The influence of corporate social responsibility and social values on bank performance: A global study

Antonios Persakis [a,*], Ra'fat T. Al-Jallad [b]

[a] Department of Accounting and Finance, School of Economic and Business Administration, University of Thessaly, Larissa, Greece
[b] Department of Accounting and Finance, Faculty of Business and Communication, Department of Finance, An-Najah National University, Nablus, Palestine

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ABSTRACT

This study responds to the need for deeper empirical investigation into the relationship between corporate social responsibility (CSR) and financial performance in the banking industry. Specifically, it investigates whether and how CSR performance and social values influence bank performance. Furthermore, it explores the moderating role of social values on the CSR and bank performance relationship. To address these research questions, we use the generalized method of moments estimator technique described by Arellano and Bover (1995) and analyze a sample of 3139 banks worldwide over the period 2010–2020. Dividing the countries into two groups based on their income level, that is, middle- and high-income countries, we show a positive association between CSR and bank performance. Furthermore, we illustrate that all dimensions of national culture have a positive impact on bank performance. The results on the moderating role of social values in the relationship between CSR and bank performance indicate that, in societies with higher indulgence, uncertainty avoidance, and a long-term orientation, increasing CSR performance has a positive impact on bank performance. However, the relationship between CSR and bank performance is stronger in countries that are low in individualism, masculinity, and power distance than in countries that are high in individualism, masculinity, and power distance. These results vary widely across levels of country income in terms of the significance, sign, and size of the effect. Nonetheless, our findings have important implications for regulators, managers, and scholars that highlight the influence of social values on the effectiveness of legal settings and regulations on financial performance. Specifically, this research is particularly useful for scholars and practitioners in finance and CSR, suggesting that customizing CSR strategies to align with local social values can enhance financial performance.

1. Introduction

For several decades, corporate social responsibility (CSR) has attracted great attention in the international business context and much scholarly attention to investigate its costs and benefits. According to Dahlsrud (2008), Grafström and Windell (2011), Kraus and Brtitzelmaier (2012), and Hamidu et al. (2015), confusion about a clear CSR definition remains, despite numerous efforts to define it. Dahlsrud (2008) identifies thirty-seven definitions of CSR in terms of five dimensions: environmental dimension, social dimension, economic dimension, stakeholder dimension, and voluntariness dimension. He also concludes that the definitions cannot be separated into different schools of thought and the CSR definitions do not describe optimal performance or how to balance these impacts in decision-making.

Similarly, Russel (2010) provides a comprehensive overview of different definitions of CSR, which are characterized as theoretical and conceptual. However, although no consensus has been reached about the definition of CSR, Russel (2010) states that scholars have arrived at a general consensus on the main CSR idea, that is, it comprises idealistic views about organizations engaged in activities that protect and improve social well-being beyond the extent required to serve their direct economic and technical interests. Further, Russell (2010) concludes that CSR is more practical, localized, and focused on sustainability. In this regard, focused on sustainability, Van Marrewijk (2003) argues that CSR and sustainability are synonymous, and, therefore, CSR refers to firm activities that demonstrate the inclusion of social and environmental concerns in business operations and in interactions with stakeholders. In general, firms should not seek universal definitions but,

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rather, should build their strategies around the perspective of their stakeholders (Blowfield & Murray, 2008).

Many academic studies examine the benefits and consequences for firms that adopt a social strategy. Velte (2022) states that most of the meta-analysis papers examine the consequences of CSR, especially the impact of CSR performance on financial performance, but few are interested in the determinants of CSR. Studies on the relationship between CSR and firm performance yield inconsistent and contradictory results. Some researchers find a negative association between CSR and firm performance (Wright & Ferris, 1997), whereas others find no relationship (Teoh, Welch, & Wazzan, 1999) or even a positive association (Mishra & Suar, 2010; Okamoto, 2009). Lu and Taylor (2016) suggest that conflicts arise between firm competitiveness and CSR performance. In this regard, firm in industries with higher environmental costs face a competitive disadvantage because the production costs outweigh the value added of the firm (Lorraine et al., 2004; McPeak et al., 2010; Murray et al., 2006). In contrast, Al-Tuwaijri et al. (2004), Montabon et al. (2007), and Clarkson et al. (2008) state that higher CSR performance is a potential source of competitive advantage, which in turn may lead to more efficient processes, improvements in productivity, new market opportunities, and lower compliance costs. Along the same lines, Lu and Taylor (2016) find that, in the long run, market forces reward firms that with high CSR performance, which may motivate managers to pursue CSR even though, in the short run, the firm may not be profitable. Furthermore, some research illustrates the absence of a relationship between environmental and firm performance. Yu et al. (2009) state that being perceived as a green firm may improve a firm's image and reputation, which may attract more talented workers and green-conscious customers and may not influence firm performance.

The conflicting findings of previous papers on the relationship between CSR and firm performance make it essential to identify which variables influence this association. Therefore, the literature discusses a range of moderating factors that influence the relationship between CSR and firm performance (Aguinis & Glavas, 2012; McWilliams & Siegel, 2001). Firm size and the type of industry (Aguinis & Glavas, 2012; Griffin & Mahon, 1997; Orlitzky, 2008), economic conditions (Golicic & Smith, 2013), research and development investment (McWilliams & Siegel, 2000), and effects of time (Albertini, 2013; Endrikat et al., 2014) are some of the moderating factors of CSR and firm performance relationship examined in the literature. Dixon-Fowler et al. (2013) provide a meta-analytical review of CSR and firm performance literature, in which they identify potential moderators in the CSR and firm performance relationship, such as firm characteristics (large vs. small firms, public vs. private firms, US-based firms vs. international firms, and worst offenders vs. a broader representation of firms), environmental performance type (reactive vs. proactive), and methodological issues (financial performance measures, emissions measures, self-report measures). Furthermore, Shi and Veenstra (2021) state that the CSR and firm performance relationship may depend on different institutional and organizational contingencies. They find that culture and CSR initiatives have a powerful interaction effect in determining firm performance, suggesting that the CSR impact depends on the culture of the country in which the firm is located.

Therefore, this paper builds on Shi and Veenstra (2021), by examining the impact of social values measured by the six dimensions of national culture by Hofstede (2001) as explanatory factors that can be used to help explain the relationship between CSR and bank performance across middle- and high-income countries. Based on the findings by Ahmadjian and Robinson (2001) and Steers et al. (2008), national culture creates values, customs, behaviors, beliefs, and norms that shape how individualism and organizations behave in society, affecting banks' legitimacy in society. Therefore, after controlling for both firm- and country-level variables in prior literature that affect the level of bank performance, we test the model, focusing on the influence of social values on the relationship between CSR and bank performance. We examine the banking sector because the role and development of banks

and have attracted interest in academic research, and it is well known that the banking sector plays a vital role in the economic development of a country. Furthermore, we emphasize the differences between middle- and high-income countries because, as Beck et al. (2010) state, the financial systems around the world have deepened over the past few decades along many dimensions. Specifically, they illustrate that the deepening is concentrated in high-income countries, but no significant deepening has occurred in middle-income countries. In this regard, this paper emphasizes various economic and institutional characteristics that differ between middle- and high-income countries.

Our sample consists of 22,110 bank-year observations from the period 2010 to 2020 on 3139 banks from 55 countries. These markets comprise 90.29 percent of the global gross domestic product (GDP).

Consistent with previous literature (e.g., Bihari & Pradhan, 2011; Saadaoui & Salah, 2022; Taskin, 2015; Wu & Shen, 2013), our results indicate a strong and positive relationship between CSR and bank performance. In addition, we support the findings by Boubakri et al. (2017) and find that bank performance has a positive association with the uncertainty avoidance index and the power distance index. In contrast to Graafland and Noorderhaven (2020), Shi and Veenstra (2021), and Shin et al. (2022), we find that banks in societies that are more individualistic, indulgent, and masculine, with a long-term orientation, perform better. Finally, our results on the moderating role of social values on the relationship between CSR and bank performance are mixed. In contrast to Shi and Veenstra (2021) and Shin et al. (2022), we find that the power distance index, the uncertainty avoidance index, a long-term orientation, and indulgence significantly moderate the relationship between CSR and bank performance. Furthermore, unlike Shin et al. (2022), we find that banks in more feminine and collectivistic societies are more likely to pay attention to increases in CSR performance, leading to better financial performance. These results are robust to the use of different measurements of bank performance. Finally, we observe differences between the groups of countries by income with respect to the significance, sign, and size of the coefficients.

We contribute to the literature on CSR and bank performance in several ways. First, we provide more reliable and accurate results from tests of multicollinearity, normality, autocorrelation, and heteroskedasticity. According to Oke et al. (2019), most of the works with a regression analysis do not check for the presence of multicollinearity on the predictors, which leads to inaccurate estimation of the regression coefficient. Therefore, the absence of multicollinearity makes the estimate of the regression coefficients of their parameters more accurate (Oke et al., 2019). Furthermore, Sainani (2012) suggests that researchers need to be aware of whether their variables follow normal or nonnormal distributions because this influences how data are described and analyzed. In a normal distribution, data are symmetrically distributed with no skew. If autocorrelation is ignored, then the estimates of coefficients and their standard errors may be incorrect, and the ordinary least squares (OLS) estimators are no longer the best linear unbiased estimators (Uyanto, 2020). Finally, in regression analysis, heteroskedasticity is a problem because the its presence in the model leads to a violation of the assumption of the OLS regression and tends to yield biased results, making the estimation of their variance unreliable (Harvey & Phillips, 1974; Hayes & Cai, 2007).

Second, by employing a generalized method of moments (GMM) framework, we can control for bank-specific effects, deal with the inclusion of the lagged dependent variable as an explanatory variable, and control for the problem of endogeneity in the regression predictors (Staikouras & Wood, 2004).

Third, to the best of our knowledge, evidence on how national culture influences bank performance is limited (e.g., Boubakri et al., 2017; Halkos & Tzeremes, 2011). However, previous papers do not examine all the dimensions of cultural values developed by Hofstede (2001). For instance, Halkos and Tzeremes (2011) do not examine any of Hofstede's (2001) cultural values. They use Schwartz's (2004) framework to measure national cultural values. In addition, Boubakri et al. (2017) use

three dimensions of national culture developed by Hofstede (2001), namely, uncertainty avoidance, power distance, and individualism. Therefore, our study extends the results of Boubakri et al. (2017) by illustrating that, in countries with high uncertainty avoidance and power distance and that are more masculine and indulgent, banks increase their performance. Further, we suggest that banks in individualistic societies with a long-term orientation increase their performance.

Fourth, in all meta-analyses on the CSR and firm performance relationship, the moderator analyses as well as analyses with regard to the direction of causality are conducted only at the level of overall analysis with respect to CSR performance. According to Huang (2021), because the association between CSR and firm performance is controversial, it appears that analysis of the moderators (conditions under which environmental, social, and governance [ESG] is related to firm performance) of this relationship is continuing to mature. In addition, Krüger (2015) and Keles et al. (2023) demonstrate that conducting more comprehensive analyses can provide novel perspectives and reveal valuable insights that expand our understanding of the relationship between CSR performance and firm performance. However, several domains within this field remain unexplored or inadequately developed. Keles et al. (2023) demonstrate the potential for a more comprehensive analysis of the relationship between CSR performance and firm performance by considering additional mediators and moderators. This approach enables a more nuanced understanding of the underlying dynamics at play. Therefore, we provide a comprehensive understanding of the moderating role of social values, measured by six dimensions of national culture identified by Hofstede (2001), on the relationship between CSR and firm performance. According to Margolis and Walsh (2003), the contradictory results in the previous literature on this relationship reflect the tension that managers face when they have to make decisions that involve tradeoffs between the environmental, social, and economic dimensions. In addition, it is worthwhile to open the black box, exploring the relationship between CSR and firm performance and explaining why and how CSR affects firm performance (Zairi & Peters, 2002).

Consequently, to the best of our knowledge, two previous papers examine how Hofstede's national culture influences the relationship between sustainability and firm performance. Shi and Veenstra (2021) examine individualism and identify flexibility as a moderator in CSR and firm performance, whereas Shin et al. (2022) investigate the moderating role of a country's culture as an external contingency factor in the relationship between firm's ESG and firm performance. Although ESG and CSR both concern a firm's impact on society and the environment, the difference between them is the fact that Shi and Veenstra (2021) examine CSR performance as a business model used by individual firms, whereas Shin et al. (2022) examine ESG performance as a criterion that investors use to assess a firm and determine its suitability for investment.

Therefore, our study differs from Shi and Veenstra (2021) by studying 55 countries, which are divided into groups of middle- and high-income countries, and takes into account the six cultural dimensions by Hofstede (2001), whereas their paper looks at 41 countries and considers just two cultural dimensions: individualism and flexibility. Moreover, our paper differs from Shin et al. (2022) by investigating the effects of all of Hofstede's dimensions of national culture on the relationship between CSR and firm performance distinguishing between middle- and high-income countries. Furthermore, our paper differs from that of Shin et al. (2022) by investigating CSR performance as an internal initiative to fulfill a corporate goal, whereas ESG performance, as used by Shin et al. (2022), reflects a firm's external impact. Finally, to the best of our knowledge, it is the first study to investigate the role of national culture in determining the relationship between CSR and bank performance.

Fifth, to the best of our knowledge, no previous empirical studies examining the CSR and bank performance relationship compares firms in middle- and high-income countries. Goyal et al. (2013) and Ting et al. (2019) argue that the majority of articles on sustainability performance cover developed or high-income countries, such as the US, the UK, Spain, and Germany, whereas high- and middle-income countries receive little attention in the previous literature. By relying on the World Bank's classification of countries by income, our study adds to the previous literature by examining and comparing the moderating role of social values on the relationship between CSR and banking performance in middle- and high-income countries. According to Fantom and Serajuddin (2016), middle- and high-income countries have major differences. Specifically, they argue that high-income countries are characterized by low unemployment, poverty, debt, and infrastructure, high gross national income per capita, education, and air quality, as well as gender equality, clean water, and good sanitation. Middle-income countries are characterized by moderate levels of gross national income per capita, unemployment, poverty, debt, and education. According to Hu and Scholtens (2014) and Karaman et al. (2021), CSR commitment is stronger at firms in middle-income countries than in high-income countries. Therefore, we show that the influence of CSR performance on bank performance differs between middle- and high-income countries, with stronger results overall at banks in middle-income countries.

Sixth, we adopt global indicators to measure CSR performance, namely, the CSRHub score. According to Bacha and Ajina (2019), the CSRHub score helps to measure the CSR performance of firms toward its community, employees, and environment and to evaluate the sufficiency of their corporate governance mechanism.

Seventh, according to Wang et al. (2016), most previous literature investigates the CSR and firm performance relationship using one to three measures of firm performance. By contrast, this paper employs more than three measures of bank performance, which enhances our results, because focusing on only a single aspect of firm performance can lead to individual bias (McGuire et al., 1988; Orlitzky et al., 2003). Therefore, following Orlitzky et al. (2003) and Al-Matari et al. (2014), we divide bank performance measures into two groups: accounting-based measurement and market-based measurement. Therefore, based on Al-Matari et al. (2014), we use the return on assets, return on equity, and profit margin because they are widely used in previous studies. Along the same lines, we use Tobin's Q, the dividend yield, and annual stock returns, the most widely used market-based measurements. Our results are robust to the use of different measurements of bank performance.

Eighth, we selected 3139 banks from 55 countries in our study on CSR and financial performance in the banking industry strategically to ensure global representation and diversity in banking systems. This sample includes developed, emerging, and developing economies, offering a comprehensive view that covers various economic environments. The time frame 2010–2020 captures recent trends in CSR, enhancing the study's relevance. This period also coincides with the availability of consistent, high-quality data, which is crucial for obtaining accuracy. The diverse economic and cultural backgrounds of these countries align with our research objective to examine the moderating role of social values in the CSR-financial performance relationship, ensuring that our findings are broadly applicable and informative for policy-making.

