***	1.059***
	(6.740)	(4.199)
SECRECY	-0.000	-0.003***
	(-0.870)	(-2.817)
Control Variables	Yes	Yes
Industry FE	Yes	Yes
Year FE	Yes	Yes
Observations	18,948	18,948
Adj. R^2	0.109	0.619

Note: This table reports various robustness tests. In column (1) of Panel A, we use country-weighted least squares. In column (2), we remove all observations from the five largest countries in our sample (U.K., Sweden, Poland, Germany, and France). In Panel B, we use two alternative measures for NAS. In Panel C, we use an alternative measure for generalized trust. In Panel D, we add secrecy measure to our main test. In Panel E, we estimate HLM for the full sample. In Panel F, we use different clustering specifications of standard errors. In Panel G, we include additional regional fixed effects. For brevity, we do not tabulate the estimates of coefficients for the control variables. *, **, and *** denote significance levels of 10 percent, 5 percent, and 1 percent, respectively, based on two-tailed tests. In the parentheses below coefficient estimates are robust t-statistics based on standard errors adjusted for heteroskedasticity and firm-level clustering (adjusted in Panels A, B, C, D, E, and G). See Appendix A for variable definition.

Table 11: Robustness Checks (Continued)

Panel E: Robustness tests using hierarchical linear model

	(1) *NASRATIO*	(2) *LNNAF*
TRUST	0.350***	2.329***
	(4.390)	(3.628)
Control Variables	Yes	Yes
Industry FE	Yes	Yes
Year FE	Yes	Yes
Observations	18,991	18,991
Random Intercept Variance	0.003	0.192

Panel F: Robustness tests using different clustering specifications of standard errors

	(1) Clustered by Firm and Year		(2) Clustered by Country and Year		(3) Clustered by Firm × Year		(4) Clustered by Country × Year	
	NASRATIO	*LNNAF*	*NASRATIO*	*LNNAF*	*NASRATIO*	*LNNAF*	*NASRATIO*	*LNNAF*
TRUST	0.253***	1.398***	0.253***	1.398***	0.253***	1.398***	0.253***	1.398***
	(7.051)	(5.739)	(2.774)	(2.962)	(13.654)	(11.201)	(6.859)	(6.647)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	18,991	18,991	18,991	18,991	18,991	18,991	18,991	18,991
Adj. R^2	0.108	0.617	0.108	0.617	0.109	0.617	0.109	0.617

Panel G: Robustness tests using regional fixed effects

	(1) *NASRATIO*	(2) *LNNAF*
TRUST	0.159***	1.116***
	(3.192)	(3.070)
Regional FE	Yes	Yes
Industry FE	Yes	Yes
Year FE	Yes	Yes
Observations	18,991	18,991
Adj. R^2	0.113	0.618

Note: This table reports various robustness tests. In column (1) of Panel A, we use country-weighted least squares. In column (2), we remove all observations from the five largest countries in our sample (U.K., Sweden, Poland, Germany, and France). In Panel B, we use two alternative measures for NAS. In Panel C, we use an alternative measure for generalized trust. In Panel D, we add secrecy measure to our main test. In Panel E, we estimate HLM for the full sample. In Panel F, we use different clustering specifications of standard errors. In Panel G, we include additional regional fixed effects. For brevity, we do not tabulate the estimates of coefficients for the control variables. *, **, and *** denote significance levels of 10 percent, 5 percent, and 1 percent, respectively, based on two-tailed tests. In the parentheses below coefficient estimates are robust t-statistics based on standard errors adjusted for heteroskedasticity and firm-level clustering (adjusted in Panels A, B, C, D, E, and G). See Appendix A for variable definition.

