

TRUST, SOCIAL CAPITAL AND ESG PERFORMANCE: AN EMPIRICAL ANALYSIS ON EUROPEAN BANKS

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Received 31 March 2025

Revised 17 August 2025

Accepted 26 August 2025

Published 10 April 2026

This study explores the determinants of corporate ESG performance, emphasizing the often-overlooked role of informal institutions, particularly social trust. While existing research has extensively analyzed internal corporate attributes and formal institutional factors shaping ESG outcomes, the direct impact of social trust remains underexplored. Focusing on European banks, this study posits that social capital significantly enhances ESG performance. By examining the interplay between formal and informal institutions, the research provides actionable insights for policymakers and highlights the importance of integrating social capital into corporate sustainability strategies.

Keywords: Social capital; ESG rating; social trust; banks.

JEL Classifications: G21, G28, Q56.

1. Introduction

The growing importance of Environmental, Social, and Governance (ESG) performance as a measure of corporate sustainability and ethical conduct has directed scholarly and regulatory attention to the factors that drive ESG outcomes. While the role of ESG scores has been the object of a vast literature exploring if and how they impact financial performance—both in terms of risk and return—less attention has been paid to the determinants of ESG scores themselves. Is it predominantly drawn upon formal institutions, such as the presence of supranational, national, or industry-

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specific legal requirements? Or is there significant room for informal institutions, such as culture in its various dimensions, to shape ESG outcomes? This question remains pivotal for understanding the broader mechanisms driving corporate sustainability.

Research on the factors affecting corporate ESG performance primarily falls into two categories. The first focuses on internal corporate attributes that influence ESG outcomes, such as financial performance (DasGupta 2022), institutional ownership (Wang *et al.* 2023) and board composition (Tamimi & Sebastianelli 2017). The second area explores how external factors may adversely affect ESG performance. Formal institutions, encompassing political, labor, and legal frameworks, have been shown to significantly shape ESG outcomes (Baldini *et al.* 2018, Becchetti *et al.* 2020).

In contrast, informal institutions, such as cultural norms and values, offer an alternative lens for understanding ESG performance. Informal institutions, including social trust, which is a critical element of social capital, can in some cases substitute for formal mechanisms.

Despite these insights, much of the existing research has concentrated on internal corporate factors and formal institutional influences, leaving significant gaps in understanding how informal institutions, particularly social trust, directly impact corporate ESG performance. This aspect remains largely unexamined in the literature. This paper posits that the high levels of social capital can serve as a significant enabler of ESG performance. The financial sector, and particularly banks, is of specific interest in this context due to the critical role of social capital in this industry (Guiso *et al.* 2004). To explore this relationship, the study focuses on a sample of listed European banks; by delving into the relationship between social capital and ESG performance, this study aims to contribute to the broader literature on informal institutions and sustainability. It seeks to uncover the pathways through which social capital operates, offering actionable insights for policymakers and institutions aiming to enhance their ESG performance. Furthermore, this study underscores the need to consider both formal and informal institutional factors when assessing the determinants of corporate sustainability.

2. Conceptual Framework and Research Hypotheses

The literature on culture economics examines how cultural factors (norms, values, and beliefs) influence economic behavior, institutional frameworks, and organizational outcomes (Acemoglu & Robinson 2005, Acemoglu *et al.* 2001, Joel 2016). For instance, the prevalence of generalized trust in Scandinavian countries has been linked to higher levels of economic development and efficient governance (Tabelini 2010). In contrast, countries with strong and apparently unsound family ties, such as Southern Italy, have faced challenges in fostering generalized trust and civic engagement, which are critical for broader economic growth (Putnam 1994). Similarly, individualism in the United States has driven innovations and entrepreneurial

ventures, highlighting the link between cultural traits and institutional effectiveness (Li *et al.* 2013).

These case studies highlight how cultural dynamics shape institutional effectiveness and economic trajectories. The co-evolutionary model proposed by the literature suggests multiple equilibria, where certain cultural traits reinforce specific institutional frameworks and vice versa. Over time, this interplay has evolved, with some societies leveraging strong informal institutions to complement weak formal structures, as seen in early trade networks relying on trust and reputation rather than codified laws. In contrast, modern economies often integrate these dimensions: robust formal institutions coexist with high levels of social trust, creating a synergistic effect on governance and economic performance. A nuanced understanding of the role of culture in economics is vital, especially in contexts where social capital intersects with financial and corporate performance (Guiso *et al.* 2004, 2006, 2015).

Among all possible cultural and social capital dimensions, our paper is focused on the role of trust and social trust in the specific, as a shared value that allows norms of behavior and evaluation standards among social participants (Guiso *et al.* 2008). We define social trust as the expectation that another person (or institution) will perform actions that are beneficial or at least not detrimental to us, regardless of our capacity to monitor those actions (Gambetta 2000).

In exploring this latter dimension, we focus on the financial sector due to its complexity and interconnection among different agents. Theoretical models, like those presented by Guiso *et al.* (2004), argue that trust lowers transaction costs and facilitates broader participation in financial markets. Additionally, cultural norms influence preferences for equity-based compensation, investment in research, and even the types of financial instruments utilized within organizations, showcasing the pervasive role of culture in financial ecosystems (Rossi 2024). Empirical studies illustrate that cultural dimensions such as individualism and uncertainty avoidance — two out of the six cultural dimensions drawn upon Hofstede (1980) — shape corporate financial policies (Li *et al.* 2013). High individualism encourages entrepreneurial ventures and risk-taking by fostering independence and innovation, while high uncertainty avoidance promotes cautious financial strategies and risk mitigation.