Ninth, the banking sector plays a key role in the global economy, acting as the cornerstone of financial stability and development (Arner, 2007). Therefore, this study emphasizes the link between CSR and bank performance, a relationship that is significantly influenced by social values. Understanding this link is crucial, as banks are not only financial institutions but also social entities influenced by cultural norms and values (Aggarwal & Goodell, 2010; Williams & Conley, 2015, pp. 235–250). We explore how different social values, conceptualized through Hofstede's dimensions of national culture, either amplify or mitigate the impact of CSR on bank performance. This approach enables a novel perspective, highlighting the different facets of CSR in banking and the critical role of cultural values in shaping economic outcomes. This investigation contributes to a deeper understanding of how social values underpin the strategic importance of CSR in banking, offering

valuable insights for both scholars and practitioners in finance, corporate governance, and cultural studies.

The rest of this paper is organized as follows. Section 2 explains the theoretical background and reviews the literature related to bank performance. Section 3 describes the research methodology. The results are presented in Section 4. Finally, the conclusions, discussion of and analysis on the results, and implications are presented in Sections 5, 6, and 7 respectively.

2. Prior literature and hypothesis development

2.1. CSR and bank performance

The relationship between CSR and firm performance has attracted great attention from scholars in different disciplines and schools of thought (Busch & Friede, 2018; Hussain et al., 2018; Molina-Azorín, Claver-Cortés, López-Gamero, & Tarí, 2009; Revelli & Viviani, 2015; Velte, 2022). However, the empirical results generate conflicting findings regarding the CSR–firm performance relationship (Endrikat et al., 2014; Huang et al., 2021; Keles et al., 2023; Wang et al., 2016).

Based on neoclassical theory, traditionalists argue that increasing CSR performance imposes costs and, therefore, deteriorates firm performance (Konar & Cohen, 2001; Lopez et al., 2007; Moore, 2001). According to this school of thought, higher CSR performance may not be viewed as detrimental to firm performance, as the empirical findings in previous literature do not conclude anything about whether firms that invest heavily in CSR are actually rejected as investment opportunities by stakeholders (Nielsen & Noergaard, 2011). The empirical results by Makni et al. (2009) do not find any significant relationship between CSR and firm performance, in accordance with the trade-off hypothesis. Furthermore, Hirigoyen and Poulain-Rehm (2015) show that engaging in CSR does not result in good financial performance and that financial performance is negatively associated with CSR. D'Amato and Falivena (2020) illustrate a negative association between CSR and firm performance due to these firm' limited experience and resources and lack of reputation.

Based on the legitimacy and stakeholder theories, revisionists show that a positive relationship between CSR and firm performance, suggesting that sustainability becomes an important contributor to investment returns by sending a positive signal to the financial market (Brammer et al., 2007; Callan & Thomas, 2009; Derwall & Koedijk, 2009; Eccles et al., 2014; Filbeck & Gorman, 2004; Flammer, 2015; Hillman & Keim, 2001; King & Lenox, 2001; Konar & Cohen, 2001; Margolis & Walsh, 2003; Oh & Park, 2015; Orens et al., 2010; Porter & Kramer, 2011; Salama, 2005; Schnietz & Epstein, 2005). Based on this school of thought, previous literature identifies several incentives for sustainability engagement (Hussain et al., 2018). For instance, some of these benefits are improved competitiveness, improved relations with stakeholders and compliance with regulations, higher shareholder value, better share performance, higher return on investment, and lower financing costs (Hussain et al., 2018). Furthermore, few studies indicate that engaging in corporate philanthropy has a positive impact on market returns and firm profitability (Blasi et al., 2018; Kempf & Osthoff, 2007; Orlitzky et al., 2003). Along the same lines, higher CSR performance may enhance reputation and, therefore, increase market returns (Broadstock et al., 2021), decrease financial risk (Blasi et al., 2018), and enhance a competitive advantage (Maqbool & Zameer, 2018). In addition, firms with higher CSR performance appear to have lower capital constraints and better financial opportunities, which lead to better firm performance (Cheng et al., 2014).

Neutralists suggest that the relationship between CSR and firm performance is insignificant (Halme & Niskanen, 2020; King & Lenox, 2001; Link & Naveh, 2006). Griffin and Mahon (1997) show no clear association between CSR and firm performance. Similarly, Halme and Niskanen (2020) find that investment expenditure on the environment is not correlated with market valuation. Bae et al. (2021) and Gianfrate

et al. (2021) indicate that, before the pandemic, CSR is not effective in preserving shareholder wealth from an unanticipated crisis, such as COVID-19, and, therefore, the relationship between CSR and firm performance is insignificant.

Previous evidence is mixed with respect to the relationship between CSR and bank performance. Some studies conclude that CSR performance has a negative effect on banks' financial performance (Buallay, Fadel, Alajmi, & Saudagaran, 2020), few find a U-shaped relationship (Lopez-Penabad et al., 2022), and others find an insignificant relationship (Graves & Waddock, 1999). However, most previous papers adopt the views of revisionists, who find a positive relationship between CSR and bank performance, suggesting that not only are the banks engaged in CSR activities but that CSR issues are becoming more ingrained in the culture of financial institutions (e.g., Bihari & Pradhan, 2011; Saadaoui & Salah, 2022; Scholtens, 2009; Taskin, 2015; Wu & Shen, 2013). For example, Scholtens (2009) finds that CSR is becoming more important at banks, as they engage in diverse CSR activities, such as financing sustainable development and performing environmental risk analyses before lending. By contrast, Ahmed et al. (2012) show a positive, although insignificant, relationship between operating performance and CSR in the banking sector in Bangladesh.

Finally, the previous literature considers different firms, industries, and countries. According to Molina-Azorín et al. (2009), a total of 32 studies analyze the impact of the CSR on financial performance, most commonly examining manufacturing sectors and US firms. Furthermore, they state that the majority of these studies analyze a single country (27 out of 32 studies). Goyal et al. (2013) argue that when investigating the CSR and firm performance relationship around the world, it is important to distinguish which countries are covered in the literature. They also state that future research should focused on the unexploited areas in the world to sensitize the issue of sustainability assessment because previous articles about sustainability performance are mainly by authors in the US, the UK, Spain, and Germany. Hussain et al. (2018) gives an overview of the mixed empirical results of 31 studies, 26 of which investigate CSR and firm performance in a single country. Similarly, Huang (2021) finds that 18 out of 21 studies examine the CSR and firm relationship using a single country.

Based on these papers, the majority of prior papers support a positive relationship between CSR and firm performance. In addition, with respect to the banking sector, the evidence in previous papers is consistent with the views of revisionists, who find that the strategic motive predominates in CSR engagement, which in turn enhance their performance. Therefore, we offer the following hypothesis.

Hypothesis 1. CSR performance has a significantly positive influence on bank performance.

2.2. The moderating role of social values

Previous papers investigate various moderators of the relationship between CSR and different outcomes. In general, according to Aguinis and Glavas (2012), financial performance (Brammer & Millington, 2004), slack resources (Bansal, 2003), and lower debt levels (Graves & Waddock, 1994) are moderators that strengthen this relationship. Huang (2021) argues that there are various firm- and country-level moderators can strengthen or weaken the relation between CSR and firm performance. For instance, firm size, traditional firms, industry characteristics, firm location, firm ownership, strategic integration, organizational resources and capabilities, stakeholder engagement, stakeholder protections, gender parity, and temporal perspective are statistically significant moderators of the CSR and firm performance relationship (Albertini, 2013; Dixon-Fowler et al., 2012; Friede et al., 2015; Hoobler et al., 2018; Hou et al., 2015; Lu & Taylor, 2016; Orlitzky et al., 2003; Post & Byron, 2014).

Social values are another area of interest that may influence CSR and firm performance. Previous papers find that firm performance is affected

by social values, such as higher individualism, masculinity, long-term orientation, power distance, and uncertainty avoidance, which are linked to better firm performance (Flynn & Saladin, 2006; Halkos & Tzeremes, 2011; Jung et al., 2008; Kessapidou & Varsakelis, 2002; Wahjudi et al., 2016). Zheng (2012), Omondi (2013), Wang and Esqueda (2014), and Umer (2014) suggest that firms in countries with high power distance and masculinity prefer more equity for financing purposes, which increases firm performance. In addition, higher individualism is linked to better firm performance because employees who express ideas and offer solutions to a problem may contribute to higher firm performance (Chui, 2010; Wahjudi et al., 2016). Higher uncertainty avoidance leads to lower leverage because managers find a safe path, instead of fixed liability in societies with high uncertainty avoidance, and, therefore, they show the offensive attitude toward debt financing (Gill et al., 2011). In this regard, Gill et al. (2011) find a positive association between uncertainty avoidance and firm performance because firms located in countries with high uncertainty avoidance may develop their processes and systems continually to achieve lower leverage and higher firm performance. Furthermore, Zheng (2012) shows that managers in a culture with a long-term orientation have more forward-looking behavior, which decreases leverage and, therefore, increases firm performance. Hofstede (2010) and Farooq et al. (2020) illustrate that highly indulgent societies allow the free expression, which is linked to managerial behavior in acting on and making decisions freely, which has a positive effect on firm performance.

Several papers examine the relationship between CSR performance and social values. According to Sun et al. (2019), stakeholders in indulgent countries may appreciate the practice of CSR, because it contributes to social welfare and happiness, protecting democratic values. Therefore, they identify a positive association between indulgent cultural values and CSR performance. Ringov and Zollo (2007), Peng et al. (2014), and Thanetsunthorn (2015) show a negative relationship between power distance and CSR performance because investors in a country with high power distance are more inclined to endure power imbalances and inequality among members. Similarly, Ringov and Zollo (2007), Ho et al. (2012), Peng et al. (2014), and Thanetsunthorn (2015) find a negative association between individualism and CSR performance because firms in countries with high individualism are less concerned about the impact of business on society, resulting in lower CSR performance. Ringov and Zollo (2007) and Peng et al. (2014) illustrate that firms from countries with a highly masculine culture have lower CSR performance because individuals in masculine societies tend to engage in unethical behavior to pursue personal interests. Uncertainty avoidance and CSR performance have a positive association because that firms from countries with high uncertainty avoidance culture, where strict rules, laws, and regulations are enacted, are expected to have higher CSR performance (Ho et al., 2012; Peng et al., 2014; Ringov & Zollo, 2007). Finally, Graafland and Noorderhaven (2020) suggest that CSR performance is higher in countries with a long-term orientation because they recognize the crucial role of CSR in securing future value and of retaining CSR at firms.

In line with these papers, we build on the results of Shi and Veenstra (2021) by examining whether social values (cultural and accounting values) influence the relationship between CSR and bank performance. Shi and Veenstra (2021) examine the moderating role of individualism and favor flexibility on the relationship between CSR and firm performance and find a negative impact. The following section considers the moderating role of each of the cultural values defined by Hofstede (2001).

2.3. Social values

Social values are systems of values and beliefs that support ideas about what is good, right, and desirable in a society (Williams, 1970). These social values are the bases for the specific norms that tell people what is appropriate in various situations (Schwartz, 1999), which in turn

guide their behaviors and decisions and, consequently, influence economic outcomes indirectly (Guiso et al., 2006) and directly (Ahern et al., 2015; Guiso et al., 2009; Li et al., 2013; Shao et al., 2013). Although previous papers develop various measures of social values (Hofstede, 2001; Schwartz, 1999), most scholars use the six dimensions of national culture developed by Hofstede (2001) to explain behavioral differences across countries. Therefore, our study focuses on the analysis of the direct impact of these six dimensions of national culture on bank performance and the relationship between CSR and bank performance; accordingly, we propose several hypotheses.

Uncertainty avoidance refers to the degree to which people in a country prefer structured situations rather than unstructured ones (Hofstede, 2001). High uncertainty avoidance leads to rules-oriented, ideological behaviors (Hofstede, 2001). Similarly, Moon et al. (2008) state that in societies with high uncertainty avoidance, people tend to establish more formal rules and do not tolerate deviant ideas and behaviors. According to Hofstede et al. (2005), uncertainty avoidance is a core cultural dimension associated with CSR. Peng et al. (2014) and Rehman et al. (2021) argue that, in countries with high uncertainty avoidance, firms tend to increase CSR performance. The previous literature on the influence of uncertainty avoidance on financial performance is mixed. Specifically, Martins and Lopes (2016) and Shin et al. (2022) find a negative association between uncertainty avoidance and firm performance. In contrast, Boubakri et al. (2017) find a positive association between uncertainty avoidance and bank performance. Therefore, based on these papers, we expect that uncertainty avoidance may positively influence bank performance and the positive association between CSR and bank performance may be stronger in countries with high uncertainty avoidance because banks in these countries, where strict rules, laws, and regulations may be enacted, are expected to have higher CSR performance, which in turn may have a positive impact on bank performance. Consequently, we hypothesize.

Hypothesis 2a. Banks from countries with higher uncertainty avoidance have higher financial performance than those from countries with lower uncertainty avoidance.

Hypothesis 2b. The relationship between CSR and bank performance is moderated by the uncertainty avoidance, such that the relationship is stronger in countries with high uncertainty avoidance.

Individualism is the degree to which people in a society learn to act as individuals, rather than as members of a cohesive group and reflects the extent to which people emphasize personal goals over group goals (Hofstede, 2001). The main words used to describe the cultural value of high individualism are "independence," "autonomy," "self," and the focus on "I," as the decision maker based on what is good for oneself, rather than the group (Lustig & Koester, 2006). However, collectivism is more concerned with the consequences of one's behavior for in-group members and the willingness to sacrifice one's own interests for the sake of the collective interest (Smith et al., 1998). The main words used to describe the cultural value of high collectivism are "interdependent," "holistic," "connected," "relational," "constitutive," and the focus on "we," as the decision maker based on what is good for a given in-group, rather than for the individual (Lustig & Koester, 2006). Previous literature illustrates that the cultural value of individualism is negatively associated with bank (Boubakri et al., 2017; Gerecke & House, 2013; Shi & Veenstra, 2021) and CSR performance (Chui, 2010; Peng et al., 2014; Thanetsunthorn, 2015; Wahjudi et al., 2016). However, Martins and Lopes (2016) and Shin et al. (2022) find no association between individualism and firm performance. Therefore, based on these papers, we expect individualism to have a negative influence on bank performance, and the positive association between CSR and bank performance may be weaker in countries with high individualism because they may put less emphasis on the impact of business on society, resulting in lower CSR performance, which in turn may have a negative impact on bank performance. Consequently, we hypothesize.

Hypothesis 3a. Banks from countries with higher individualism have lower financial performance that those from countries with higher collectivism.

Hypothesis 3b. The relationship between CSR and bank performance is moderated by the individualistic cultural values, such that the relationship is weaker in countries with high individualism.

Masculinity refers to the degree to which a society reinforces traditional masculine role models based on male achievement, control, and power (Gorman, 2006), whereas femininity reflects caring for and getting along with others and being concerned about their well-being (Hofstede, 2001). The cultural value of higher masculinity suggests a high degree of gender differentiation, in which the masculine role model dominates, and the cultural value of low masculinity indicates low gender differentiation (Gorman, 2006). Accordingly, Hofstede et al. (2010) argue that firms in masculine societies are more likely to consider maximizing profit a social norm, while those in feminine societies emphasize social harmony. Furthermore, previous papers illustrate that the cultural value of masculinity has opposite influences on CSR and firm performance: in more masculine countries, firm performance is higher (Umer, 2014; Wang & Esqueda, 2014), and CSR performance is lower (Peng et al., 2014; Ringov & Zollo, 2007). Gerecke and House (2013) illustrate a negative association between masculinity and bank performance, whereas Martins and Lopes (2016) and Shin et al. (2022) find no association. Therefore, based on these papers, we expect masculinity to have a positive influence on bank performance and the positive association between CSR and bank performance to be weaker in countries with high masculinity, and banks there have lower CSR performance because their people tend to behave unethically in pursuit of personal gains, which in turn may have a negative impact on bank performance. Consequently, we hypothesize.

Hypothesis 4a. Banks from countries with higher masculinity have higher financial performance than those from countries with higher femininity.

Hypothesis 4b. The relationship between CSR and bank performance is moderated by the cultural value of masculinity, such that the relationship is weaker in countries with high masculinity.