ONLINE APPENDIX (OA)

Table OA1: Univariate Analysis (*N*=18,991)

	(1) Low-Trust Countries (*N*=5,775)		(2) High-Trust Countries (*N*=13,216)		(3) Test on diff. in mean	
	Mean	S.D.	Mean	S.D.	Diff.	*t*-stat.
NASRATIO	0.229	0.180	0.279	0.187	-0.050***	-17.224
LNNAF	3.783	1.939	4.292	1.829	-0.509***	-16.910
TRUST	0.290	0.063	0.531	0.120	-0.241***	-181.493
SIZE	6.158	2.149	5.454	2.360	0.704***	20.122
INVREC	0.314	0.189	0.285	0.191	0.029***	9.633
LOSS	0.261	0.439	0.311	0.463	-0.050***	-7.025
LEV	0.569	0.242	0.503	0.252	0.066***	16.967
ROA	0.005	0.158	-0.023	0.241	0.028***	9.332
MB	2.224	3.184	3.046	4.036	-0.822***	-15.044
INTANGIBLE	0.212	0.200	0.248	0.229	-0.036***	-10.819
SPECIAL	0.964	0.187	0.957	0.203	0.007**	2.244
NGS	1.253	0.690	1.260	0.687	-0.007	-0.690
BIG4	0.704	0.457	0.738	0.440	-0.034***	-4.743
JOINT	0.324	0.468	0.002	0.043	0.322***	52.157
AUDCH	0.242	0.428	0.064	0.245	0.178***	29.535
OPINION	0.990	0.100	0.997	0.056	-0.007***	-4.902
TRA	0.213	0.188	0.403	0.283	-0.190***	-54.524
GDP	3.450	0.494	3.915	0.233	-0.465***	-68.269
ASD	0.402	0.119	0.600	0.317	-0.198***	-62.246
REL_IMP	2.608	0.405	2.230	0.120	0.378***	69.724
POL_STA	0.492	0.333	0.734	0.359	-0.242***	-45.081
CON_COR	0.963	0.535	1.910	0.203	-0.947***	-130.519

Note: This table reports the univariate analysis results. Columns (1) and (2) present the mean value and standard deviation of variables included in equation (1) for low-trust countries and high-trust countries, respectively. Column (3) reports the difference in mean values of variables between Low-Trust Countries group and High-Trust Countries group. We calculate low and high trust using a median split of *TRUST*. *, **, and *** denote significance levels of 10 percent, 5 percent, and 1 percent, respectively, based on two-tailed tests. All continuous variables are winsorized at the 1st and 99th percentiles. See Appendix A for variable definitions.