The comprehensive survey by Van der Crujssen *et al.* (2021) provides additional insights into how trust in financial institutions affects consumer and corporate behavior. The authors emphasize that trust—both broad-scope (in financial institutions generally) and narrow-scope (in specific institutions)—is a critical determinant of financial decision-making. For instance, trust influences consumers' willingness to adopt new financial services and innovations, such as digital banking platforms. A decline in trust during financial crises often leads to reduced consumer engagement and capital allocation inefficiencies, highlighting its centrality in financial stability. These authors also identify key drivers of trust, such as economic conditions, institutional transparency, and non-discretionary standards of corporate behavior. These drivers underscore the importance of aligning financial practices with cultural

values to maintain trust. Furthermore, they reveal that individuals with higher levels of generalized trust are more likely to engage with financial markets, thereby linking cultural predispositions to broader economic outcomes.

Guiso *et al.* (2008) investigate the impact of trust on stock market participation, arguing that when deciding whether to buy stocks, investors consider the risk of being cheated. This perceived risk is influenced by both the objective characteristics of the stocks and the subjective characteristics of the investor. The authors use data from Dutch and Italian households, as well as cross-country data, to show that a lack of trust can explain why many people do not invest in stocks, a phenomenon known as the “limited participation puzzle”.

Guiso *et al.* (2004) explore the role of corporate culture, particularly integrity, in financial outcomes. They find that companies emphasizing integrity tend to add value by fostering trust among stakeholders, reducing transaction costs, and enhancing employee commitment. Integrity-driven cultures often improve customer loyalty and investor confidence, which are critical for long-term financial performance. However, these companies may face limitations in managerial flexibility due to the need to uphold ethical standards consistently, even in volatile or competitive environments. This dual role of culture as an enabler of sustainable growth and a constraint on opportunistic flexibility highlights the intricate balance managers must navigate in aligning ethical practices with dynamic market demands.

Lins *et al.* (2017) provide further insight into the link between culture, trust, and financial performance during crises. The study highlights that firms with strong corporate social responsibility (CSR) practices—which often stem from cultural values like trust and community engagement—perform significantly better during financial crises. This is attributed to the higher levels of trust these firms garner among stakeholders, enabling them to maintain access to capital and sustain operations during periods of market instability. For instance, firms with higher social capital were found to mitigate the adverse effects of the 2008 financial crisis more effectively, showcasing the resilience-building role of cultural factors. This resilience is attributed to the ability of socially responsible firms to maintain stakeholder trust and access to resources even under adverse conditions. The study underscores how investments in social capital create long-term value by enhancing a firm’s reputation and reducing financial volatility.

2.1. Social trust and ESG performance

While a substantial body of research has established that social trust—a core dimension of social capital—significantly influences financial risk and performance outcomes (Arrow 1972, Mishkin 1999, Earle & Cvetkovich 2013, Kanagaretnam *et al.* 2019), there remains ample scope to empirically investigate its potential impact on other dimensions of corporate performance.

From a theoretical perspective, the literature on economic sociology has highlighted how social capital contributes to the formation of inclusive and good-

quality institutions that foster a country's development (Acemoglu *et al.* 2001, Maurer 2021). When we talk about quality institutions, we may also refer to the degree to which these institutions pay attention to sustainability issues, which are more relevant today than ever before. In this sense, it is legitimate to consider that the degree of social capital has a bearing on the ESG performance of individual companies. A high level of trust can be reflected, and in turn be nurtured, in a company's management's attention to issues related to care for the environment, the relationship with stakeholders, and the governance of the company itself. In the perspective of a virtuous circle a system that is nurtured by a high level of trust may foster a vision of business that is attentive to societal challenges. The experiences of numerous entrepreneurs, shaped by specific cultural backgrounds and embedded in contexts rich in social capital, who developed business models anticipating what is now defined as ESG, constitute persuasive anecdotic evidence of a potential causal relationship between social capital and ESG (Rossi 2024).

Along this line some scholars argue that higher social trust positively affects corporate performance and behavior, guiding firms toward enhancing their ESG performance (Zhu & Wang 2024, Abdelsalam *et al.* 2024). Focusing on Chinese companies Zhu & Wang (2024) identify a positive relationship between social trust and ESG outcomes, particularly in high-pollution industries and competitive markets. Social capital's influence extends to fostering stakeholder collaboration in achieving ESG objectives. High levels of trust among stakeholders reduce transaction costs and foster cooperative initiatives, such as community-oriented environmental projects and inclusive governance practices. For example, firms embedded in high-social-capital countries are better positioned to adopt sustainable practices that align with community values and expectations. This dynamic suggests that leveraging social capital can serve as a strategic advantage in improving ESG outcomes and resilience to external shocks.

In light of the evidence supported by the theory and drawing upon Zhu & Wang (2024), our hypothesis states the following:

H1. There is a positive relationship between social trust and corporate ESG performance.