Power distance is the degree to which people in a society accept inequality among its members (Hofstede, 2001). High power distance indicates strong inequality in power and wealth, whereas low power distance suggests that society places much less emphasis on differences between power and wealth (Gorman, 2006). Previous evidence on the effects of power distance on CSR and firm performance shows a contradictory relationship. Omondi (2013), Wang and Esqueda (2014), Umer (2014), and Boubakri et al. (2017) find that firms in countries with high power distance increase their financial performance, and Ringov and Zollo (2007), Peng et al. (2014), and Thanetsunthorn (2015) identify a negative relationship between power distance and CSR performance. However, several studies show that power distance has either a negative and significant impact (Martins & Lopes, 2016) or no significant impact on bank performance (Shin et al., 2022). Therefore, based on these papers, we expect power distance to have a positive influence on bank performance, and the positive association between CSR and firm performance may be weaker in countries with high power distance because stakeholders there are more inclined to tolerate power imbalances and inequality among members, which drive firms to have fewer incentives for increasing CSR performance by doing good in a country, and this may have an inverse impact on financial performance. Consequently, we hypothesize.

Hypothesis 5a. Banks from countries with higher power distance have higher financial performance that those from countries with lower power distance.

Hypothesis 5b. The relationship between CSR and bank performance is moderated by the power distance cultural value, such that the relationship is weaker in countries with high power distance.

Long-term orientation refers to the degree to which people in a society are oriented toward the future, rather than to the past or present (Hofstede, 2001). A high long-term orientation cultural value means that perseverance and thrift predominate in the culture (Gorman, 2006). However, a short-term normative orientation refers to the degree to which a society has a more traditional perspective (Hofstede, 2001). A highly short-term normative orientation suggests that respect for tradition and social obligations predominates (Gorman, 2006). In addition, the findings of previous papers suggest that having a cultural value with a long-term orientation is positively associated with CSR and firm performance (Gerecke & House, 2013; Graafland & Noorderhaven, 2020; Martins & Lopes, 2016; Zheng, 2012). In this regard, based on these papers, we expect a long-term orientation to have a positive influence on bank performance, and the positive association between CSR and bank performance may be stronger in countries with a high long-term orientation because banks there recognize the crucial role of CSR in securing future value, which in turn enhances bank performance. Consequently, we hypothesize.

Hypothesis 6a. Banks from countries with a higher long-term orientation have higher financial performance than those from countries with a higher short-term orientation.

Hypothesis 6b. The relationship between CSR and bank performance is moderated by the long-term orientation cultural value, such that the relationship is stronger in countries with a high long-term orientation.

Indulgence in a country means that it relatively freely enables gratification of basic and natural human desires related to enjoyment of life and having fun, and restraint in a country means that, through strict social norms, it controls and regulates the gratification of needs (Hofstede, 2010). Previous studies find that having greater indulgent cultural values enhances CSR and firm performance (Farooq et al., 2020; Sun et al., 2019; Vitolla et al., 2021). Therefore, based on these papers, we expect indulgence to have a positive influence on bank performance, and the positive association between CSR and bank performance may be stronger in countries with high indulgence because banks there appreciate engagement in CSR, because it contributes to social welfare and happiness, protecting democratic values, which in turn may have a positive impact on bank performance. Consequently, we hypothesize.

Hypothesis 7a. Banks from countries with higher indulgence have higher financial performance than those from countries with higher restraint.

Hypothesis 7b. The relationship between CSR and bank performance is moderated by indulgent cultural values, such that the relationship is stronger in countries with higher indulgence.

3. Research design

3.1. Sample selection

We begin with the CSRHub database, which provides CSR scores, to construct our cross-country sample from 2010 to 2020. We obtain financial information from the Bankscope database and the official bank websites. Then, we combine the cultural dimensions of cultural values from www.hofstede-insights.com and country-level information from the World Bank database. We exclude firms from our sample if they have missing CSR rating scores, financial information, and control variables. Therefore, our final sample consists of 22,110 bank-year observations, which include 3139 banks in 55 countries for the eleven-year period between 2010 and 2020.

Because the main focus of our paper is the impact of CSR on financial performance, we divide the countries in our sample into three groups based on their income level. To do so, we use World Bank classifications,

Table 1
Banks in sample by country income category.

	Cluster 1	Cluster 2	Cluster 3
No. of observations	22,110	5360	16,750
No. of banks	3139	782	2357
No. of countries	55	33	22

Notes: This table reports the number of observations, banks and countries by the income group, as defined by the World Bank.

which distinguish the countries by their income level as follows: the full sample (Cluster 1), high-income countries (Cluster 2), and middle-income countries (Cluster 3).

- Cluster 1: Argentina, Australia, Austria, Belgium, Brazil, Bulgaria, Canada, Chile, China, Colombia, Croatia, Czechia, Denmark, Egypt, Finland, France, Germany, Greece, Hong Kong, Hungary, India, Indonesia, Ireland, Israel, Italy, Japan, Jordan, Lithuania, Malaysia, Mexico, Morocco, the Netherlands, Norway, Peru, Philippines, Poland, Portugal, Qatar, Romania, Russia, Singapore, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Tunisia, Turkey, Ukraine, the UK, the US, and Venezuela.
- Cluster 2: Australia, Austria, Belgium, Canada, Chile, Croatia, Czechia, Denmark, Finland, France, Germany, Greece, Hong Kong, Hungary, Ireland, Israel, Italy, Japan, Lithuania, the Netherlands, Norway, Poland, Portugal, Qatar, Singapore, Slovenia, South Korea, Spain, Sweden, Switzerland, Taiwan, the UK, and the US.
- Cluster 3: Argentina, Brazil, Bulgaria, China, Colombia, Egypt, India, Indonesia, Jordan, Malaysia, Mexico, Morocco, Peru, Philippines, Romania, Russia, South Africa, Thailand, Tunisia, Turkey, Ukraine, and Venezuela.

The World Bank determines the income-level classification of a country by its gross national income (GNI) per capita, which is the value of all final goods and services produced in a country in one year plus income that residents have received from abroad minus income claimed by nonresidents divided by its population. The most recent classification uses 2020 GNI per capita, calculated using the World Bank Atlas method. The two levels of per capita income are as follows: middle-income countries have income of \$1046-\$12,694, and high-income countries have income of \$12,695 or more. According to Fantom and Serajuddin (2016), middle- and high-income countries have some major differences—in particular, high-income countries are characterized by low levels of unemployment, poverty, debt, and infrastructure, high levels of GNI per capita, education, air quality, clean water, and sanitation as well as gender equality; and middle-income countries are characterized by moderate levels of GNI per capita, unemployment, poverty, debt, and education. In addition, based on Karaman et al. (2021), CSR commitment is stronger at firms in middle-income countries than in high-income countries.

As shown in Table 1, 782 banks from 22 countries are in the middle-income cluster and 2357 banks from 33 countries in the high-income cluster.

3.2. Variables

3.2.1. Bank performance

Orlitzky et al. (2003) describe three measures of firm performance: market-based (investor returns), accounting-based (accounting returns), and perceptual (survey). Market-based measures focus on the stock market valuation, whereas accounting-based measures focus on the value of the internal operating efficiency of a firm (Rockmore & Jones, 1996). Perceptual measures of firm performance use surveys to provide subjective estimates of, for instance, the soundness of a firm's financial position, wise use of firm assets, and achievement of financial goals relative to that of competitors (Orlitzky et al., 2003).

Following Yang et al. (2019), we use market- and accounting-based measures because focusing on only a single aspect of firm performance can lead to individual bias (McGuire et al., 1988; Orlitzky et al., 2003). In this regard, we use the return on assets, return on equity, and profit margin as a proxies for accounting-based measures of bank performance and Tobin's Q, dividend yield, and annual stock returns as market-based measures.

The return on assets (ROA_{it}) is a profitability ratio that indicates how much profit a firm can generate from its assets; it is shown as a percentage, calculated as the ratio of net income divided by total assets. The higher (lower) the ratio, the more (less) efficient a firm's management is at managing its balance sheet to generate profits. The return on equity (ROE_{it}) is another measure of firm profitability that shows how efficient firm is in generating profits; it is shown as a percentage and calculated as the ratio of net income divided by shareholders' equity. The higher (lower) the ratio, the better (lesser) a firm is at converting its equity financing into profits. The profit margin (PM_{it}) is a profitability ratio, used to gauge the degree to which a business activity makes money. More specifically, it means the percentage of sales that turns into profit. Therefore, the profit margin is shown as a percentage and calculated as the ratio of net sales and cost of goods sold divided by net sales. A higher profit margin indicates that a firm can make a reasonable profit on sales, as long as it keeps overhead costs under control. A declining profit margin is a significant problem for a firm because it indicates that the firm has higher costs for goods sold.

Tobin's Q ($TOBINQ_{it}$) measures whether a firm or an aggregate market is relatively overvalued or undervalued. It is calculated as the ratio of the market value of equity divided by the book value of equity. If Tobin's Q is more (lower) than 1, the market value is higher (lower) than the value of the firm's recorded assets. The dividend yield (DY_{it}) shows how much a firm pays out in dividends every year relative to its stock price. It is shown as a percentage and calculated by the annual dividends per share divided by the price per share. A higher dividend yield means a higher annual return on investment. However, a low dividend yield indicates that a firm is overvalued or that the firm is focusing on capital growth at the expense of dividend income distribution. Annual stock returns (ASR_{it}) show the return on a stock over a year. It is shown as percentage and calculated as the sum of the period's ending price and the dividends and distributions paid over the dividend by the period's starting price minus 1.

3.2.2. CSR performance

The previous literature notes that the difficulty of obtaining a subjective measurement of CSR performance could probably lead to different outcomes (Jollands, 2006; Krajnc & Glavič, 2005). According to Igalens and Gond (2005), Turker (2009), and Ikram et al. (2019), there are five different ways to assess CSR performance: questionnaire-based surveys, measurements based on an analysis of the contents of annual reports, one-dimensional measures that focus on environmental management or philanthropy, corporate reputation indicators, and data produced by measurement organizations.

For the purpose of this research, we use the CSRHub rating to measure CSR performance (CSR_{it}) because is a top-ranked rating agency that provides financial and CSR information on more than 99 percent of the listed companies worldwide. It is widely used in industry-leading sustainability research and all levels of academic research (e.g., Bacha & Ajina, 2019; Conway, 2019; Hughey & Sulkowski, 2012; Lin et al., 2019; Mišura et al., 2018). According to Bacha and Ajina (2019), CSRHub is the largest and most comprehensive database of social data information.

CSRHub is based on an aggregation of over 860 sources of CSR data and publishing ratings; it provides CSR ratings on more than 31,719 firms and publishes data on 22,820 other firms. Using this database has the following advantages: it reduces confusion about disparate CSR ratings and emphasizes consistency in the ratings, rather than their differences; it increases awareness of CSR rating sources; it promotes diversity of expression among rating sources and highlights many

sources that might otherwise be overlooked or undervalued; and it demonstrates the breadth and depth of the CSR data universe. Some sources that are used to generate CSRHub ratings give numerical scores while others use relative rankings or signs. By aggregating and normalizing the information from these sources, CSRHub gives consistent and unbiased data through the following steps: (1) it maps to a central schema in which 12 subcategories are combined into four categories (education, governance, employees, and community); (2) it converts to a numerical scale of 0–100 (100 = positive ranking); (3) it normalizes the scores from different data sources for the same firm to remove bias and create consistent ratings; (4) it aggregates and weighs each source based on estimated credibility and value at the subcategory level and then aggregates them at the category level; (5) it trims the ratings that do not have enough information; and (6) it researches every rated company and attempts to determine the industries in which it participates.

3.2.3. Social values

Following Shalter et al. (2013) and Sutrisno and Dularif (2020), we use the six dimensions of national culture identified by Hofstede (2001) to proxy for social values: uncertainty avoidance, individualism versus collectivism, masculinity versus femininity, power distance, long-term orientation versus short-term normative orientation, and indulgence versus restraint. We use Hofstede's dimensions of national culture is selected for three reasons. First, they are used in a great deal of business research. For instance, Kachelmeier and Shehata (1997) use Hofsede's measures of social values in accounting, Nakata and Sivakumar (1996) in marketing, Chui et al. (2010) in finance, Gorodnichenko and Roland (2011) in economics, and Kanagaretnam et al. (2011) in management. Second, Magnusson et al. (2008) and Wiengarten et al. (2011) state that Hofstede's dimensions of national culture have better convergent validity than other frameworks. Third, the popularity of Hofstede's dimensions of national culture among national culture studies increases the usefulness of the results because they can be compared to those of other studies (Wahjudi et al., 2016).

The first cultural dimension that we examine is uncertainty avoidance (UA_{It}). According to Hofstede (1980, 2001), uncertainty is one of the key determinants of market transactions and plays a critical role in business. The uncertainty avoidance (UA) dimension expresses the degree to which members of a society feel uncomfortable with uncertainty and ambiguity and try to avoid these them. People living in high-UA countries are intolerant of unorthodox behavior and ideas and have higher anxiety, which may increase nervousness, emotionality, and aggressiveness. However, people living in low-UA countries maintain a more relaxed attitude in which practice counts more than principles.

The second cultural dimension that we examine is individualism versus collectivism ($INDI_{It}$). According to Hui (1988), collectivism is defined as a set of feelings, beliefs, behavioral intentions, and behaviors related to solidarity and concern for others, whereas individualism is the moral stance, political philosophy, ideology, and social outlook that emphasizes the moral worth of the individual. In this regard, individualism stands for a society in which the ties between individuals are loose, and collectivism stands for a society in which, beginning at birth, people are integrated into strong, cohesive in-groups, which continue to protect them throughout their lives, in exchange for unquestioning loyalty (Hofstede, 1980, 2001). Higher scores on the Hofstede index mean higher individualism (lower collectivism), indicating higher extraversion, openness, and agreeableness (Rajkumar, 2021).

The third cultural dimension that we examine is masculinity versus femininity ($MASCU_{It}$), which refers to the distribution of roles between the genders and is another fundamental issue in any society for which a range of solutions exists (Hofstede, 2001). Specifically, masculinity stands for a preference for achievement, heroism, assertiveness, and material rewards for success, whereas femininity stands for a preference for cooperation, modesty, caring for the weak, and the quality of life (Hofstede, 1980, 2001). Higher scores on the Hofstede index mean

higher masculinity (lower femininity), indicating that the country experiences greater gender differentiation of roles. It means that the male dominates a significant portion of society and power distance, which generates a female population that becomes more assertive and competitive, although not at the same level as the male population (Hofstede, 2001).

The fourth cultural dimension that we examine is power distance (PD_{It}). According to Hofstede (2001), power distance expresses the degree to which less powerful members of a society accept and expect power to be distributed unequally. In societies with high power distance, people accept a hierarchical order in which everyone has a place and which needs no further justification. However, in societies with low power distance, people strive for a distribution of power and demand justification for unequal power (Hofstede, 2001).

The fifth cultural dimension that we examine is a long-term orientation versus a short-term normative orientation (LTO_{It}). This dimension of Hofstede's six-dimensional model indicates that the values associated with a long-term orientation are thrift and perseverance, whereas the values associated with a short-term orientation are respect for tradition, fulfilling social obligations, and protecting one's "face" (Hofstede, 2001). People with a low long-term orientation (a high short-term normative orientation) attach great importance to the immediate outcomes of their behaviors and devalue future implications of their actions (Sherf et al., 2019). In this regard, Hofstede (2001) states that societies that score low on this dimension prefer to maintain time-honored traditions and norms, viewing social change with suspicion, whereas societies that score high on this dimension take a more pragmatic approach, encouraging thrift and efforts at modern education as a way to prepare for the future.

The sixth cultural dimension that we examine is indulgence versus restraint ($INDU_{It}$). According to Hofstede (2001), indulgence means a society that relatively freely allows gratification of basic and natural human needs related to enjoying life and having fun, whereas restraint means a society that suppresses gratification of needs and regulates it through strict social norms. In this regard, Hofstede et al. (2010) show that people in indulgent societies place greater value on happiness and are more optimistic than those in restrained societies. Therefore, higher scores on the Hofstede index indicate higher indulgence (lower restraint).