Table OA2: Individual Cost of Equity Measures

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	r_{PEG}		r_{GLS}		r_{CT}		r_{OJN}	
*NASRATIO*TRUST*	0.032		0.011		0.036		0.002	
	(1.343)		(0.348)		(1.084)		(0.067)	
*LNNAF*TRUST*		-0.004*		-0.006*		-0.009**		-0.009**
		(-1.670)		(-1.744)		(-2.338)		(-1.990)
TRUST	0.050***	0.050***	0.081***	0.079***	0.046***	0.047***	0.042***	0.041***
	(5.603)	(5.433)	(5.578)	(5.385)	(3.560)	(3.580)	(3.219)	(3.095)
NASRATIO	0.005		-0.003		0.009**		0.014***	
	(1.569)		(-0.584)		(2.219)		(2.656)	
LNNAF		0.001**		0.001		0.001**		0.002**
		(2.193)		(0.997)		(2.064)		(2.471)
SIZE	-0.001	-0.001	0.001	0.001	-0.001	-0.001	-0.001	-0.003**
	(-0.797)	(-1.573)	(1.163)	(0.756)	(-0.666)	(-1.442)	(-1.120)	(-1.985)
LEV	0.031***	0.030***	0.038***	0.038***	0.041***	0.040***	0.049***	0.049***
	(7.566)	(7.400)	(6.138)	(6.107)	(7.610)	(7.436)	(7.254)	(7.161)
MB	-0.002***	-0.002***	-0.002***	-0.002***	-0.003***	-0.003***	-0.003***	-0.003***
	(-10.175)	(-10.160)	(-8.842)	(-8.803)	(-9.375)	(-9.263)	(-9.321)	(-9.275)
ANAL_COV	-0.007***	-0.007***	-0.017***	-0.018***	-0.011***	-0.011***	-0.008***	-0.008***
	(-5.014)	(-4.993)	(-9.107)	(-9.101)	(-6.463)	(-6.431)	(-3.693)	(-3.687)
BETA	0.009***	0.009***	0.004**	0.004**	0.007***	0.007***	0.008***	0.008***
	(6.939)	(6.927)	(2.102)	(2.140)	(4.249)	(4.247)	(3.938)	(3.870)
DISP	0.052***	0.052***	0.016***	0.016***	0.007*	0.008*	0.028***	0.028***
	(19.714)	(19.740)	(4.893)	(4.911)	(1.695)	(1.713)	(11.837)	(11.866)
RETURN	-0.024***	-0.024***	-0.023***	-0.023***	-0.029***	-0.029***	-0.056***	-0.055***
	(-16.138)	(-16.098)	(-11.796)	(-11.805)	(-13.897)	(-13.909)	(-21.945)	(-21.924)
RMSE	0.111***	0.111***	0.125***	0.125***	0.085***	0.085***	0.196***	0.196***
	(14.676)	(14.701)	(12.472)	(12.406)	(8.334)	(8.383)	(16.261)	(16.202)
BIG4	-0.001	-0.002	-0.003	-0.004	-0.001	-0.002	-0.001	-0.003
	(-0.627)	(-1.031)	(-1.082)	(-1.369)	(-0.358)	(-0.815)	(-0.377)	(-0.791)
TRA	-0.010***	-0.011***	-0.000	-0.000	-0.005	-0.007	-0.019***	-0.020***
	(-2.971)	(-3.240)	(-0.003)	(-0.083)	(-1.080)	(-1.445)	(-3.334)	(-3.587)
GDP	0.001	-0.000	-0.010*	-0.010*	-0.009*	-0.011**	0.003	0.000
	(0.208)	(-0.089)	(-1.813)	(-1.957)	(-1.959)	(-2.397)	(0.648)	(0.064)
ASD	-0.014***	-0.015***	0.038***	0.037***	-0.005	-0.006	-0.023***	-0.024***
	(-3.208)	(-3.413)	(5.838)	(5.640)	(-0.825)	(-0.996)	(-3.351)	(-3.494)
REL_IMP	0.009**	0.010**	0.017**	0.018**	0.002	0.004	0.015**	0.017***
	(2.055)	(2.250)	(2.142)	(2.258)	(0.289)	(0.610)	(2.345)	(2.656)
POL_STA	-0.009**	-0.010***	-0.003	-0.003	-0.004	-0.004	-0.015***	-0.015***
	(-2.575)	(-2.647)	(-0.515)	(-0.551)	(-0.777)	(-0.849)	(-2.997)	(-2.957)
CON_COR	-0.002	-0.002	-0.011**	-0.010**	-0.002	-0.001	0.004	0.006
	(-0.817)	(-0.617)	(-2.118)	(-1.981)	(-0.621)	(-0.337)	(0.995)	(1.317)
Constant	0.011***	0.012***	0.021***	0.022***	0.022***	0.024***	0.007**	0.009***
	(4.978)	(5.436)	(5.892)	(6.090)	(7.167)	(7.766)	(2.184)	(2.671)
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	9,080	9,080	10,447	10,447	8,308	8,308	10,223	10,223
Adj. R^2	0.471	0.471	0.293	0.294	0.258	0.259	0.415	0.416

Note: This table presents the OLS regression results by estimating Equation (2) and Equation (3) on whether country-level generalized trust impacts the effect of NAS on cost of equity capital. *, **, and *** denote significance levels of 10 percent, 5 percent, and 1 percent, respectively, based on two-tailed tests. In the parentheses below coefficient estimates are robust *t*-statistics based on standard errors adjusted for heteroskedasticity and firm-level clustering. All continuous variables are winsorized at the 1st and 99th percentiles. See Appendix A for variable definitions.

Table OA3: Excluding Observations of Separate Countries

Panel A: Regression analysis of the association between auditor in dependence in appearance and generalized trust after excluding countries with large proportions

	Exclude U.K.		Exclude Sweden		Exclude Poland	
	(1)	(2)	(3)	(4)	(5)	(6)
	NASRATIO	*LNNAF*	*NASRATIO*	*LNNAF*	*NASRATIO*	*LNNAF*
TRUST	0.230***	1.288***	0.255***	1.422***	0.248***	1.409***
	(6.845)	(5.248)	(7.990)	(6.080)	(7.886)	(6.062)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	13,165	13,165	17,811	17,811	17,994	17,994
Adj. R^2	0.119	0.610	0.112	0.613	0.113	0.602