Specifically, countries with higher levels of social trust see enterprises as more inclined to adopt ESG practices, leading to better corporate ESG outcomes. In banking, corporate culture's role extends beyond risk management to ethical conduct and customer trust: Thakor & Merton (2024) highlights how strong organizational culture acts as a coordinating mechanism, reducing the reliance on formal compensation structures and curbing unethical behavior. High social trust fosters cooperation and can replace formal institutions, establishing ethical codes and common value recognition. The intersection of social capital and ESG performance holds particular relevance for European banks. European banks face the challenge of translating high levels of localized trust and community-oriented social capital into

scalable practices that align with ESG goals. Opportunities lie in leveraging existing social networks to decrease risks and to enhance transparency and ethical behavior. For example, initiatives such as community banking or partnerships with local organizations could strengthen ESG performance. However, challenges remain, such as balancing traditional relational banking practices with the increasing demands for digital transformation and regulatory compliance. Future research may also be focused on the role of arts and humanities in fostering ESG behaviors (Bellavite Pellegrini 2013).

3. Data and Methodology

3.1. Data

We tested our hypothesis on a balanced panel of 80 continuously listed European banks observed over a 14-year period (2009–2022), yielding approximately 1,120 firm-year observations.

The sample construction process began with 891 banks across 25 EU countries from the Thomson Asset 4 database. We first retained 189 banks with complete stock price data over the full period from 2009 to 2022. Of these, 113 banks also had ESG scores—though not necessarily for every year—resulting in an unbalanced dataset. To ensure consistency in strategic analysis at the consolidated level, we excluded subsidiaries and banks with multiple headquarters, as these could introduce ambiguity in the interpretation of business decisions and institutional context. The final dataset of 80 banks reflects a selection based on data completeness and institutional clarity. ESG performance data are obtained from the Refinitiv database, social trust indicators from the Eurofound/ESS, and all other financial data from Datastream. All continuous variables are winsorized at the 1% and 99% levels. Descriptive statistics are available in Table 2.

3.2. Variables

3.2.1. Dependent variables

This study measures corporate ESG performance by comprehensively evaluating corporate ESG scores from the Refinitiv database, which standardizes data and reduces bias through a unique quantitative model. Refinitiv's ESG scores are fully transparent, allowing investors to view the scoring methodology and company-specific reported data.

The disparate methodologies and weighting schemes employed by different ESG data providers have resulted in notably low correlations among their respective scores, a phenomenon extensively documented in the academic literature and exemplified by Berg *et al.*'s comprehensive analysis of aggregate confusion in ESG ratings (2022). This lack of convergence across rating agencies presents both challenges and opportunities for empirical research, as it underscores the need for more nuanced approaches to ESG measurement and validation. Given these

methodological considerations, future research endeavors could particularly benefit from examining the specific relationship between Bloomberg’s ESG scoring framework and measures of social trust, as this focused investigation may yield insights into how particular ESG metrics relate to broader societal outcomes while circumventing some of the complications introduced by cross-provider rating disparities.

3.2.2. Independent variables

Data on social trust mainly comes from the European Union database and are based on the European Social Survey (ESS). The ESS is a biennial study commissioned by the European Commission, the European Science Foundation and the various national scientific research organizations. Trust in other people is determined by the question “Do you think that in general most people can be trusted or do you think that one cannot be careful enough in dealing with others?”. The following five options were provided: “Strongly disagree,” “Quite disagree,” “Can’t say I agree or disagree,” “Quite agree,” “Strongly agree.” Specifically, each of the five options was assigned a score from 1 to 5 in descending order of trust and measured as the average of country respondents. Higher scores indicated a higher level of agreement regarding trust in society. Information are available from 2002 with relatively continuous data. Considering the missing survey data for every odd year, the level of social trust is measured as the average of the two even years (EU 2025). Figure 1 displays the

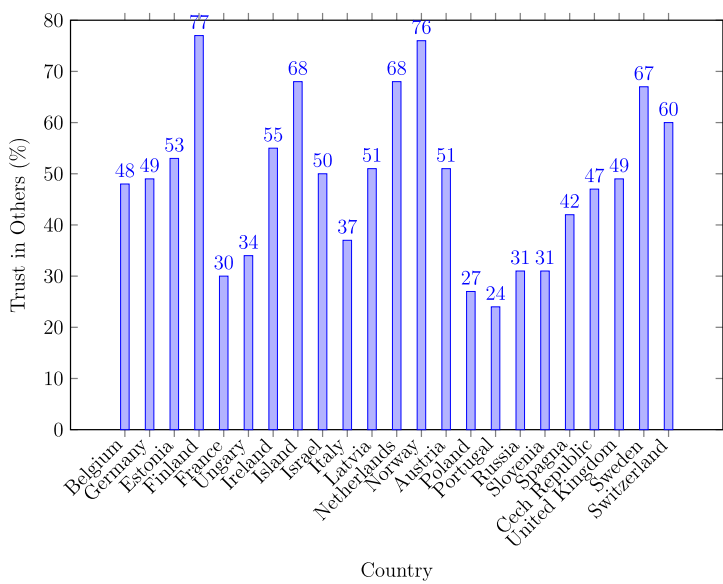


Fig. 1. Trust in Others by Country in 2016. It displays the percentage of respondents in each country who answered “Quite agree” or “Strongly agree” to the generalized trust question, providing an intuitive comparison of high-trust populations across countries. This is distinct from the continuous average trust score used in the regressions.

percentage of respondents in each country who answered “Quite agree” or “Strongly agree” to the generalized trust question, providing an intuitive comparison of high-trust populations across countries.

We acknowledge that this measure of trust pertains to the general context of a country rather than individual institutions. Future research developments could explore the adoption of a trust variable at the level of individual organizations (Abdelsalam *et al.* 2024).