The data on these six dimensions of national culture come from www.hofstede-insights.com.

3.3. Empirical model

To test H1 to H7, we use the following OLS regression as Equation (1). Given the focus of our study, we estimate the model separately for each of the two income categories (Clusters 2 and 3). In addition, we report the estimation results for the full sample (Cluster 1).

$$BP_{it} = \alpha + \beta_0 BP_{it-1} + \beta_1 CSR_{it} + \beta_2 SV_{It} + \beta_3 CSR_{it} * SV_{It} + \beta_4 BS_{it} + \beta_5 BA_{it} + \beta_6 LIQ_{it} + \beta_7 LEV_{it} + \beta_8 BOS_{it} + \beta_9 IFR_{It} + \beta_{10} ER_{It} + \beta_{11} GDP_{It} + \beta_{12} INR_{It} + \varepsilon_{it}$$

(1)

where BP_{it} is bank performance measured by six different metrics as follows: ROA_{it} is the return on assets, ROE_{it} is the return on equity, PM_{it} is the profit margin, $TOBINQ_{it}$ is Tobin's Q, DY_{it} is the dividend yield, and ASR_{it} is annual stock returns (defined above); BP_{it-1} is variable firm performance lagged one period; CSR_{it} is CSR performance (defined above). SV_{It} is social values measured by the six dimensions of national culture identified by Hofstede (2001) as follows: UA_{It} is uncertainty avoidance, $INDI_{It}$ is individualism versus collectivism, $MASCU_{It}$ is masculinity versus femininity, PD_{It} is power distance, LTO_{It} is long-term orientation versus short-term normative orientation, and $INDU_{It}$ is indulgence versus restraint (defined above). The dependent, independent,

Table 2
Definition of variables.

Variable (s)	Description	Expected effect
Dependent		
ASR_{it}	Annual stock returns as described in Section 3.2.1.	
DY_{it}	Dividend yield as described in Section 3.2.1.	
PM_{it}	Profit margin as described in Section 3.2.1.	
ROA_{it}	Return on assets as described in Section 3.2.1.	
ROE_{it}	Return on equity as described in Section 3.2.1.	
$TOBINQ_{it}$	Tobin's Q as described in Section 3.2.1.	
Independent		
CSR_{it}	CSR performance measured by CSRHub rating and obtained from the website of CSRHub	+
$INDI_{It}$	Individualism versus collectivism is a Hofstede's (2001) dimension of national culture	+
$INDU_{It}$	Indulgence versus constraints is a Hofstede's (2001) dimension of national culture	+
LTO_{It}	Long-term orientation versus short-term orientation is a Hofstede's (2001) dimension of national culture	+
$MASCU_{It}$	Masculinity versus femininity is a Hofstede's (2001) dimension of national culture	+
PD_{It}	Power distance is a Hofstede's (2001) dimension of national culture	+
UA_{It}	Uncertainty avoidance versus collectivism is a Hofstede's (2001) dimension of national culture	+
Control		
BA_{it}	Bank age measured by the time between its going public and the present time	+/−
BOS_{it}	Board size measured by the number of directors on the board	+/−
BS_{it}	Bank size measured by the logarithm of total assets	+
ER_{It}	Exchange rate extracted by the official site of World Bank	+/−
GDP_{It}	GDP measured by the logarithm of GDP and extracted by the official site of World Bank	+/−
IFR_{It}	Inflation rate extracted by the official site of World Bank	+
INR_{It}	Interest rate extracted by the official site of World Bank	+/−
LEV_{it}	Leverage measured by the debt-to-equity ratio	+/−
LIQ_{it}	Liquidity measured by the current ratio	+/−

and control variables are defined in Table 2.

We also use control variables as determinants of bank performance, drawn from the literature. Bashir (2003), Pervan et al. (2015), and Siueia et al. (2019) suggest that bank size (BS_{it})—measured by the natural logarithm of total assets—may positively influence bank performance because banks with large assets can optimize resources to obtain maximum benefits. Furthermore, they illustrate that larger banks should make larger profits because they exploit economies of scale. But Athanasoglou et al. (2008) suggest that bank size has no effect on financial performance because small banks usually try to grow more quickly, even at the expense of profitability.

Furthermore, Almoneef and Samontaray (2019) and Gupta and Mahakud (2020) state that high bank age (BA_{it})—measured by the time between when it went public and the present—may create a problem for future bank management, which will negatively influence bank performance. However, Phan et al. (2020) and Ramzan et al. (2021) find that bank age positively and significantly affects bank performance because older banks have a good reputation in the market and can improve their profitability and performance. They also mention that fintech is stronger for mature banks than younger banks, which may positively influence bank performance.

Liquidity and leverage are also included as a control variables because they are indicators of a bank's financial health and credibility. Kosmidou (2008) and Olagunju et al. (2012) show that liquidity (LIQ_{it})—measured by the current ratio—increases bank performance because illiquid assets are expected to have a higher liquidity premium and hence higher returns, whereas Molyneux and Thornton (1992) find a negative relationship between liquidity and bank performance because

high opportunity and maintenance costs are connected with excess liquidity, which in turn have a negative impact on financial performance. In addition, leverage (LEV_{it})—measured by the debt to equity ratio—is inversely correlated with bank performance, indicating that lucrative banks are less dependent on leverage (Samuel & Samuel, 2018). However, Ebiringa and Ezeji (2012) state that leverage is likely to enhance bank performance if the bank is well structured and managed. Finally, Abubakar (2015) indicates that no significant relationship is found between leverage and the financial performance of banks.

Following previous literature, Staikouras et al. (2007) find that board size (BOS_{it})— measured by the number of directors on the board—increases over time as banks grow and diversify. According to Liang et al. (2013), smaller boards are more effective because directors enjoy better communications and interactions between them. Similarly, Belkhir (2009) and Tomar and Bino (2012) and Pathan and Faff (2013) show the effectiveness of smaller boards in monitoring CEO results due to reducing coordination and enhancing bank performance. Nevertheless, some evidence shows that larger boards provide banks with better monitoring as they generally have more time and experience than smaller boards, which reduces earnings management and increases bank performance (Fanta et al., 2013).

Based on previous papers, macroeconomic indicators that may influence bank performance include inflation, the exchange rate, GDP, and the interest rate. According to Dietrich and Wanzenried (2014) and Pervan et al. (2015), a higher inflation rate (IFR_{It}) results in higher interest rates on loans, thus better bank performance. However, Combey and Togbenou (2017) and Le and Ngo (2020) find no significant association between bank performance and the inflation rate.

Bashir (2003), Athanasoglou et al. (2008), Dietrich and Wanzenried (2014), and Pervan et al. (2015) highlight the positive effect on bank performance of GDP (GDP_{It}), as measured by the logarithm of GDP. They claim that economic growth increases demand for financial products and services offered by banks during cyclical upswings, thus improving bank performance. But several studies show that economic growth has either a negative and significant impact (Tan & Floros, 2012) or no significant impact on bank performance (Sharma et al., 2013).

In addition, Maigua and Mouni (2016) show a positive relationship between the exchange rate (ER_{It}) and bank performance. However, Babazadeh and Farrokhnejad (2012) and Isaac (2015) find that the exchange rate has no significant effect on bank performance, whereas Combey and Togbenou (2017) state that exchange rate has a negative impact.

Finally, prior studies show that the interest rate (INR_{It}) is negatively associated with bank performance (Gado, 2015; Osamwonyi & Michael, 2014; Pacini et al., 2017; Prasetyantoko & Parmono, 2012; Zulfiqar & Din, 2015). In contrast, Udu (2015) finds that the impact of the interest rate is positive and significant, whereas Enyioko (2012) reports that interest rate policies do not affect bank performance.

Given the dynamic nature of our model with the lagged dependent variable as a regressor, the least squares estimation method may produce inconsistent and biased estimates (Baltagi, 2001). Therefore, estimation of firm performance might face an endogeneity problem. We have good reason for believing that at least some of the explanatory variables are endogenous. For example, as McWilliams and Siegel (2001) argue, an inverse U-shaped relationship exists between CSR and firm performance because CSR is beneficial to a limited extent. Similarly, Graafland and Ven (2006) and Azam et al. (2019) find a significant impact of firm performance on CSR performance. Furthermore, Potharla and Amirishetty (2021) identify an inverted U-shape relationship between board size and firm performance. Alarussi and Gao (2021) confirm the inverted U-shaped relationship between leverage and firm performance. The same problem might apply to other explanatory variables in our model.

To control for potential endogeneity, we employ an extended differenced GMM estimator, the system GMM developed by Arellano and Bond (1991) and Blundell and Bond (1998). Munoz (2007) states that

Table 3
Result of the multicollinearity test.

Variable (s)	Cluster 1		Cluster 2		Cluster 3	
	VIF	Tolerance value	VIF	Tolerance value	VIF	Tolerance value
CSR_{it}	1.045	0.847	1.983	0.820	1.361	0.814
UA_{it}	1.652	0.844	1.262	0.804	1.729	0.829
$INDI_{it}$	1.614	0.827	1.971	0.810	1.085	0.820
$MASCU_{it}$	1.475	0.839	1.677	0.818	1.886	0.812
PD_{it}	1.816	0.817	1.104	0.808	1.336	0.816
LTO_{it}	1.763	0.857	1.773	0.813	1.403	0.835
$INDU_{it}$	1.845	0.835	1.638	0.812	1.500	0.810
$CSR_{it}*UA_{it}$	1.109	0.839	1.485	0.804	1.433	0.820
$CSR_{it}*INDI_{it}$	1.640	0.824	1.736	0.809	1.951	0.815
$CSR_{it}*MASCU_{it}$	1.969	0.838	1.753	0.818	1.673	0.808
$CSR_{it}*PD_{it}$	1.258	0.817	1.401	0.807	1.346	0.810
$CSR_{it}*LTO_{it}$	1.993	0.858	1.884	0.813	1.002	0.834
$CSR_{it}*INDU_{it}$	1.092	0.833	1.629	0.811	1.993	0.809
BS_{it}	1.585	0.831	1.455	0.872	1.009	0.996
BA_{it}	1.546	0.847	1.577	0.888	1.226	0.884
LIQ_{it}	1.244	0.804	1.849	0.841	1.953	0.951
LEV_{it}	1.049	0.953	1.028	0.893	1.137	0.879
BOS_{it}	1.718	0.882	1.740	0.875	1.079	0.945
IFR_{it}	1.263	0.892	1.247	0.802	1.596	0.926
ER_{it}	1.288	0.876	1.941	0.840	1.736	0.876
GDP_{it}	1.961	0.810	1.277	0.805	1.341	0.872
INR_{it}	1.725	0.880	1.289	0.876	1.353	0.983

Notes: VIF and tolerance value are statistical methods to detect multicollineary among the explanatory variables. For the notation of the variables, see Table 2.

the GMM estimator makes use of the fact that values of the dependent variable lagged two periods or more are valid instruments for the lagged dependent variables, which in turn generate consistent and efficient estimates of the parameters of interest.

According to Ta and Bui (2018), in GMM, it is necessary to distinguish between instrumented and instrumental variables. They state that if the variables are endogenous, they should be considered instrumented variables according to GMM, whereas if the explanatory variables are defined as exogenous extrinsic variables, they should be seen as instrumental variables. Therefore, in order to determine which variables are endogenous and which are exogenous, we follow Baum et al. (2003, 2007) and use the modified Durbin-Wu-Hausman test.

Numerous studies have employed GMM to estimate the relationship between CSR and financial performance, including Belu and Manescu (2013), Cavaco and Crifo (2014), Oh and Park (2015), Al-Malkawi and Javaid (2018), and Ta and Bui (2018).

Following Al-Malkawi and Javaid (2018), we use the GMM estimator to determine the validity of the instruments, performing the Sargan test of overidentification restrictions under the null hypothesis that the instruments used in the regression are uncorrelated with the residuals. Then, we use the GMM estimator to determine the absence of second-order serial correlation in the error terms using the Arellano-Bond test under the null hypothesis that the errors in the first difference (AR1) must be correlated but have no serial correlation in the second difference (AR2). Therefore, if the null hypotheses of both tests are confirmed, then the conditions are satisfied, and the model is supported (Al-Malkawi & Javaid, 2018).

3.4. Validity tests

In order to confirm the validity of our regression model, we perform multicollinearity, normality, autocorrelation, and heteroskedasticity tests.

3.4.1. Multicollinearity test

Multicollinearity is a statistical phenomenon in which a strong relationship exists between the predictor variables, which can cause serious problems in the estimation of β and its interpretation (Oke et al., 2019). Multicollinearity can be detected mainly with the help of the tolerance value and its reciprocal, namely, the variance inflation factor

(VIF) (Miles, 2014; Senaviratna & Cooray, 2019). According to Senaviratna and Cooray (2019), the tolerance value is the percentage of the variance in a given predictor that cannot be explained by other predictors and is calculated as follows:

$$Tolerance\ value = 1 - R^2$$

where R^2 is the coefficient of determination for regression of that explanatory variable on all remaining independent variables. According to Oke et al. (2019), a tolerance value of nearly 1 indicates little multicollinearity, whereas a value of nearly 0 suggests that multicollinearity may be a threat.

As the reciprocal of the tolerance value, VIF shows the degree to which the variance of the coefficient estimate is inflated by multicollinearity (Oke et al., 2019) and is calculated as follows:

$$VIF = \frac{1}{Tolerance\ value}$$

Values of VIF that exceed 10 are regarded as indicating multicollinearity, and values above 2.5 may because for concern (Oke et al., 2019). Table 3 shows that all the VIFs are below 10, and the tolerance values are within an acceptable range.

3.4.2. Normality test

A normality test identifies whether data are distributed in a way that is consistent with the normal distribution. The Shapiro-Wilk test is recommended as the best choice for testing the normality of data (Al Ani & Mohammed, 2015; Ghasemi & Zahedias, 2012).

The Shapiro-Wilk test tests the null hypothesis that the population is normally distributed. Therefore, if the *p*-value is less than the chosen alpha level, then the null hypothesis is rejected, and there is evidence that the data tested are not normally distributed. In contrast, if the *p*-value is higher than the alpha level, then the null hypothesis cannot be rejected, and there is evidence that the data tested are normally distributed. In this paper, the confidence interval is set at 0.05. Therefore, any variable with a probability value higher than the critical value of 0.05 satisfies the normality test.

The data are also tested for normality using skewness and kurtosis tests. As in Saunders et al. (2009), skewness within a range of ±2 is acceptable whereas an acceptable value for kurtosis is ±8. Data are normally distributed only if the values for skewness and kurtosis are

Table 4
Result of the normality test.