Panel B: Regression analysis of the association between auditor in dependence in appearance and generalized trust after excluding countries with large proportions (Continued)

	Exclude Germany		Exclude France	
	(1)	(2)	(3)	(4)
	NASRATIO	*LNNAF*	*NASRATIO*	*LNNAF*
TRUST	0.308***	1.824***	0.257***	1.456***
	(8.253)	(6.651)	(7.936)	(6.119)
Control Variables	Yes	Yes	Yes	Yes
Industry FE	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Observations	16,631	16,631	17,054	17,054
Adj. R^2	0.111	0.618	0.087	0.622

Note: This table reports results from estimating Equation (1) using OLS, after excluding observations from each of the countries that represent a disproportionally high number of observations of our sample, one at a time. For brevity, we do not tabulate the estimates of coefficients for the control variables. *, **, and *** denote significance levels of 10 percent, 5 percent, and 1 percent, respectively, based on two-tailed tests, unless a direction is predicted. In the parentheses below coefficient estimates are robust *t*-statistics based on standard errors adjusted for heteroskedasticity and firm-level clustering. All continuous variables are winsorized at the 1st and 99th percentiles. See Appendix A for variable definitions.

Table OA4: Keeping Observations of Nordic Countries

	(1) *NASRATIO*	(2) *LNNAF*
TRUST	1.767***	14.692***
	(3.586)	(4.122)
Industry FE	Yes	Yes
Year FE	Yes	Yes
Observations	3,242	3,242
Adj. R^2	0.153	0.671

Note: This table reports results from estimating Equation (1) using OLS, for observations from the five Nordic countries that are Finland, Norway, Denmark, Iceland, and Sweden. For brevity, we do not tabulate the estimates of coefficients for the control variables. *, **, and *** denote significance levels of 10 percent, 5 percent, and 1 percent, respectively, based on two-tailed tests, unless a direction is predicted. In the parentheses below coefficient estimates are robust *t*-statistics based on standard errors adjusted for heteroskedasticity and firm-level clustering. All continuous variables are winsorized at the 1st and 99th percentiles. See Appendix A for variable definitions.

Table OA5: Test for Low-Trust Countries and High-Trust Countries

Panel A: Regression analysis with the ratio of non-audit fees to total fees (*NASRATIO*) as the dependent variable

	Low-Trust Countries	High-Trust Countries
	(1)	(2)
	NASRATIO	*NASRATIO*
TRUST	0.350***	1.380***
	(4.088)	(5.566)
Control Variables	Yes	Yes
Industry FE	Yes	Yes
Year FE	Yes	Yes
Observations	14,328	4,663
Adj. R^2	0.110	0.203

Panel B: Regression analysis with the natural logarithm of non-audit fees (*LNNAF*) as the dependent variable

	Low-Trust Countries	High-Trust Countries
	(1)	(2)
	LNNAF	*LNNAF*
TRUST	1.014*	7.965***
	(1.866)	(4.704)
Control Variables	Yes	Yes
Industry FE	Yes	Yes
Year FE	Yes	Yes
Observations	14,328	4,663
Adj. R^2	0.616	0.642

Note: This table presents the results from estimating Equation (1) using OLS regression for firms in high-trust countries and in low-trust countries respectively. with *NASRATIO* as the dependent variable in Panel A and *LNNAF* as the dependent variable in Panel B. Column (1) reports the coefficient of *TRUST* by estimating Equation (1) using OLS regression for low-trust countries. Column (2) reports the coefficient of *TRUST* by estimating Equation (1) using OLS regression for high-trust countries. The values of country-level generalized trust are lower than 0.5, while the value of country-level generalized trust are equal to or higher than 0.5. For brevity, we do not tabulate the estimates of coefficients on the control variables. *, **, and *** denote significance levels of 10 percent, 5 percent, and 1 percent, respectively, based on two-tailed tests. In the parentheses below coefficient estimates are robust *t*-statistics based on standard errors adjusted for heteroskedasticity and firm-level clustering. All continuous variables are winsorized at the 1st and 99th percentiles. See Appendix A for variable definitions.