3.2.3. Control variables

Drawing on the existing literature, this study incorporates control variables that affect corporate ESG performance (Di Giuli & Kostovetsky 2014, Dyck *et al.* 2019). Specifically, we control for the logarithm of total assets (Size), leverage (Lev), Tobin’s Q (TQ), return on assets (ROA), firm growth rate (Growth), cash dividends (Dividend), and the percentage of institutional investor ownership (Institution). The detailed definitions of the variables are presented in Table 1.

Table 1. Variable specifications.

Variable name	Variable abbreviation	Definition	Source
Dependent Variable			
Corporate ESG performance	ESG	ESG score of banks in the three areas of environmental, social, and corporate governance	Refinitiv
Independent Variable			
Social trust	Trust	Country social trust level	Eurofound
Control Variables			
Firm size	Size	The natural logarithm of total assets at the end of the year	Datastream
Leverage	Lev	Total liabilities to total assets in the period	Datastream
Return on assets	ROA	Ratio of net profit to total assets in the period	Datastream
Tobin’s Q	TQ	Ratio of market capitalization to total assets of the company	Datastream
Cash dividend	Dividend	Ratio of cash dividends paid to total assets	Datastream
Institutional ownership	Institution	Percentage of institutional ownership	Panizza (2024)
Company growth	Growth	Growth rate of main operating income	Datastream
Other Variables			
Institutional quality	Inst Qual	Worldwide Governance Indicators	World Bank
Economic development	Econ Dev	GDP per capita at Country level	Eurostat
Vote turnout rate	Vote	The voter turnout rate at Country level	Eurostat

Table 2. Descriptive statistics of model variables.

Variable	Mean	Std. Dev.	Min	Max	Median
SocialTrust	0.34	0.12	0.19	0.85	0.66
ESG	65.00	10.50	45.00	85.00	66.00
Size	12.50	1.80	9.00	16.00	12.30
Leverage	0.75	0.15	0.40	1.10	0.76
Tobin's Q	1.20	0.30	0.70	2.00	1.15
ROA	0.05	0.02	0.01	0.10	0.05
Growth	0.08	0.03	0.02	0.15	0.08
Dividends	2.50	0.75	1.00	4.00	2.40
Institutions	55.00	12.00	30.00	80.00	54.00

Note: The table summarizes the descriptive statistics for 80 European banks. The variables are measured in their respective units: SocialTrust (Country social trust level), ESG (score out of 100), Size (Natural logarithm of total assets), Leverage (total liabilities to total assets), Tobin's Q (market capitalization to total assets), ROA (Net profit to total assets), Growth (Growth rate of main operating income), Dividends (Cash dividends to total assets), Institutions (% of institutional ownership).

3.3. Empirical model

To examine the impact of social trust on corporate ESG performance, we estimate the following baseline regression:

$$ESG_{i,t} = \beta_0 + \beta_1 Trust_{j,t} + \beta_2 Size_{i,t} + \beta_3 Lev_{i,t} + \beta_4 TQ_{i,t} + \beta_5 ROA_{i,t} + \beta_6 Growth_{i,t} + \beta_7 Dividend_{i,t} + \beta_8 Institution_{i,t} + Firm_i + Year_t + \varepsilon_{i,t}, \quad (1)$$

where $ESG_{i,t}$ is the overall bank ESG score and $Trust_{j,t}$ is the Country social trust score for that year. If the coefficient β_1 is significantly greater than 0, the proposed hypothesis is supported. We also control for firm and year fixed effects. Additionally, the estimated standard errors are clustered at the firm level.

3.4. Empirical results

Table 3 reports the correlation coefficients among the variables in the model. The correlation coefficient between Social Trust and ESG is 0.116, which is significantly positive. The hypothesis that social trust is positively associated with corporate ESG performance is initially validated. However, considering the effects of other variables, further regression analysis is needed.

Table 4 reports the results of the baseline regressions. The coefficient in Column (4) indicates that social trust has a significantly positive effect on ESG after controlling for other variables. The effects of other control variables are consistent with previous studies. For example, companies with larger scale, stronger solvency and higher market value are more likely to have better ESG performance.

Table 3. Correlation matrix of model variables.

	SocialTrust	ESG	Size	Leverage	Tobin's Q	ROA	Growth	Dividends	Institutions
SocialTrust	1.000	0.116**	0.220**	-0.130*	0.080	0.150**	0.120*	0.180**	0.160**
ESG	0.116**	1.000	0.180**	-0.100*	0.060	0.200**	0.160**	0.190**	0.180**
Size	0.220**	0.180**	1.000	-0.150**	0.120*	0.250**	0.170**	0.300***	0.280**
Leverage	-0.130*	-0.100*	-0.150**	1.000	-0.080	-0.180**	-0.120*	-0.150**	-0.140**
Tobin's Q	0.080	0.060	0.120*	-0.080	1.000	0.040	0.150**	0.090	0.120*
ROA	0.150**	0.200**	0.250**	-0.180**	0.040	1.000	0.220**	0.200**	0.190**
Growth	0.120*	0.160**	0.170**	-0.120*	0.150**	0.220**	1.000	0.180**	0.140**
Dividends	0.180**	0.190**	0.300***	-0.150**	0.090	0.200**	0.180**	1.000	0.250**
Institutions	0.160**	0.180**	0.280**	-0.140**	0.120*	0.190**	0.140**	0.250**	1.000

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. The correlation coefficient between SocialTrust and ESG is 0.116, which is significantly positive. Most coefficients are statistically significant, indicating strong relationships among the variables.

Table 4. Results of multivariate panel data regressions.