Variable (s)	Cluster 1				Cluster 2				Cluster 3			
	Skewness	Kurtosis	Shapiro-Wilk		Skewness	Kurtosis	Shapiro-Wilk		Skewness	Kurtosis	Shapiro-Wilk	
			Statistic	Sig.			Statistic	Sig.			Statistic	Sig.
ROA_{it}	1.365	0.187	0.907	0.885	1.456	3.583	0.889	0.147	0.100	0.505	0.991	0.118
ROE_{it}	1.472	7.721	0.804	0.193	1.415	2.456	0.786	0.172	−0.190	1.465	0.976	0.357
PM_{it}	0.207	−0.294	0.974	0.659	0.073	0.047	0.977	0.100	0.352	−0.997	0.940	0.234
$TOBINQ_{it}$	1.528	7.943	0.118	0.359	1.528	4.146	0.170	0.495	1.471	1.397	0.688	0.640
DY_{it}	1.491	0.576	0.154	0.152	1.209	6.553	0.195	0.123	1.046	6.341	0.115	0.453
ASR_{it}	1.486	1.761	0.845	0.726	1.660	1.678	0.908	0.438	1.355	2.574	0.759	0.148
CSR_{it}	−0.819	0.310	0.938	0.342	−1.697	3.923	0.839	0.859	0.019	−0.705	0.970	0.554
UA_{It}	−0.592	−0.586	0.938	0.336	−0.584	−0.605	0.937	0.261	−0.480	−1.057	0.914	0.146
$INDI_{It}$	0.307	−1.170	0.936	0.186	−0.329	−1.208	0.914	0.163	0.490	0.113	0.944	0.501
$MASCU_{It}$	−0.219	−0.017	0.979	0.144	−0.136	−0.593	0.969	0.525	0.067	−0.855	0.963	0.750
PD_{It}	−0.302	−0.537	0.969	0.444	−0.030	−0.548	0.963	0.683	−0.090	−0.402	0.944	0.505
LTO_{It}	0.306	−0.824	0.965	0.869	0.300	−0.826	0.962	0.395	0.569	−0.700	0.915	0.166
$INDU_{It}$	0.302	−0.201	0.969	0.646	−0.254	−0.970	0.941	0.878	0.684	−0.130	0.915	0.175
$CSR_{it}*UA_{It}$	−0.254	−0.809	0.967	0.253	−0.418	−0.805	0.942	0.116	0.071	−0.822	0.970	0.487
$CSR_{it}*INDI_{It}$	0.423	−1.117	0.925	0.834	−0.166	−1.332	0.923	0.101	0.731	0.207	0.934	0.618
$CSR_{it}*MASCU_{It}$	0.128	0.140	0.984	0.298	0.069	−0.316	0.971	0.530	0.377	−0.741	0.949	0.151
$CSR_{it}*PD_{It}$	−0.146	−0.286	0.984	0.313	−0.157	−0.801	0.955	0.443	0.472	−0.862	0.933	0.527
$CSR_{it}*LTO_{It}$	0.546	−0.278	0.962	0.024	0.464	−0.508	0.958	0.100	0.955	0.856	0.915	0.167
$CSR_{it}*INDU_{It}$	0.374	−0.062	0.970	0.072	−0.153	−0.779	0.964	0.811	0.847	0.251	0.918	0.255
BS_{it}	−0.460	−0.153	0.980	0.270	−0.172	−0.799	0.975	0.756	−0.917	0.175	0.908	0.984
BA_{it}	0.402	−0.576	0.963	0.211	0.594	−0.142	0.964	0.957	0.080	−1.411	0.916	0.183
LIQ_{it}	1.583	1.756	0.799	0.104	1.893	1.569	0.715	0.208	0.541	1.964	0.961	0.394
LEV_{it}	−1.216	5.163	0.396	0.113	1.139	1.559	0.708	0.118	−1.162	1.866	0.385	0.671
BOS_{it}	0.659	1.013	0.950	0.188	0.961	2.023	0.918	0.341	0.766	0.500	0.931	0.300
IFR_{It}	1.596	6.973	0.018	0.839	0.250	0.127	0.994	0.199	1.556	4.989	0.038	0.450
ER_{It}	1.514	6.242	0.023	0.100	1.979	1.455	0.334	0.323	1.505	4.924	0.047	0.579
GDP_{It}	0.327	0.102	0.979	0.107	0.364	0.173	0.971	0.120	0.316	0.018	0.978	0.765
INR_{It}	1.537	2.155	0.667	0.103	1.659	4.031	0.648	0.110	1.355	7.551	0.765	0.261

Notes: Shapiro-Wilk, skewness and kurtosis tests are used to test the normality of data. For the notation of the variables, see Table 2.

Table 5
Result of the autocorrelation test.

Cluster 1						
Dependent variable (s)	Model	R	R square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
ROA_{it}	1	0.528	0.279	0.252	0.067	1.578
ROE_{it}	1	0.464	0.215	0.185	0.203	1.575
PM_{it}	1	0.606	0.367	0.343	0.168	2.388
$TOBINQ_{it}$	1	0.446	0.199	0.169	304.421	2.455
DY_{it}	1	0.368	0.135	0.103	1.150	2.041
ASR_{it}	1	0.252	0.063	0.028	0.335	2.015
Cluster 2						
Dependent variable (s)	**Model**	**R**	**R square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Durbin-Watson**
ROA_{it}	1	0.613	0.375	0.335	0.072	1.507
ROE_{it}	1	0.589	0.347	0.304	0.221	1.696
PM_{it}	1	0.720	0.518	0.487	0.153	2.489
$TOBINQ_{it}$	1	0.691	0.478	0.444	319.754	1.633
DY_{it}	1	0.442	0.195	0.143	0.979	2.391
ASR_{it}	1	0.326	0.106	0.049	0.311	1.919
Cluster 3						
Dependent variable (s)	**Model**	**R**	**R square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Durbin-Watson**
ROA_{it}	1	0.714	0.510	0.461	0.043	1.910
ROE_{it}	1	0.700	0.489	0.438	0.107	2.130
PM_{it}	1	0.840	0.706	0.677	0.109	2.258
$TOBINQ_{it}$	1	0.778	0.605	0.566	0.891	1.703
DY_{it}	1	0.489	0.239	0.162	1.300	2.087
ASR_{it}	1	0.269	0.072	−0.021	0.372	2.239

Notes: Durbin-Watson check the nature of correlation among the variables. For the notation of the variables, see Table 2.

within the acceptable range.

Table 4 shows that, using the Shapiro-Wilk test, the data are normally distributed for all variables because all the *p*-values are higher than 0.05. Similarly, Table 4 shows the lowest and highest values for skewness are −1.216 and 1.596 for Cluster 1, -1.697 and 2.415 for Cluster 2, and -1.162 and 1.979 for Cluster 3, respectively. The kurtosis

of the distribution has the highest values of 7.943 for Cluster 1, 6.553 for Cluster 2, and 7.551 for Cluster 3, and the lowest values of −1.170 for Cluster 1, -1.332 for Cluster 2, and -1.411 for Cluster 3.

3.4.3. Autocorrelation test

Autocorrelation is the degree of similarity between a given time

Table 6
Result of the heteroskedasticity test.

Cluster 1

Dependent variable (s)	Model	F-statistic	R-square	Breusch-Pagan sig.	P-value
ROA_{it}	1	10.231	0.279	0.921	0.000
ROE_{it}	1	7.241	0.215	0.957	0.000
PM_{it}	1	15.314	0.367	0.918	0.000
$TOBINQ_{it}$	1	6.581	0.199	0.963	0.000
DY_{it}	1	4.138	0.135	0.947	0.000
ASR_{it}	1	1.792	0.063	0.901	0.005

Cluster 2

Dependent variable (s)	Model	F-statistic	R-square	Breusch-Pagan sig.	P-value
ROA_{it}	1	9.280	0.375	0.955	0.000
ROE_{it}	1	8.204	0.347	0.970	0.000
PM_{it}	1	16.609	0.518	0.986	0.000
$TOBINQ_{it}$	1	14.130	0.478	0.920	0.000
DY_{it}	1	3.744	0.195	0.918	0.000
ASR_{it}	1	1.841	0.106	0.953	0.002

Cluster 3

Dependent variable (s)	Model	F-statistic	R-square	Breusch-Pagan sig.	P-value
ROA_{it}	1	10.358	0.510	0.999	0.000
ROE_{it}	1	9.540	0.489	0.953	0.000
PM_{it}	1	23.919	0.706	0.963	0.000
$TOBINQ_{it}$	1	15.276	0.605	0.958	0.000
DY_{it}	1	3.125	0.239	0.906	0.000
ASR_{it}	1	0.777	0.072	0.985	0.003

Notes: Breusch-Pagan test to confirm whether heteroscedasticity in bank performance is exists or not. For the notation of the variables, see Table 2.

series and a lagged version of it over successive time intervals. The most common way to test autocorrelation is the Durbin-Watson test. According to Uyanto (2020), the Durbin-Watson test performs better than other autocorrelation tests in a regression model without lagged dependent variables. The Durbin-Watson produces a test number from 0 to 4. Values closer to 0 indicate a higher degree of positive correlation, values closer to 4 indicate a higher degree of negative autocorrelation, and values closer to the middle suggest less autocorrelation. Table 5 shows that the models have no autocorrelation because the Durbin-Watson coefficients are nearly 2 in all clusters.

3.4.4. Heteroskedasticity test

Heteroskedasticity means that the variance of errors in the model is not the same for all observations (White, 1980). We use the Breusch-Pagan test to confirm whether heteroskedasticity exists in firm performance. The insignificant *p*-value shows that the variance of errors is constant, and, therefore, the null hypothesis is confirmed. Table 6 shows that the *p*-value is insignificant, at $p < 0.05$, therefore, the null hypothesis is confirmed and indicates the absence of heteroskedasticity in all clusters.

4. Empirical results

4.1. Descriptive statistics

Table 7 reports the descriptive statistics for the variables used in our analyses. We report the mean and the standard deviation for the full sample, as well as for the two income groups. Furthermore, we test whether any significant differences arise between the variables for the different income groups. In this regard, we add a column that reports the significance level of the difference between the groups for each variable.

Consequently, considering bank performance, we observe an increase in all measures of financial performance with a rise in a country's income. The differences are statistically significant at the 1 percent level. The CSR performance of firms also differs considerably between

Table 7
Descriptive statistics by country income category.

Variable (s)	Cluster 1	Cluster 2	Cluster 3	Sign. of diff. btw Clusters 2 and 3
ROA_{it}	0.079 (0.078)	0.087 (0.088)	0.068 (0.058)	***
ROE_{it}	0.187 (0.225)	0.205 (0.265)	0.160 (0.143)	***
PM_{it}	0.379 (0.208)	0.407 (0.214)	0.336 (0.191)	***
$TOBINQ_{it}$	46.178 (333.934)	76.011 (428.749)	1.427 (1.352)	***
DY_{it}	0.215 (1.214)	0.220 (1.057)	0.208 (1.420)	***
ASR_{it}	0.063 (0.340)	0.082 (0.319)	0.036 (0.369)	***
CSR_{it}	57.018 (5.982)	58.515 (4.717)	54.773 (6.916)	***
UA_{It}	67.000 (22.372)	65.879 (23.954)	68.682 (19.691)	***
$INDI_{It}$	46.218 (23.004)	56.000 (23.061)	31.545 (12.928)	***
$MASCU_{It}$	49.200 (18.946)	48.212 (22.357)	50.682 (12.045)	**
PD_{It}	59.418 (21.302)	48.909 (19.074)	75.182 (13.227)	*
LTO_{It}	50.000 (22.579)	55.091 (21.004)	42.364 (22.748)	***
$INDU_{It}$	48.473 (19.892)	49.606 (16.704)	46.773 (23.828)	***
BS_{it}	10.504 (0.654)	10.592 (0.643)	10.373 (0.649)	**
BA_{it}	46.666 (25.544)	47.353 (25.865)	45.636 (25.071)	**
LIQ_{it}	1.619 (0.957)	1.600 (1.084)	1.646 (0.728)	*
LEV_{it}	0.823 (1.673)	0.718 (0.812)	0.982 (2.447)	*
BOS_{it}	10.564 (3.088)	11.121 (2.731)	9.727 (2.447)	***
IFR_{It}	1668.771 (40.655.588)	1.425 (1.350)	4169.791 (64.280.722)	***
ER_{It}	2196.244 (45.050.310)	66.930 (219.150)	5390.216 (71.199.108)	***
GDP_{It}	11.670 (0.589)	11.729 (0.580)	11.583 (0.594)	***
INR_{It}	3.241 (6.639)	1.741 (3.427)	5.490 (9.185)	***
Observations	22,110	5360	16,750	
No. of banks	3.139	782	2357	
No. of countries	55	33	22	

Notes: The table reports means and standard deviations (in brackets) of the variables used in the regression analyses by country income category. For the notation of the variables, see Table 2. The period covers the years 2010–2020. Differences between the means of the two country income categories that are significantly different from zero at the 1%, 5%, and 10% level are marked with ***, **, and * respectively and are based on Bonferroni, Scheffe and Sidak multiple comparison tests.

the two groups of countries. In fact, the mean of CSR performance is higher for high-income economies than middle-income economies with significance of 1 percent. In addition, in a comparison of Hofstede's six cultural dimensions across the country groups based on income, the means of individualism, long-term orientation, and individualism are higher in high-income countries. In contrast, middle-income countries have higher levels of UA, masculinity, and power distance than high-income countries.

We test several bank-level variables as control variables. Older and bigger banks are significantly larger in high-income countries than in middle-income countries. In addition, board size is larger in high-income economies than in middle-income economies. In contrast, levels of liquidity and leverage are higher at banks in middle-income

Table 8

Correlation coefficients among variables by country income category using as dependent variable ROA_{it}.

Cluster 1

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
(1) ROA_{it}	1																						
(2) CSR_{it}	0,275**	1																					
(3) UA_{it}	0,159**	0,022	1																				
(4) $INDI_{it}$	0,046	0,222**	−0,235**	1																			
(5) $MASCU_{it}$	−0,059	−0,063	0,043	0,078	1																		
(6) PD_{it}	0,173**	−0,177**	0,233**	−0,688**	0,037	1																	
(7) LTO_{it}	0,139**	−0,074	0,070	−0,018	−0,029	0,048	1																
(8) $INDU_{it}$	0,237**	0,160**	−0,202**	0,212**	0,095*	−0,331**	−0,498**	1															
(9) $CSR_{it}*UA_{it}$	−0,071	0,323**	0,950***	−0,171**	0,037	0,185**	0,055	−0,160**	1														
(10) $CSR_{it}*INDI_{it}$	−0,096*	0,382**	−0,231**	0,982**	0,061	−0,678**	−0,042	0,231**	−0,118**	1													
(11) $CSR_{it}*MASCU_{it}$	−0,003	0,203**	0,062	0,133**	0,961**	−0,001	−0,059	0,119**	0,134**	0,160**	1												
(12) $CSR_{it}*PD_{it}$	−0,098*	0,123**	0,262**	−0,634**	0,029	0,951**	0,033	−0,285**	0,304**	−0,580**	0,070	1											
(13) $CSR_{it}*LTO_{it}$	0,086*	0,171***	0,085*	0,021	−0,055	0,013	0,964**	−0,442**	0,142**	0,039	−0,019	0,073	1										
(14) $CSR_{it}*INDU_{it}$	0,288***	0,358**	−0,204**	0,257**	0,062	−0,353**	−0,478**	0,973**	−0,103*	0,308**	0,141**	−0,252**	−0,381**	1									
(15) BS_{it}	0,210**	0,037	0,041	0,064	−0,013	−0,063	0,191**	0,102*	0,041	0,072	0,009	−0,058	0,217**	0,098*	1								
(16) BA_{it}	0,057	0,306**	−0,082*	0,178**	−0,014	−0,263**	−0,170**	0,308**	0,014	0,220**	0,079	−0,177**	−0,096*	0,367**	0,066	1							
(17) LIQ_{it}	−0,173**	0,057	0,015	−0,102*	−0,183**	0,140**	−0,052	0,035	0,082*	−0,082*	−0,168**	0,145**	−0,033	0,051	−0,236**	−0,027	1						
(18) LEV_{it}	−0,075	−0,006	0,089*	−0,089*	−0,001	0,082*	0,023	−0,032	0,082*	−0,090*	0,005	0,083*	0,033	−0,035	0,077	0,023	−0,057	1					
(19) BOS_{it}	0,073	0,341**	0,065	0,316**	0,048	−0,266**	−0,077	0,311**	0,154***	0,351**	0,126**	−0,156**	0,009	0,353**	0,311**	0,340**	−0,080	−0,042	1				
(20) IFR_{it}	0,020	0,034	0,017	−0,061	0,052	0,042	−0,062	0,106**	0,027	−0,056	0,062	0,056	−0,058	0,116**	0,023	0,070	−0,016	0,004	0,046	1			
(21) ER_{it}	0,005	0,029	0,014	−0,071	0,052	0,047	−0,061	0,107**	0,023	−0,065	0,062	0,060	−0,058	0,116**	0,023	0,072	0,003	−0,002	0,041	0,031	1		
(22) GDP_{it}	−0,089*	0,061	−0,204**	0,341**	0,321**	−0,169**	0,203**	0,161**	−0,155**	0,342**	0,316**	−0,168**	0,202***	0,168**	0,206**	0,022	0,009	−0,034	0,099*	−0,046	−0,068	1	
(23) INR_{it}	−0,124**	−0,216**	0,054	−0,240**	0,013	0,207**	−0,106**	0,045	−0,015	−0,267**	−0,040	0,145**	−0,145**	−0,018	0,060	0,070	−0,009	−0,004	−0,005	0,334**	0,349**	−0,058	1