	(1)	(2)	(3)	(4)
Trust	0.125** (0.045)	0.120** (0.043)	0.118* (0.050)	0.130* (0.046)
Size	0.055** (0.022)	0.058* (0.024)	0.052* (0.025)	0.057* (0.023)
Leverage	-0.020 (0.008)	-0.018* (0.009)	-0.022** (0.010)	-0.019* (0.009)
Tobin's Q	0.070* (0.030)	0.068** (0.032)	0.065** (0.033)	0.072** (0.031)
ROA	0.090** (0.020)	0.085* (0.022)	0.088* (0.021)	0.092* (0.020)
Growth	0.040** (0.015)	0.035* (0.016)	0.037 (0.017)	0.042 (0.016)
Dividend	0.012* (0.006)	0.015* (0.007)	0.014* (0.007)	0.013* (0.006)
Institutions	0.030* (0.017)	0.032 (0.018)	0.031 (0.019)	0.033* (0.018)
Year fixed effects	Yes	No	Yes	Yes
Firm fixed effects	No	Yes	No	Yes
Country fixed effects	No	No	Yes	Yes
R-squared	0.35	0.34	0.33	0.36
N	1120	1120	1120	1120

Note: Column (1) of the table includes only social trust with no control variables except for year fixed effects. The coefficient in Column (4) indicates that social trust has a significantly positive effect on ESG after controlling for other variables. The effects of other control variables are consistent with previous studies. For example, companies with larger scale, stronger solvency and higher market value are more likely to have better ESG performance. *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

3.5. Channel analysis

In line with Zhu & Wang (2024), this study considers institutional quality and economic development as channels through which social trust affects corporate ESG performance. After examining whether social trust improves the quality of country institutions and promotes country economic development, we control for institutional quality and economic development to empirically test the impact of social trust on corporate ESG performance.

The most suitable regression model for analyzing a mediator variable (i.e. a variable that explains the mechanism by which an independent variable influences a dependent variable) is mediation analysis, which is based on a series of regressions (Baron & Kenny 1986), as shown in Appendix A.

3.5.1. Institutional quality

North's theory of institutional change highlights the interconnected development of formal and informal institutions (North 1990). Stronger informal institutions contribute to the enhancement of formal institutions, fostering an environment conducive to corporate ESG practices. Accordingly, this study views institutional quality as a key mechanism through which social trust influences corporate ESG performance. In regions where social trust is high, institutional quality tends to improve, creating favorable conditions for firms to enhance their ESG performance. In order to measure the institutional quality of a country, we refer to the Worldwide Governance Indicators (WGI). The WGI are based on existing data sources produced by more than 30 think tanks, international organizations, nongovernmental organizations, and private firms around the world. The data reflect the diverse views of tens of thousands of survey respondents and experts worldwide. The WGI combine these into aggregate indicators of six dimensions of governance for over 200 economies over the period 1996–2023: (i) Voice and Accountability; (ii) Political Stability and Absence of Violence/Terrorism; (iii) Government Effectiveness; (iv) Regulatory Quality; (v) Rule of Law; (vi) Control of Corruption.^a

Results are shown in Table 5, Panel A. Column (1) shows that the coefficient of social trust is significantly positive, indicating that governments located in high-trust countries have more institutional quality. Column (2) shows that social trust is positively associated with corporate ESG performance even after controlling for institutional quality, which is a partial mediation. This suggests that social trust improves ESG performance by enhancing country institutional quality.

To further address potential concerns of multicollinearity among the control variables, we report the Variance Inflation Factors (VIFs) in Table 6. All values are comfortably below conventional thresholds (mean VIF = 2.81), confirming that multicollinearity does not materially affect our regression estimates.

^aSee more details on <https://www.worldbank.org/en/publication/worldwide-governance-indicators>. We do acknowledge that another source to measure governance quality is the Index of Economic Freedom by the Heritage Foundation.

3.5.2. *Economic development*

As underscored by the literature shown above, areas with higher social trust tend to experience stronger economic growth. In turn, does having a higher economic growth have a positive impact on the ESG performance? From a theoretical perspective, the issue is debated. On the one hand, the ESG models have been proposed above all in high-capita countries. However, if the *S* and *G* components are positively associated with GDP growth, the *E* component in the ESG model tends to be negatively associated with it. In fact, one of the determinants of economic growth is energy consumption, which inevitably leads to higher values in countries experiencing strong GDP growth. On the other, a country's level of economic development influences how businesses report and meet their environmental responsibilities (Román *et al.* 2021). Similarly, CSR practices are shaped by the economic conditions of the region (Rim & Dong 2018). The performance of companies in ESG aspects is closely linked to country economic development.

Our results are presented in Table 5, Panel B. Social trust is significantly and positively related to economic development (as proxied by GDP per capita) in Column (1); that is, the higher the level of social trust, the more dynamic the country economic development, and firms enjoy better infrastructure and supporting services. In Column (2), GDP per capita is positively related to corporate ESG performance, which is a partial mediation. This suggests that social trust provides a better environment for enterprises to “do business for good” by increasing the level of regional economic development, which encourages enterprises to further improve their ESG performance.