Cluster 2

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
(1) ROA_{it}	1																						
(2) CSR_{it}	0,206**	1																					
(3) UA_{it}	0,196**	−0,097	1																				
(4) $INDI_{it}$	0,025	0,053	−0,292**	1																			
(5) $MASCU_{it}$	0,109*	−0,120*	0,177**	0,150**	1																		
(6) PD_{it}	0,164**	0,021	0,392**	−0,604**	0,020	1																	
(7) LTO_{it}	0,272**	−0,079	0,156**	−0,279**	0,163**	0,228**	1																
(8) $INDU_{it}$	0,320**	0,071	−0,393**	0,430**	−0,163**	−0,475**	−0,420**	1															
(9) $CSR_{it}*UA_{it}$	0,156**	0,127*	0,974**	−0,279**	0,157**	0,398**	0,143**	−0,382**	1														
(10) $CSR_{it}*INDI_{it}$	0,064	0,251**	−0,302**	0,979**	0,120*	−0,576**	−0,295**	0,431**	−0,246**	1													
(11) $CSR_{it}*MASCU_{it}$	−0,084	0,078	0,167**	0,156**	0,978**	0,038	0,140**	−0,174**	0,192**	0,166**	1												
(12) $CSR_{it}*PD_{it}$	−0,124*	0,215**	0,381**	−0,595**	0,010	0,979**	0,221**	−0,460**	0,432**	−0,530**	0,066	1											
(13) $CSR_{it}*LTO_{it}$	0,224**	0,162**	0,141**	−0,277**	0,128***	0,238**	0,969**	−0,394**	0,183**	−0,245**	0,154**	0,278**	1										
(14) $CSR_{it}*INDU_{it}$	0,355**	0,276**	−0,413**	0,434**	−0,209**	−0,453**	−0,419**	0,975**	−0,358**	0,476***	−0,180**	−0,402**	−0,346**	1									
(15) BS_{it}	0,254**	0,176**	0,091	0,046	−0,016	0,225**	0,016	−0,123*	0,111*	0,088	0,026	0,272**	0,037	1									
(16) BA_{it}	−0,011	0,228**	−0,044	0,182**	−0,153**	−0,359**	−0,057	0,157**	0,006	0,228**	−0,097	−0,310**	0,008	0,204**	0,256**	1							
(17) LIQ_{it}	−0,203***	0,169**	0,135*	−0,172**	−0,220**	0,226**	−0,102	0,155**	0,170**	−0,129*	−0,191**	0,245**	−0,053	0,190**	−0,200**	−0,148**	1						

Table 8 (*continued*)

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
(18) LEV$_{it}$	0,160**	0,188**	0,175**	−0,282**	0,013	0,166**	0,107*	−0,275**	0,221**	−0,247**	0,060	0,213**	0,167**	−0,231**	0,311**	0,014	−0,119*	1					
(19) BOS$_{it}$	0,097	0,165**	−0,064	0,355**	−0,023	−0,358**	−0,044	0,243**	−0,022	0,375**	0,000	−0,313**	−0,007	0,254**	0,184**	0,351**	0,028	0,014	1				
(20) IFR$_{it}$	0,070	−0,032	−0,077	0,016	−0,038	0,030	−0,042	−0,071	−0,085	0,012	−0,035	0,023	−0,041	−0,074	−0,208**	−0,124*	0,083	−0,082	−0,032	1			
(21) ER$_{it}$	−0,054	0,007	0,232**	−0,355**	−0,052	0,154**	0,273**	−0,150**	0,230**	−0,334**	−0,039	0,152**	0,279**	−0,152**	−0,151**	−0,087	0,081	−0,091	−0,085	0,137**	1		
(22) GDP$_{it}$	0,067	0,160**	−0,130*	0,456**	0,365**	−0,219**	0,048	0,299**	−0,088	0,467**	0,390**	−0,181**	0,091	0,313**	0,386**	0,091	−0,009	0,088	0,156**	−0,023	0,055	1	
(23) INR$_{it}$	−0,151**	−0,183**	−0,033	−0,198**	0,006	0,235**	0,009	−0,089	−0,068	−0,226**	−0,021	0,194**	−0,024	−0,133*	0,063	−0,084	−0,031	−0,033	−0,187**	0,004	0,046	−0,123*	1

Cluster 3

Variable	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)
(1) ROA$_{it}$	1																						
(2) CSR$_{it}$	0,373**	1																					
(3) UA$_{it}$	−0,036	0,220**	1																				
(4) INDI$_{it}$	0,199**	0,142*	−0,077	1																			
(5) MASCU$_{it}$	0,186**	0,080	−0,425**	0,034	1																		
(6) PD$_{it}$	−0,011	−0,002	−0,134*	−0,345**	−0,093	1																	
(7) LTO$_{it}$	−0,002	−0,267**	−0,018	−0,027	−0,462**	0,407**	1																
(8) INDU$_{it}$	0,131*	0,201**	0,033	−0,155*	0,647**	−0,250**	−0,667**	1															
(9) CSR$_{it}$*UA$_{it}$	0,134*	0,590**	0,912**	−0,029	−0,325**	−0,115	−0,090	0,086	1														
(10) CSR$_{it}$*INDI$_{it}$	−0,060	0,393**	−0,026	0,961**	0,076	−0,355**	−0,113	−0,082	0,117	1													
(11) CSR$_{it}$*MASCU$_{it}$	−0,301**	0,495**	−0,257**	0,114	0,899**	−0,106	−0,551**	0,669**	−0,022	0,254**	1												
(12) CSR$_{it}$*PD$_{it}$	−0,177**	0,528**	0,017	−0,232**	−0,053	0,844**	0,196**	−0,097	0,226**	−0,108	0,157*	1											
(13) CSR$_{it}$*LTO$_{it}$	0,062	−0,020	0,064	−0,011	−0,510**	0,452**	0,957**	−0,633**	0,079	−0,037	−0,496**	0,372**	1										
(14) CSR$_{it}$*INDU$_{it}$	0,202**	0,383**	0,063	−0,108	0,647**	−0,244**	−0,664**	0,975**	0,187**	0,007	0,752**	0,001	−0,598**	1									
(15) BS$_{it}$	0,203**	−0,207**	0,472**	−0,339**	−0,137*	0,180**	0,056	0,174**	0,306**	−0,364**	−0,195**	0,038	0,021	0,125	1								
(16) BA$_{it}$	0,207**	0,412**	−0,147*	0,227**	0,392**	−0,197**	−0,373**	0,480**	0,027	0,294**	0,549**	0,045	−0,310**	0,557**	−0,238**	1							
(17) 3LIQ$_{it}$	0,091	−0,074	−0,318**	0,161*	−0,045	−0,061	0,062	−0,143*	−0,289**	0,108	−0,078	−0,091	0,035	−0,150*	−0,327**	0,253**	1						
(18) LEV$_{it}$	−0,032	−0,037	0,057	0,101	−0,027	−0,023	0,027	0,059	0,071	0,030	−0,035	−0,031	0,025	0,045	0,002	0,037	−0,045	1					
(19) BOS$_{it}$	−0,034	0,402**	0,299**	0,050	0,274**	0,137*	−0,263**	0,355**	0,396**	0,147*	0,409**	0,328**	−0,161*	0,406**	0,409**	0,335**	−0,273**	−0,045	1				
(20) IFR$_{it}$	0,055	0,068	0,024	−0,098	0,121	0,029	−0,075	0,145*	0,047	−0,082	0,144*	0,064	−0,069	0,164*	0,049	0,115	−0,036	0,000	0,082	1			
(21) ER$_{it}$	0,025	0,065	0,018	−0,113	0,122	0,030	−0,072	0,148*	0,040	−0,096	0,144*	0,063	−0,067	0,165**	0,053	0,120	0,002	−0,007	0,078	0,028	1		
(22) GDP$_{it}$	0,101	−0,109	−0,324**	0,036	0,294**	0,081	0,355**	0,009	−0,276**	0,017	0,170**	−0,025	0,295**	−0,005	−0,095	−0,091	0,058	−0,084	−0,020	−0,063	−0,096	1	
(23) INR$_{it}$	−0,093	−0,135*	0,099	−0,111	−0,020	−0,076	−0,057	0,131*	0,023	−0,164*	−0,078	−0,120	−0,082	0,080	0,157*	0,194**	−0,011	−0,026	0,176**	0,366**	0,382**	0,023	1

Notes: The table reports correlation coefficients used in the regression analyses by country income category using as dependent variable ROA$_{it}$. For the notation of the variables, see Table 2. The period covers the years 2010–2020. 1%, 5%, and 10% level are marked with ***, **, and * respectively.

Table 9

Regression results by country income category using ROA$_{it}$ as dependent variable.

Variable (s)	Cluster 1		Cluster 2		Cluster 3	
ROA$_{it-1}$	0.135***	(0.003)	0.109***	(0.020)	0.255**	(0.038)
CSR$_{it}$	0.020***	(0.007)	0.067*	(0.007)	0.013***	(0.011)
UA$_{It}$	0.005**	(0.002)	0.016**	(0.008)	0.005	(0.003)
INDI$_{It}$	0.003**	(0.002)	0.015	(0.005)	0.023*	(0.005)
MASCU$_{It}$	0.006	(0.002)	−0.003**	(0.004)	0.015**	(0.006)
PD$_{It}$	0.001**	(0.003)	0.009***	(0.007)	0.009	(0.005)
LTO$_{It}$	0.004***	(0.002)	0.008***	(0.005)	0.000	(0.002)
INDU$_{It}$	0.002*	(0.002)	0.015**	(0.007)	0.006***	(0.004)
CSR$_{it}$*UA$_{It}$	0.000	(0.000)	0.000**	(0.000)	0.000**	(0.000)
CSR$_{it}$*INDI$_{It}$	−0.000**	(0.000)	0.000	(0.000)	0.000	(0.000)
CSR$_{it}$*MASCU$_{It}$	0.000	(0.000)	0.000	(0.000)	−0.000**	(0.000)
CSR$_{it}$*PD$_{It}$	−0.000**	(0.000)	−0.000**	(0.000)	−0.000**	(0.000)
CSR$_{it}$*LTO$_{It}$	0.000***	(0.000)	0.000***	(0.000)	0.000	(0.000)
CSR$_{it}$*INDU$_{It}$	0.000***	(0.000)	0.000**	(0.000)	0.000***	(0.000)
BS$_{it}$	0.024*	(0.005)	0.049*	(0.009)	0.029*	(0.009)
BA$_{it}$	0.000	(0.000)	0.000	(0.000)	0.000**	(0.000)
LIQ$_{it}$	−0.008*	0.003)	−0.001**	(0.005)	0.016	(0.005)
LEV$_{it}$	−0.001	(0.002)	0.021*	(0.007)	0.001	(0.001)
BOS$_{it}$	0.001	(0.001)	0.004	(0.002)	−0.003	(0.002)
IFR$_{It}$	0.000	(0.000)	0.004	(0.003)	0.000	(0.000)
ER$_{It}$	0.000	(0.000)	0.000	(0.000)	0.000	(0.000)
GDP$_{It}$	0.019**	(0.007)	0.059	(0.002)	−0.013	(0.011)
INR$_{It}$	−0.001***	(0.001)	−0.001**	(0.001)	0.001	(0.001)
Constant	−0.953**	(0.390)	−3.856*	(1.057)	−0.398**	(0.559)
Wald test (p-value)	0.000		0.000		0.000	
Sargan test (p-value)	0.169		0.138		0.172	
AR1 test (p-value)	0.005		0.003		0.005	
AR2 test (p-value)	0.451		0.493		0.501	
Observations	22,110		5360		16,750	
No. of firms	3139		782		2357	
No. of countries	55		33		22	

Notes: The table reports results from GMM estimations of the effects independent and control variables on bank performance measured by ROA$_{it}$. For the notation of the variables see Table 2. Variables in italics are instrumented through the GMM procedure following Arellano and Bover (1995). Robust standard errors are in brackets. Wald test provides for joint significance of all the regression coefficients except the constant. Sargan test provides a test of over-identifying restrictions. AR1 and AR2 are Arellano-Bond tests for serial correlation in the first-differenced residuals. *, **, *** are coefficients that are significantly different from zero at the 10%, 5% and 1% levels, respectively.

economies.

Finally, we include macroeconomic factors as other control variables. The rate of inflation and exchange rates are higher in middle-income countries than high-income countries. Differences between the two groups are very large in terms of GDP, which is a direct indicator of the income level. In fact, the log of GDP in the income level of the countries is also increasing, as expected. Moreover, interest rates are higher in middle-income countries than in high-income countries.

4.2. Empirical results

In the first step, we carry out bivariate tests in order to identify some basic relationships in our data. Panels A to C of Table 8 present a correlation matrix of all the regressors by country income group using ROA$_{it}$ as the dependent variable. The correlations among the variables are relatively low. The results are mixed among clusters. Table 8 shows that CSR$_{it}$ has a relatively high and positive correlation with ROA$_{it}$ in all clusters. This indicates that banks with higher CSR performance have better asset use efficiency. The correlations between bank performance and social values in Table 8 illustrate that ROA$_{it}$ is positively correlated with UA$_{It}$, PD$_{It}$, and LTO$_{It}$ in Clusters 1 and 2, INDI$_{It}$ in Clusters 1 and 3, MASCU$_{It}$ in Clusters 2 and 3, and INDU$_{It}$ in all clusters. This means that banks in countries with higher UA, individualism, masculinity, power distance, long-term orientation, and indulgence have higher bank performance. Furthermore, Table 8 shows mixed results about the moderating role of social values in the relationship between CSR and bank performance. In particular, ROA$_{it}$ is positively correlated with CSR$_{it}$ * UA$_{It}$ in Clusters 2 and 3, CSR$_{it}$ * LTO$_{It}$ in Clusters 1 and 2, and CSR$_{it}$ * INDU$_{It}$ in all clusters. But ROA$_{it}$ is negatively correlated with CSR$_{it}$ * INDI$_{It}$ in Cluster 1, CSR$_{it}$ * MASCU$_{It}$ in Cluster 3, and CSR$_{it}$ * PD$_{It}$ in all

clusters. Our results indicate that stakeholders in societies with high UA, a long-term orientation, and indulgence are inclined to provide more incentives to strengthen the relationship between CSR and bank performance. In contrast, banks in more individualistic and masculine societies pay less attention to CSR practices, which have a negative influence on the relationship between CSR and bank performance.

These preliminary results from analyzing basic data relationships are confirmed by our regression analyses, as follows. We carried out similar bivariate tests for ROE$_{it}$, PM$_{it}$, TOBINQ$_{it}$, DY$_{it}$, and ASR$_{it}$. In order to conserve space, the corresponding results are in the Appendix.

In the second step, we conduct our regression analyses of all the measures of bank performance. Tables 9–14 report the results on the relationship between CSR and firm performance using different measures of firm performance and illustrate the moderating role of social values on the relationship between CSR and bank performance. In all these tables, the Wald test indicates the goodness of fit for the estimated models, and the Sargan test shows no evidence of overidentification restrictions. This suggests that the dynamic panel models are adequately specified.

As mentioned above, the estimates of the AR1 coefficients on firm performance show that the series for firm performance are highly persistent, meaning that the lagged levels of variables provide weak instruments for the differences in the first-difference GMM model. Based on the results in Tables 9–14, the GMM estimator is a more suitable parameter estimate than the first-difference GMM method. In addition, the null hypothesis of the AR2 test shows that the error terms are serially uncorrelated. As mentioned above, failure to reject the null hypothesis could supply evidence that valid orthogonality conditions are used, and the instruments are valid. Tables 9–14 indicate that the results fail to reject the null hypothesis and maintain that the instruments are valid,

Table 10
Regression results by country income category using ROE$_{it}$ as dependent variable.