The results from the mediation analysis suggest the presence of partial mediation in both channels—Institutional Quality and Economic Development. As shown in Table 5, the coefficient of Social Trust on ESG performance remains positive and statistically significant even after introducing the mediator variables (Institutional Quality in Panel A and GDP per capita in Panel B). This outcome is consistent with the mediation framework of Baron & Kenny (1986), where a significant direct effect of the independent variable (Social Trust) on the dependent variable (ESG) in the presence of the mediator indicates partial rather than full mediation. Notably, the coefficient of Social Trust in the mediated models (0.321 for Inst. Qual. and 0.231 for GDP per capita) is larger than the baseline effect (0.130, Table 4, col. 4), which may reflect a suppression effect—suggesting that once the mediating variable is accounted for, the true strength of the direct relationship is more fully revealed. These results imply that while Institutional Quality and Economic Development serve as important pathways through which Social Trust enhances ESG performance, there remains a direct and robust effect of Social Trust that is not fully explained by these structural factors. This underscores the independent value of informal institutions, such as generalized trust and shared social norms, in shaping sustainable corporate behavior beyond the influence of formal governance structures or macroeconomic development.

Table 5. Channels results of multivariate panel data regressions.

Dependent Var.	Panel A: Inst. Qual.		Panel B: Econ. Devel.	
	(1)	(2)	(1)	(2)
	Inst. Qual.	ESG	Econ. Devel.	ESG
Trust	0.110** (0.045)	0.321* (0.036)	0.130** (0.040)	0.231* (0.065)
Median	—	0.150** (0.050)	—	0.145** (0.048)
Size	0.065** (0.030)	0.045* (0.020)	0.055** (0.025)	0.050* (0.022)
Leverage	−0.025** (0.010)	−0.020* (0.008)	−0.020** (0.009)	−0.015* (0.007)
Tobin's Q	0.070** (0.025)	0.060* (0.020)	0.065* (0.022)	0.055 (0.018)
ROA	0.085* (0.020)	0.090** (0.015)	0.080** (0.018)	0.085** (0.014)
Growth	0.045** (0.015)	0.040** (0.012)	0.040* (0.013)	0.035 (0.010)
Dividend	0.015* (0.007)	0.012* (0.005)	0.012* (0.006)	0.010* (0.004)
Institutions	0.050*** (0.018)	0.035** (0.015)	0.045* (0.015)	0.030* (0.013)
Year fixed effects	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes
Country fixed effects	Yes	Yes	Yes	Yes
R-squared	0.40	0.38	0.38	0.36
N	1120	1120	1120	1120

Note: Institutional Quality: Column (1) of Panel A of Table 5 shows that the coefficient of SocialTrust is significantly positive, indicating that governments located in high-trust countries have more institutional quality. Column (2) of Table 5 shows that social trust is positively associated with corporate ESG performance even after controlling for institutional quality, which is a partial mediation. This suggests that social trust improves ESG performance by enhancing countries' institutional quality and promoting firms to "do business for good". *Economic Development:* The results are presented in Table 5, Panel B. Social trust is significantly and positively related to economic development in Column (1); that is, the higher the level of social trust, the more dynamic the regional economic development, and firms enjoy better infrastructure and supporting services. In Column (2), GDP per capita is positively related to corporate ESG performance, which is a partial mediation. This suggests that social trust provides a better environment for enterprises to "do business for good" by increasing the level of regional economic development, which encourages enterprises to further improve their ESG performance.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

3.6. Robustness

Unobservable factors could influence the observed positive correlation between social trust and corporate ESG performance. To address the issue of endogeneity, an instrumental variables (IV) approach is utilized. We use the voter turnout rate in Europe, which is a valid proxy of active citizenship and engagement (Fiorino *et al.* 2021). For an instrumental variable to be valid, it must satisfy two key conditions: (i) Relevance Condition, that is a strong correlation with the endogenous explanatory variable, here social trust. (ii) Exogeneity Condition, meaning that no direct effect on the dependent variable ESG performance, except through the endogenous variable. With regard to the first condition, we can assume that voter turnout captures civic engagement and collective decision-making, both of which are deeply tied to social trust. Higher voter turnout is often observed in societies with stronger civic norms and higher levels of interpersonal trust, making it a strong predictor of social trust. Regarding the second condition we see that voter turnout is primarily a measure of political participation and civic engagement.

While it may reflect broad institutional quality, it does not directly dictate corporate ESG practices. Potential alternative mechanisms (e.g. government policies influencing ESG) would require firm-level variations in ESG scores to be directly affected by voter turnout, which is unlikely in decentralized, market-driven settings. The correlation matrix showed on Table 6, supports these arguments: Voter Turnout and Social Trust are strongly correlated (0.60), fulfilling the relevance condition. Voter Turnout and ESG are uncorrelated (0.15), satisfying the exogeneity condition.

Table 6. Variance inflation factors (VIF) for banking characteristics.

Variable	VIF
Median (Institutional Quality)	2.45
Size (Log Total Assets)	3.12
Leverage (Debt/Assets)	2.76
Tobin's Q	3.48
ROA	2.35
Growth	2.80
Dividend Payout	1.95
Institutions	2.60
Mean VIF	2.81

Note: All VIF values are well below the commonly accepted threshold of 10 (or the more conservative threshold of 5), indicating that multicollinearity is not a serious issue in the mediator and outcome models reported in Table 5. This confirms the stability and interpretability of the coefficient estimates in the multivariate regression framework.

Table 7. Correlation matrix (Voter Turnout, Social Trust, ESG).

	VoterTurnout	SocialTrust	ESG
VoterTurnout	1.000	0.600	0.152
SocialTrust	0.600	1.000	0.116
ESG	0.152	0.116	1.000

Thus, voter turnout is a valid instrumental variable for social trust in this setting. Table 7 reports the results of the 2SLS regression. Column (1) shows that both Vote (IV) is positively correlated with SocialTrust, while the F -statistic of the first-stage regression is much larger than 10, with a p -value of 0.0000, which passes the weak instrumental variable test. Moreover, the Hansen J-statistic equals 1.763 with a p -value of 0.1843, suggesting that there is no over-identification problem. Column (2)

Table 8. Robustness regression results.

	(1) First Stage (Trust)	(2) Second Stage (ESG)
Vote (IV)	0.350** (0.050)	—
Trust	—	0.120* (0.045)
Size	0.060** (0.020)	0.050** (0.022)
Leverage	−0.015* (0.007)	−0.020* (0.008)
Tobin's Q	0.070* (0.025)	0.060 (0.020)
ROA	0.080* (0.015)	0.090* (0.018)
Growth	0.035** (0.012)	0.040** (0.015)
Dividend	0.010* (0.004)	0.012* (0.005)
Institutions	0.030* (0.013)	0.035 (0.015)
F -statistic (First Stage)	35.60	—
p -value (F -statistic)	0.0000	—
Hansen J-statistic	—	1.763
p -value (Hansen J)	—	0.1843
Year fixed effects	Yes	Yes
Firm fixed effects	Yes	Yes
Country fixed effects	Yes	Yes
R -squared	0.45	0.40
N	1120	1120

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$. Column (1) shows the first-stage regression results, and Column (2) reports the second-stage regression results. The F -statistic passes the weak instrument test, and the Hansen J-statistic indicates no over-identification problem.

shows second-stage regression results. The coefficient of SocialTrust remains significantly positive, which is consistent with our main results. The positive effect of social trust on corporate ESG performance holds even after the endogeneity problem is alleviated.

4. Conclusions

This study underscores the pivotal role of social trust as a determinant of corporate ESG performance, particularly within the European banking sector. By bridging the gap between formal and informal institutions, social trust emerges as a key enabler of sustainable corporate practices, complementing traditional regulatory frameworks. Our findings validate the hypothesis that higher levels of social trust positively influence ESG outcomes, aligning with the broader literature on the impact of cultural factors on economic and institutional effectiveness.

The results reveal that social trust not only directly enhances ESG performance but also operates through channels such as institutional quality and economic development. Countries characterized by higher social trust benefit from stronger institutional frameworks and more dynamic economic environments, both of which create fertile ground for sustainable corporate behavior. These findings emphasize the multifaceted role of social trust, extending beyond mere interpersonal relationships to broader systemic impacts on governance and corporate accountability.

Additionally, the study highlights the resilience and adaptability of firms embedded in high- social-capital environments, particularly during periods of financial instability. By fostering cooperation, reducing transaction costs, and enhancing stakeholder trust, social capital equips firms to navigate challenges while maintaining their commitment to ESG principles. This dynamic is especially relevant for European banks, where the interplay between localized trust and scalable ESG practices presents both opportunities and challenges.

The robustness of our results, supported by instrumental variable analysis, further strengthens the argument that social trust is a critical, albeit underexplored, determinant of ESG performance. This study contributes to the growing body of literature advocating for a more holistic approach to understanding corporate sustainability—one that integrates both formal institutional mechanisms and informal cultural dimensions.

For policymakers and corporate leaders, these findings suggest that fostering social trust can be a strategic lever for improving ESG outcomes. Initiatives aimed at enhancing civic participation, community engagement, history, arts and humanities, and trust-based networks can yield significant dividends in advancing sustainability objectives. Future research should continue to explore the nuanced interactions between cultural factors and corporate governance, offering deeper insights into how informal institutions shape the trajectory of sustainable development.

Appendix A

The mediation analysis (Baron & Kenny 1986) can be represented through the following regressions:

(1) Total effect of X on Y :

$$Y_{i,t} = \beta_1 X_{j,t} + \gamma \mathbf{Z}_{i,t} + \epsilon_{i,t}. \quad (\text{A.1})$$

(2) Effect of X on the mediator M :

$$M_{j,t} = \beta_2 X_{j,t} + \gamma \mathbf{Z}_{i,t} + \nu_{j,t}. \quad (\text{A.2})$$

(3) Combined effect of X and M on Y :

$$Y_{i,t} = \beta_3 X_{j,t} + \beta_4 M_{j,t} + \gamma \mathbf{Z}_{i,t} + \xi_{i,t}, \quad (\text{A.3})$$

where

- $Y_{i,t}$ is the ESG score for bank i in year t ,
- $X_{j,t}$ is the social trust in country j in year t ,
- $M_{j,t}$ is the mediator (Institutional Quality or Economic Development),
- $\mathbf{Z}_{i,t}$ is the vector of control variables (Size, Leverage, ROA, Tobin's Q, Dividends, Growth, and Institutional Ownership),
- $\epsilon_{i,t}, \nu_{j,t}, \xi_{i,t}$ are the error terms.

If the coefficient β_3 becomes non-significant or substantially decreases after including M , this indicates full mediation. If it remains significant this indicates **partial mediation**.

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References

- O. Abdelsalam, A. Chantziaras, N. L. Joseph & N. Tsileponis (2024) Trust matters: A global perspective on the influence of trust on bank market risk, *Journal of International Financial Markets, Institutions and Money* **92**, 101959.
- D. Acemoglu, S. Johnson & J. A. Robinson (2001) The colonial origins of comparative development: An empirical investigation, *American Economic Review* **91** (5), 1369–1401.
- D. Acemoglu & J. A. Robinson (2005) *Economic Origins of Dictatorship and Democracy*. Cambridge University Press.
- K. J. Arrow (1972) *Economic Welfare and the Allocation of Resources for Invention*. Springer.
- M. Baldini, L. D. Maso, G. Liberatore, F. Mazzi & S. Terzani (2018) Role of country-and firm-level determinants in environmental, social, and governance disclosure, *Journal of Business Ethics* **150**, 79–98.
- R. M. Baron & D. A. Kenny (1986) The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations, *Journal of Personality and Social Psychology* **51** (6), 1173.