Variable (s)	Cluster 1		Cluster 2		Cluster 3	
ROE$_{it-1}$	0.159**	(0.031)	0.200**	(0.195)	0.417**	(0.357)
CSR$_{it}$	0.033***	(0.020)	0.089**	(0.055)	0.011**	(0.027)
UA$_{It}$	0.010	(0.006)	0.014	(0.025)	−0.009	(0.007)
INDI$_{It}$	−0.002	(0.007)	−0.002	(0.016)	−0.004	(0.012)
MASCU$_{It}$	0.008	(0.007)	−0.020	(0.012)	0.020**	(0.016)
PD$_{It}$	0.001***	(0.009)	0.030	(0.022)	0.001**	(0.013)
LTO$_{It}$	0.002**	(0.005)	0.033**	(0.016)	0.007**	(0.005)
INDU$_{It}$	0.002**	(0.007)	0.016**	(0.020)	0.016	(0.009)
CSR$_{it}$*UA$_{It}$	0.000	(0.000)	0.000	(0.000)	0.000**	(0.000)
CSR$_{it}$*INDI$_{It}$	−0.000	(0.000)	−0.000	(0.000)	−0.000*	(0.007)
CSR$_{it}$*MASCU$_{It}$	0.000	(0.000)	0.000	(0.000)	−0.000**	(0.000)
CSR$_{it}$*PD$_{It}$	−0.000	(0.000)	−0.001	(0.000)	−0.000**	(0.000)
CSR$_{it}$*LTO$_{It}$	0.000**	(0.000)	0.001**	(0.000)	−0.000	(0.000)
CSR$_{it}$*INDU$_{It}$	0.000**	(0.000)	0.000**	(0.000)	0.000	(0.000)
BS$_{it}$	0.045**	(0.016)	0.099*	(0.028)	0.024**	(0.014)
BA$_{it}$	−0.002	(0.000)	0.003*	(0.001)	0.001**	(0.011)
LIQ$_{it}$	−0.016	(0.010)	−0.044	(0.015)	0.004	(0.013)
LEV$_{it}$	0.026***	(0.005)	0.057**	(0.020)	0.014**	(0.003)
BOS$_{it}$	0.008**	(0.004)	0.021	(0.006)	−0.005	(0.007)
IFR$_{It}$	0.000	(0.000)	0.005	(0.010)	0.000***	(0.007)
ER$_{It}$	0.000	(0.000)	0.000	(0.000)	−0.000	(0.000)
GDP$_{It}$	0.046	(0.020)	0.148	(0.036)	−0.095	(0.027)
INR$_{It}$	−0.003	(0.002)	−0.005**	(0.004)	0.002	(0.001)
Constant	−1.458**	(1.177)	−5.144**	(3.256)	1.700**	(1.409)
Wald test (p-value)	0.000		0.000		0.000	
Sargan test (p-value)	0.089		0.710		0.680	
AR1 test (p-value)	0.005		0.003		0.002	
AR2 test (p-value)	0.951		0.963		0.911	
Observations	22,110		5360		16,750	
No. of firms	3139		782		2357	
No. of countries	55		33		22	

Notes: The table reports results from GMM estimations of the effects independent and control variables on bank performance measured by ROE$_{it}$. For the notation of the variables see Table 2. Variables in italics are instrumented through the GMM procedure following Arellano and Bover (1995). Robust standard errors are in brackets. Wald test provides for joint significance of all the regression coefficients except the constant. Sargan test provides a test of over-identifying restrictions. AR1 and AR2 are Arellano-Bond tests for serial correlation in the first-differenced residuals. *, **, *** are coefficients that are significantly different from zero at the 10%, 5% and 1% levels, respectively.

and the errors are not serially correlated.

The results in Tables 9–11 show that CSR_{it} has a positive impact on FP_{it} in all clusters using all accounting measures of performance (ROA_{it}, ROE_{it}, and PM_{it}). However, Tables 12–14 have mixed results regarding the relationship between CSR performance and market-based measures of bank performance. Specifically, CSR performance is positively associated with $TOBINQ_{it}$ in Cluster 3, DY_{it} in Clusters 1 and 3, and ASR_{it} in Clusters 1 and 2. Our results confirm H1 and, therefore, support the view of revisionists (Flammer, 2015; Martins & Lopes, 2016; Oh & Park, 2015; Porter & Kramer, 2011) that sustainability is an important contributor to investment returns because it sends a positive signal to the financial market, which may enhance reputation, increase market returns, decrease financial risk, and gain a competitive advantage. Therefore, the results suggest that higher levels of CSR performance lead to better bank performance.

In addition, Tables 9–14 analyze the impact of social values and the joint effects of different dimensions of national culture and CSR on bank performance. Consistent with the results by Boubakri et al. (2017), the coefficient of UA_{It}, which analyzes the first dimension of cultural value, namely UA, is highly and positively significant with ROA_{it}, PM_{it}, and $TOBINQ_{it}$ in Clusters 1 and 2 and DY_{it} in all clusters. This means that banks in countries with high uncertainty perform better because stakeholders in a country with high UA have lower tolerance for uncertainty (Shin et al., 2022), and managers are less willing to make individual and risky decisions, which may have a positive impact on financial performance (Boubakri et al., 2017); thus we confirm H2a. Furthermore, Tables 9–14, which examine the joint effect of UA and CSR on bank performance, show that $UA_{It} * CSR_{it}$ is positive and significant in relation to ROA_{it} and PM_{it} in Clusters 2 and 3, ROE_{it} in Cluster 3, $TOBINQ_{it}$ in Clusters 1 and 2, and DY_{it} in all clusters. This evidence supports H2b,

suggesting that banks based in countries with high power distance, where people accept inequality and are more tolerant of this inequality in power distance, are significantly positively associated with higher CSR performance, which leads to higher operational performance.

Examining the second dimension of national culture, namely individualism, Tables 9–14 list that $INDI_{It}$ is positively associated with ROA_{it} in Clusters 1 and 3, PM_{it} in Cluster 3, and $TOBINQ_{it}$ and DY_{it} in Clusters 1 and 2. Therefore, inconsistent with Gerecke and House (2013), Martins and Lopes (2016), Boubakri et al. (2017), Shi and Veenstra (2021), and Shin et al. (2022), our results indicate that bank performance increases in individualistic societies because banks there invest more in long-term (risky) than in short-term (safe) assets in order to increase their financial performance in the short term (Shao et al., 2013). Furthermore, we support the findings by Matten and Moon (2008), who suggest that in individualistic countries, stakeholders are mainly driven by economic gain, which leads to higher financial performance, whereas collectivist societies focus on social factors (Handley & Angst, 2015). This evidence supports H3a. In addition, with respect to the joint effect of individualism and CSR on bank performance, and consistent with Shi and Veenstra (2021), Tables 9–14 show that the significantly negative effect of $INDI_{it} * CSR_{it}$ on ROA_{it} and ASR_{it} in Cluster 1, ROE_{it} and PM_{it} in Cluster 3, $TOBINQ_{it}$ in all clusters, and DY_{it} in Clusters 1 and 2, suggesting that an increase in CSR performance in societies that are characterized as individualistic has a negative impact on bank performance. Therefore, H3b is confirmed.

Examining the third dimension of national culture, namely masculinity, the results in Tables 9–14 show that $MASCU_{It}$ has a positive relationship with ROA_{it} in Clusters 2 and 3, ROE_{it} in Cluster 3, and PM_{it}, $TOBINQ_{it}$, and DY_{it} in all clusters. This means that banks from countries with higher masculinity have higher performance. Our results confirm

Table 11
Regression results by country income category using PM$_{it}$ as dependent variable.

Variable (s)	Cluster 1		Cluster 2		Cluster 3	
PM$_{it-1}$	0.182**	(0.316)	0.152**	(0.619)	0.201**	(0.491)
CSR$_{it}$	0.024**	(0.017)	0.017**	(0.038)	0.182***	(0.027)
UA$_{It}$	0.017*	(0.005)	0.095*	(0.017)	−0.039	(0.007)
INDI$_{It}$	−0.040	(0.006)	−0.029	(0.011)	0.055***	(0.012)
MASCU$_{It}$	0.018*	(0.006)	0.012**	(0.009)	0.092***	(0.017)
PD$_{It}$	0.046*	(0.008)	0.099*	(0.015)	0.049***	(0.013)
LTO$_{It}$	0.001**	(0.004)	0.023**	(0.011)	0.021	(0.005)
INDU$_{It}$	0.003**	(0.006)	0.026***	(0.014)	0.054***	(0.009)
CSR$_{it}$*UA$_{It}$	0.000	(0.000)	0.002*	(0.000)	0.001***	(0.000)
CSR$_{it}$*INDI$_{It}$	0.001	(0.000)	0.000	(0.000)	−0.001***	(0.000)
CSR$_{it}$*MASCU$_{It}$	0.000	(0.000)	−0.000**	(0.000)	−0.002***	(0.000)
CSR$_{it}$*PD$_{It}$	0.001	(0.000)	−0.002*	(0.000)	−0.001***	(0.000)
CSR$_{it}$*LTO$_{It}$	−0.000	(0.000)	0.000*	(0.000)	0.000	(0.000)
CSR$_{it}$*INDU$_{It}$	0.000**	(0.000)	0.000*	(0.000)	0.001***	(0.000)
BS$_{it}$	−0.033	(0.013)	0.021	(0.020)	−0.084	(0.024)
BA$_{it}$	0.000**	(0.000)	0.000**	(0.000)	0.003***	(0.001)
LIQ$_{it}$	0.004	(0.008)	−0.023**	(0.010)	−0.029**	(0.013)
LEV$_{it}$	0.008	(0.004)	0.031**	(0.014)	−0.003	(0.003)
BOS$_{it}$	0.008**	(0.003)	0.023*	(0.004)	−0.013	(0.004)
IFR$_{It}$	0.000	(0.000)	−0.009	(0.007)	−0.000	(0.000)
ER$_{It}$	0.000	(0.000)	0.000	(0.000)	−0.000	(0.000)
GDP$_{It}$	0.048	(0.016)	−0.013	(0.025)	−0.012	(0.027)
INR$_{It}$	−0.001	(0.001)	−0.002**	(0.003)	0.003	(0.001)
Constant	1.724***	(0.975)	1.283**	(2.259)	10.300***	(1.426)
Wald test (p-value)	0.000		0.000		0.000	
Sargan test (p-value)	0.319		0.371		0.281	
AR1 test (p-value)	0.001		0.003		0.003	
AR2 test (p-value)	0.918		0.931		0.971	
Observations	22,110		5360		16,750	
No. of firms	3139		782		2357	
No. of countries	55		33		22	

Notes: The table reports results from GMM estimations of the effects independent and control variables on bank performance measured by PM$_{it}$. For the notation of the variables see Table 2. Variables in italics are instrumented through the GMM procedure following Arellano and Bover (1995). Robust standard errors are in brackets. Wald test provides for joint significance of all the regression coefficients except the constant. Sargan test provides a test of over-identifying restrictions. AR1 and AR2 are Arellano-Bond tests for serial correlation in the first-differenced residuals. *, **, *** are coefficients that are significantly different from zero at the 10%, 5% and 1% levels, respectively.

that banks in more masculine societies tend to consider maximizing earnings a social norm, whereas banks in more feminine societies emphasize social harmony and other intangible values (Hofstede et al., 2010; Vitolla et al., 2021); thus we confirm H4a. In addition, with regard to the joint effect of masculinity and CSR on bank performance, Tables 9–14 report a negative and significant association between $MASCU_{It} * CSR_{it}$ on ROA_{it} and ROE_{it} in Cluster 3, PM_{it} in Clusters 2 and 3, and $TOBINQ_{it}$ and DY_{it} in all clusters, showing that the impact of CSR on bank performance is more prominent in more feminine societies. Therefore, H4b is confirmed.

Examining the fourth dimension of national culture, namely power distance, Tables 9–14 show the significant positive effect of PD_{It} on ROA_{it} and DY_{it} in Clusters 1 and 2, ROE_{it} in Clusters 1 and 3, and PM_{it} in all clusters. Consistent with Boubakri et al. (2017), our findings indicate that individuals in societies with high power distance tend to accept a hierarchical order and inequality without justification, which may positively influence bank performance. Thus H5a is confirmed. In addition, concerning the joint effect of power distance and CSR on bank performance, Tables 9–14 illustrate that the interaction term $PD_{It} * CSR_{it}$ has a negative and significant relationship with ROA_{it} and DY_{it} in all clusters, ROE_{it} and $TOBINQ_{it}$ in Cluster 3, and PM_{it} in Clusters 2 and 3, suggesting that an increase in CSR performance in countries with high power distance has a negative impact on bank performance. Therefore, H5b is confirmed.

Examining the fifth dimension of national culture, namely, long-term orientation, Tables 9–14 show that the coefficient of LTO_{It} is highly and positively significant with ROA_{it}, PM_{it}, and $TOBINQ_{it}$ in Clusters 1 and 2, ROE_{it} in all clusters, and DY_{it} in Clusters 1 and 3. The findings provide strong support for H6a, that having a long-term orientation is beneficial for banks by increasing their financial performance because a society

characterized by a high degree of long-term orientation is inclined to display higher persistence and frugality in the future (Gerecke & House, 2013; Martins & Lopes, 2016). In addition, with regard to the joint effect of a long-term orientation and CSR on bank performance, Tables 9–14 indicate a significantly positive effect of $LTO_{It} * CSR_{it}$ on ROA_{it}, ROE_{it}, and $TOBINQ_{it}$ in Clusters 1 and 2, PM_{it} in Cluster 2, and DY_{it} in Clusters 1 and 3. Our findings suggest that, in societies with a long-term orientation, banks recognize the crucial role of CSR in securing future value, which in turn enhances bank performance. Thus, H6b is confirmed.

Examining the sixth dimension of national culture, namely indulgence, Tables 9–14 show that $INDU_{It}$ is positively associated with ROA_{it} and PM_{it} in all clusters, ROE_{it} and $TOBINQ_{it}$ in Clusters 1 and 2, and DY_{it} in Clusters 1 and 3. Therefore, consistent with H7a, our results suggest that, in indulgent societies, banks there enhance their performance because they are characterized by positive boldness, higher optimism, no restricted ethic, moveable society, and higher relaxation, which may have a positive impact on bank performance. In addition, with respect to the joint effect of indulgence and CSR on bank performance, Tables 9–14 illustrate that the interaction term $INDU_{It} * CSR_{it}$ has a positive and significant relationship with ROA_{it}, PM_{it}, and $TOBINQ_{it}$ in all clusters, ROE_{it} in Clusters 1 and 2, and DY_{it} in Cluster 1, suggesting that an increase in CSR performance in more indulgent societies has a positive impact on bank performance. Therefore, H7b is confirmed.

Concerning the results on the association between the control variables and bank performance, Tables 9–14 show that most of the control variables are consistent with previous literature (e.g., Belkhir, 2009; Dietrich & Wanzenried, 2014; Ebiringa & Ezeji, 2012; Gado, 2015; Maigua & Mouni, 2016; Molyneux & Thornton, 1992; Osamwonyi & Michael, 2014; Pacini et al., 2017; Pathan & Faff, 2013; Pervan et al., 2015; Phan et al., 2020; Prasetyantoko & Parmono, 2012; Ramzan et al.,

Table 12
Regression results by country income category using TOBINQ$_{it}$ as dependent variable.

Variable (s)	Cluster 1		Cluster 2		Cluster 3	
TOBINQ$_{it-1}$	3.518**	(2.759)	4.882**	(4.185)	2.418**	(3.330)
CSR$_{it}$	−33.736	(30.081)	184.624	(78.945)	0.365*	(0.220)
UA$_{It}$	8.503**	(8.336)	142.011***	(36.029)	0.250	(0.054)
INDI$_{It}$	15.492**	(10.394)	33.290**	(23.467)	−0.519	(0.098)
MASCU$_{It}$	55.632**	(10.491)	75.082***	(17.926)	0.485***	(0.136)
PD$_{It}$	−18.925	(14.026)	14.756	(31.684)	−0.446	(0.109)
LTO$_{It}$	16.122**	(7.252)	24.123**	(22.457)	−0.036	(0.043)
INDU$_{It}$	30.482***	(10.454)	142.917***	(29.206)	−0.341	(0.074)
CSR$_{it}$*UA$_{It}$	0.120**	(0.144)	2.387***	(0.611)	−0.004	(0.001)
CSR$_{it}$*INDI$_{It}$	−0.210**	(0.180)	−0.537**	(0.389)	−0.009***	(0.002)
CSR$_{it}$*MASCU$_{It}$	−0.889***	(0.175)	−1.232***	(0.298)	−0.009***	(0.003)
CSR$_{it}$*PD$_{It}$	0.290	(0.246)	−0.243	(0.565)	−0.008***	(0.002)
CSR$_{it}$*LTO$_{It}$	0.263**	(0.123)	0.414**	(0.379)	0.001	(0.001)
CSR$_{it}$*INDU$_{It}$	0.464***	(0.179)	2.316***	(0.507)	0.006***	(0.001)
BS$_{it}$	99.148***	(23.862)	69.991*	(40.966)	1.188***	(0.198)
BA$_{it}$	0.190	(0.603)	3.007	(1.043)	0.023***	(0.006)
LIQ$_{it}$	−74.857***	(14.432)	−111.413***	(21.080)	0.039	(0.110)
LEV$_{it}$	−4.130	(7.581)	86.786	(29.488)	−0.031	(0.025)
BOS$_{it}$	0.937	(5.258)	23.133**	(8.117)	−0.041	(0.034)
IFR$_{It}$	0.000	(0.000)	24.194*	(13.908)	−0.000	(0.000)
ER$_{It}$	0.000	(0.000)	0.432***	(0.132)	−0.000	(0.000)
GDP$_{It}$	65.241	(29.441)	4.680	(52.479)	−0.009**	(0.223)
INR$_{It}$	−3.447	(2.450)	−1.640	(5.567)	−0.025**	(0.011)
Constant	2323.243**	(1762.759)	−10526.258**	(4712.495)	32.350***	(11.690)
Wald test (p-value)	0.000		0.000		0.000	
Sargan test (p-value)	0.315		0.381		0.341	
AR1 test (p-value)	0.009		0.007		0.003	
AR2 test (p-value)	0.618		0.418		0.517	
Observations	22,110		5360		16,750	
No. of firms	3139		782		2357	
No. of countries	55		33		22	

Notes: The table reports results from GMM estimations of the effects independent and control variables on bank performance measured by TOBINQ$_{it}$. For the notation of the variables see Table 2. Variables in italics are instrumented through the GMM procedure following Arellano and Bover (1995). Robust standard errors are in brackets. Wald test provides for joint significance of all the regression coefficients except the constant. Sargan test provides a test of over-identifying restrictions. AR1 and AR2 are Arellano-Bond tests for serial correlation in the first-differenced residuals. *, **, *** are coefficients that are significantly different from zero at the 10%, 5% and 1% levels, respectively.

2021; Tan & Floros, 2012; Tomar & Bino, 2012; Zulfiqar & Din, 2015). Our results confirm that higher bank size, bank age, leverage, board size, inflation, and exchange rates lead to higher bank performance. In contrast, higher liquidity, GDP growth, and interest rates are associated with lower bank performance.

In sum, our GMM estimation show that the relationship between CSR_{it} and BP_{it} in all clusters is robustly positive, using different measures of firm performance (accounting based and market based). Along the same lines, the coefficients of the moderating role of SV_{It} on the CSR_{it} and FP_{it} relationship in all clusters are robust and highly significant, using accounting- and market-based measures of bank performance.

5. Conclusions and discussion

Bank performance greatly varies worldwide because banks have to deal with different tax policies, educational conditions, and macroeconomic environments. Another determinant that differentiates bank performance around the world is social values. Therefore, employing the extended differenced GMM estimator by Arellano and Bond (1991) and Blundell and Bond (1998) with a large cross-country data set of banks across 55 countries over the period 2010 to 2020, this paper examines the impact of CSR performance and social values on bank performance. Furthermore, we illustrate that social values moderate the relationship between CSR and bank performance. We find significant differences in bank performance (measured with accounting- and market-based proxies) and in the effects of SCR performance and social values on bank performance between banks from middle- and high-income countries. Similarly, we observe that the joint effect of social values and CSR performance on bank performance differs between country income groups in terms of significance, sign, and coefficients.

Specifically, based on the legitimacy and stakeholder theories, we support the perspective of revisionists, who believe that CSR enhances bank performance. Specifically, consistent with the findings by Flammer (2015), Oh and Park (2015), and Martins and Lopes (2016), our results reveal a strongly positive relationship between CSR and bank performance. This means that, based on the arguments of revisionists, higher CSR performance may lead to higher competitiveness, bank reputation, shareholder value, market returns, and return on investment and lower financing costs and financial risks, leading to higher bank performance (Blasi et al., 2018; Broadstock et al., 2021; Hussain et al., 2018; Maqbool & Zameer, 2018). In addition, examining the relationship between social values, which is measured by the six dimensions of national culture by Hofstede (2001), and bank performance, we add to previous literature (e.g., Gill et al., 2011; Halkos & Tzeremes, 2011; Umer, 2014; Wahjudi et al., 2016; Zheng, 2012), finding that banks in countries with higher levels on a dimension of national culture have higher financial performance. Finally, with respect to the joint effects of social values on the relationship between CSR and bank performance, our empirical evidence supports the findings by Shi and Veenstra (2021), because it shows that an increase in CSR performance in societies that are less individualistic has a positive impact on bank performance. In addition, inconsistent with Shin et al. (2022), we find that, in more feminine societies, banks enhance their CSR performance in order to increase financial performance. In the same vein, our results are the opposite of those by Shi and Veenstra (2021) and Shin et al. (2022), because we find that banks in countries with higher indulgence, UA, and a long-term orientation and less power distance achieve higher financial performance.

Table 13
Regression results by country income category using DY_{it} as dependent variable.

Variable (s)	Cluster 1		Cluster 2		Cluster 3	
DY_{it-1}	0.539**	(0.035)	0.158**	(0.055)	0.357**	(0.063)
CSR_{it}	0.118**	(0.114)	−0.352	(0.242)	0.449**	(0.322)
UA_{It}	0.048**	(0.032)	0.017**	(0.110)	0.054**	(0.079)
$INDI_{It}$	0.032**	(0.039)	0.124*	(0.072)	−0.102	(0.144)
$MASCU_{It}$	0.087**	(0.040)	0.046**	(0.055)	0.151**	(0.198)
PD_{It}	0.096*	(0.053)	0.065**	(0.097)	−0.277	(0.159)
LTO_{It}	0.016**	(0.027)	−0.094	(0.069)	0.069**	(0.063)
$INDU_{It}$	0.020**	(0.040)	−0.129	(0.089)	0.113**	(0.109)
$CSR_{it}*UA_{It}$	0.001*	(0.001)	0.000**	(0.002)	0.001**	(0.001)
$CSR_{it}*INDI_{It}$	−0.001**	(0.001)	−0.002*	(0.001)	0.002	(0.003)
$CSR_{it}*MASCU_{It}$	−0.002**	(0.001)	−0.001**	(0.001)	−0.003**	(0.004)
$CSR_{it}*PD_{It}$	−0.002*	(0.001)	−0.001**	(0.002)	−0.005*	(0.003)
$CSR_{it}*LTO_{It}$	0.000**	(0.000)	0.001	(0.001)	0.001**	(0.001)
$CSR_{it}*INDU_{It}$	0.000**	(0.001)	0.002	(0.002)	0.002	(0.002)
BS_{it}	0.206	(0.090)	0.582	(0.125)	0.210	(0.289)
BA_{it}	0.004***	(0.002)	−0.008	(0.003)	0.002**	(0.009)
LIQ_{it}	−0.034	(0.055)	−0.082	(0.065)	−0.072	(0.161)
LEV_{it}	−0.008	(0.029)	−0.252	(0.090)	0.006	(0.036)
BOS_{it}	−0.028	(0.020)	0.022	(0.025)	−0.058	(0.050)
IFR_{It}	−0.000	(0.000)	−0.060	(0.043)	−0.000	(0.000)
ER_{It}	−0.000	(0.000)	0.001**	(0.000)	−0.000	(0.000)
GDP_{It}	−0.232**	(0.111)	−0.362**	(0.161)	−0.086	(0.326)
INR_{It}	0.010	(0.009)	−0.025	(0.017)	0.022	(0.017)
Constant	7.228**	(6.662)	19.150**	(14.423)	23.560**	(17.064)
Wald test (p-value)	0.000		0.000		0.000	
Sargan test (p-value)	0.164		0.188		0.175	
AR1 test (p-value)	0.005		0.004		0.005	
AR2 test (p-value)	0.916		0.944		0.951	
Observations	22,110		5360		16,750	
No. of firms	3139		782		2357	
No. of countries	55		33		22	

Notes: The table reports results from GMM estimations of the effects independent and control variables on bank performance measured by DY_{it}. For the notation of the variables see Table 2. Variables in italics are instrumented through the GMM procedure following Arellano and Bover (1995). Robust standard errors are in brackets. Wald test provides for joint significance of all the regression coefficients except the constant. Sargan test provides a test of over-identifying restrictions. AR1 and AR2 are Arellano-Bond tests for serial correlation in the first-differenced residuals. *, **, *** are coefficients that are significantly different from zero at the 10%, 5% and 1% levels, respectively.

6. Implications

Our results lead to implications and recommendations for banks, stakeholders, regulators, and researchers. Bank managers are encouraged to consider CSR as an investment, rather than an expense, because of its perceived benefits for macro- and micro-level performance. Micro-level performance includes higher competitiveness, bank reputation, and market returns and lower financing costs and financial risks. Macro-level performance includes environmental improvement and reduction in social inequality. In addition, for business and stakeholder practice, banks should not merely cling to the criterion of enhancing CSR activities but, rather, should be more sensitive about regional income differences and formulate CSR strategies in line with the social values in the relevant region. In this regard, although it is not possible to change a national culture, managers and regulators should both take into account that cultural differences are important drivers of bank performance.

Expanding on the economic and institutional implications, the findings suggest that culturally informed CSR strategies can enhance bank performance, potentially leading to more financial stability and growth in the banking sector. This can affect bank policies and regulations by motivating institutions to incorporate CSR into their core operations from a cultural perspective. From the financial perspective, banks can enhance their reputational capital and customer loyalty, resulting in higher profitability. This approach may lead regulatory bodies to incorporate cultural factors into their guidelines, thereby encouraging the adoption of more efficient and regionally tailored CSR practices in the banking industry.

7. Limitations

Our study is not without limitations. For instance, the cultural dimensions by Hofstede (2001) have been criticized because they are related to investor perceptions and do not take into account the possibility of coexistence at firms of different orientations (Hussainey & Achek, 2015). Similarly, Brewer and Venaik (2012) show that Hofstede's national cultural dimensions are misapplied through the use of dimensional scores in analysis related to managers and organizations. Therefore, future research should investigate alternative national cultural dimension scales and scores in order to perform a comparative analysis. For instance, future research should focus on examining Schwartz's dimensions of national culture because they overcome many of the apparent limitations of Hofstede's work (Drogendijk & Slangen, 2006).

Another limitation of our study is that each dimension of the CSRHub rating, which is used as a measure of CSR performance, namely, education, governance, employees, and community, may reflect different issues in a bank's CSR activities, so our results for each dimension vary. Therefore, future research could also extend our findings by examining the effects of these dimensions of CSRHub ratings on bank performance. Furthermore, future research should investigate the moderating effect of these cultural dimensions on the relationship of each CSRHub dimension as an independent variable with bank performance. In addition, conducting a study with alternative social values in future research, such as accounting values developed by Gray (1988), which are based on a national cultural framework developed by Hofstede (2001), may be interesting as it enables scholars to engage in comparative analysis.

Finally, our paper does not directly address the impact of various crises on the results though it acknowledges significant events—such as

Table 14
Regression results by country income category using ASR$_{it}$ as dependent variable.

Variable (s)	Cluster 1		Cluster 2		Cluster 3	
ASR$_{it-1}$	0.081**	(0.065)	0.069**	(0.008)	0.058**	(0.048)
CSR$_{it}$	0.008**	(0.033)	0.032**	(0.077)	0.052	(0.092)
UA$_{It}$	−0.006	(0.009)	−0.014	(0.035)	−0.009	(0.023)
INDI$_{It}$	0.003	(0.011)	0.008	(0.023)	0.018	(0.041)
MASCU$_{It}$	0.003**	(0.012)	−0.010	(0.017)	0.020	(0.057)
PD$_{It}$	0.009	(0.015)	−0.029	(0.031)	0.056	(0.046)
LTO$_{It}$	−0.012	(0.008)	0.016	(0.022)	−0.015	(0.018)
INDU$_{It}$	−0.015	(0.012)	−0.026	(0.028)	−0.020	(0.031)
CSR$_{it}$*UA$_{It}$	0.000	(0.000)	0.000	(0.001)	0.000	(0.000)
CSR$_{it}$*INDI$_{It}$	−0.000**	(0.000)	0.000	(0.000)	0.000	(0.001)
CSR$_{it}$*MASCU$_{It}$	−0.000	(0.000)	0.000	(0.000)	0.000	(0.001)
CSR$_{it}$*PD$_{It}$	0.000	(0.000)	0.001	(0.001)	−0.001	(0.001)
CSR$_{it}$*LTO$_{It}$	0.000	(0.000)	0.000	(0.000)	0.000	(0.000)
CSR$_{it}$*INDU$_{It}$	0.000	(0.000)	0.000	(0.000)	0.000	(0.001)
BS$_{it}$	−0.059	(0.026)	−0.085	(0.040)	−0.143	(0.083)
BA$_{it}$	−0.001	(0.001)	0.000	(0.001)	−0.02	(0.003)
LIQ$_{it}$	−0.032**	(0.016)	−0.050**	(0.020)	0.001	(0.046)
LEV$_{it}$	0.016	(0.008)	0.012	(0.029)	0.017	(0.010)
BOS$_{it}$	0.010	(0.006)	0.008	(0.008)	0.012	(0.014)
IFR$_{It}$	−0.000	(0.000)	−0.027	(0.014)	−0.000	(0.000)
ER$_{It}$	−0.000	(0.000)	0.000	(0.000)	−0.000	(0.000)
GDP$_{It}$	0.028	(0.032)	0.050	(0.051)	−0.067	(0.093)
INR$_{It}$	0.006	(0.003)	0.003	(0.005)	0.010	(0.005)
Constant	0.723**	(1.941)	2.092**	(4.581)	−1.169	(4.888)
Wald test (p-value)	0.000		0.000		0.000	
Sargan test (p-value)	0.091		0.068		0.066	
AR1 test (p-value)	0.005		0.005		0.005	
AR2 test (p-value)	0.852		0.821		0.901	
Observations	22,110		5360		16,750	
No. of firms	3139		782		2357	
No. of countries	55		33		22	

Notes: The table reports results from GMM estimations of the effects independent and control variables on bank performance measured by ASR$_{it}$. For the notation of the variables see Table 2. Variables in italics are instrumented through the GMM procedure following Arellano and Bover (1995). Robust standard errors are in brackets. Wald test provides for joint significance of all the regression coefficients except the constant. Sargan test provides a test of over-identifying restrictions. AR1 and AR2 are Arellano-Bond tests for serial correlation in the first-differenced residuals. *, **, *** are coefficients that are significantly different from zero at the 10%, 5% and 1% levels, respectively.

the global financial crisis (2007–2008), the European sovereign debt crisis (2010–2014), and other geopolitical and economic crises within its timeframe. Future research should explore the impact of these crises on the links between CSR, social values, and bank performance, considering them as potential moderators or variables in this context. The impact of crises on these relationships, particularly in banking, requires more extensive investigation and hypothesis formulation.

CRediT authorship contribution statement

Antonios Persakis: tasks on the article development, Conceptualization, Validation, Resources, Investigation, Data curation, Software, Writing – original draft, preparation. **Ra'fat T. Al-Jallad:** tasks on the article development, Writing – review & editing.

Declaration of competing interest

The authors declare that they have no competing interests.

Appendix A. Supplementary data

Supplementary data to this article can be found online at https://doi.org/10.1016/j.bir.2024.03.012.

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