- L. Becchetti, R. Ciciretti & P. Conzo (2020) Legal origins and corporate social responsibility, *Sustainability* **12** (7), 2717.
- C. Bellavite Pellegrini (2013) Una storia italiana: dal banco ambrosiano a intesa sanpaolo. *Il Mulino*, Milan.
- R. DasGupta (2022) Financial performance shortfall, ESG controversies, and ESG performance: Evidence from firms around the world, *Finance Research Letters* **46**, 102487.
- A. Di Giuli & L. Kostovetsky (2014) Are red or blue companies more likely to go green? politics and corporate social responsibility, *Journal of Financial Economics* **111** (1), 158–180.
- A. Dyck, K. V. Lins, L. Roth & H. F. Wagner (2019) Do institutional investors drive corporate social responsibility? international evidence, *Journal of Financial Economics* **131** (3), 693–714.
- T. C. Earle & G. Cvetkovich (2013) Social trust and culture in risk management. In: *Social Trust and The Management of Risk*, pp. 9–21. Routledge.
- EU (2025) Trust in people, law and politics; European comparison. Available at <http://data.europa.eu/88u/dataset/670-vertouwen-in-mensen-recht-en-politiek-europese-vergelijking> [Accessed on January 14, 2025]
- N. Fiorino, E. Galli & N. Pontarollo (2021) Does social capital affect voter turnout? evidence from Italy, *Social Indicators Research* **156** (1), 289–309.
- D. Gambetta (2000) Can we trust trust. In: *Trust: Making and Breaking Cooperative Relation*, Electronic Edition. University of Oxford.
- L. Guiso, P. Sapienza & L. Zingales (2004) The role of social capital in financial development, *American Economic Review* **94** (3), 526–556.
- L. Guiso, P. Sapienza & L. Zingales (2006) Does culture affect economic outcomes? *Journal of Economic Perspectives* **20** (2), 23–48.
- L. Guiso, P. Sapienza & L. Zingales (2008) Trusting the stock market, *Journal of Finance* **63** (6), 2557–2600.
- L. Guiso, P. Sapienza & L. Zingales (2015) The value of corporate culture, *Journal of Financial Economics* **117** (1), 60–76.
- G. Hofstede (1980) Culture and organizations, *International Studies of Management & Organization* **10** (4), 15–41.
- M. Joel (2016) *A Culture of Growth: The Origins of the Modern Economy*. Princeton University Press.
- K. Kanagaretnam, G. J. Lobo, C. Wang & D. J. Whalen (2019) Cross-country evidence on the relationship between societal trust and risk-taking by banks, *Journal of Financial and Quantitative Analysis* **54** (1), 275–301.
- K. Li, D. Griffin, H. Yue & L. Zhao (2013) How does culture influence corporate risk-taking? *Journal of Corporate Finance* **23**, 1–22.
- K. V. Lins, H. Servaes & A. Tamayo (2017) Social capital, trust, and firm performance: The value of corporate social responsibility during the financial crisis, *The Journal of Finance* **72** (4), 1785–1824.
- A. Maurer (2021) *Handbook of Economic Sociology for the 21st Century*. Springer.
- F. S. Mishkin (1999) Global financial instability: framework, events, issues, *Journal of Economic Perspectives* **13** (4), 3–20.
- D. C. North (1990) *Institutions, Institutional Change and Economic Performance*. Cambridge University.
- U. Panizza (2024) Bank ownership around the world, *Journal of Banking & Finance* **166**, 107255.
- R. D. Putnam (1994) Social capital and public affairs, *Bulletin of the American Academy of Arts and Sciences* **47** (8), 5–19.

- H. Rim & C. Dong (2018) Trust and distrust in society and public perception of CSR: a cross-cultural study, *Social Responsibility Journal* **14** (1), 1–19.
- C. C. Román, A. Zorio-Grima & P. Merello (2021) Economic development and CSR assurance: Important drivers for carbon reporting... yet inefficient drivers for carbon management? *Technological Forecasting and Social Change*, **163**, 120424.
- N. Rossi (2024) Un miracolo non fa il santo; la distruzione creatrice nella società italiana, 1861–2021, IBL libri.
- G. Tabellini (2010) Culture and institutions: economic development in the regions of Europe, *Journal of the European Economic Association* **8** (4), 677–716.
- N. Tamimi & R. Sebastianelli (2017) Transparency among S&P 500 companies: An analysis of ESG disclosure scores, *Management Decision* **55** (8), 1660–1680.
- R. T. Thakor & R. C. Merton (2024) Trust in lending, *Review of Economics and Statistics* 1–45.
- C. Van der Cruysen, J. de Haan & R. Roerink (2021) Financial knowledge and trust in financial institutions, *Journal of Consumer Affairs* **55** (2), 680–714.
- Y. Wang, Y. Lin, X. Fu & S. Chen (2023) Institutional ownership heterogeneity and ESG performance: Evidence from China, *Finance Research Letters* **51**, 103448.
- B. Zhu & Y. Wang (2024) Does social trust affect firms' ESG performance? *International Review of Financial Analysis* **93**, 103153.