

The impact of Corporate Social Responsibility on bank financial performance: The mediating role of bank risk-taking

Danilo Conte

LUM Jean Monnet University

conte@lum.it

Candida Bussoli

Lum Jean Monnet University

bussoli@lum.it

Danial Hemmings

Bangor Business School

d.hemmings@bangor.ac.uk

Introduction

The academic debate concerning the effects of Corporate Social Responsibility (CSR) activities on financial performance is increasingly discussed. Several empirical studies investigate the existence of a relationship between Corporate Social Performance (CSP) and financial performance in order to encourage firms to adopt CSR activities and to alleviate manager and shareholder concerns. Scholars have not achieved a consensus on the relationship between CSP and financial performance (Margolis et al., 2009; Margolis and Walsh, 2003; Orlitzky et al., 2003; Griffin and Mahon, 1997). Thus, the academics debate remains open about *whether* and *how* CSP influences financial performance (Luo and Bhattacharya, 2009; Peloza, 2009; Barnett and Salomon, 2006). The heterogeneity of the empirical results may be due to the methodological structure used by the prior literature, which essentially focuses on the existence of a direct relationship between CSP and financial performance (Luo et al. 2015; Aguinis and Glavas, 2012; Margolis and Walsh, 2003). The study of the underlying mechanism in the relationship between CSP and financial performance would advance our understanding of the otherwise “black box” association between the two performance measures. Therefore, it could be useful to investigate the existence of a mediation mechanism that helps to explain how the CSP affects and creates competitive advantages as well as a better inclusion of CSR commitment within firm’s activities and operations (Porter and Kramer 2006).

The present study aims to investigate the debated relationship between CSP and financial performance in the banking sector by exploring the existence of a potential mediation mechanism. In this respect, we test whether bank risk-taking acts as a mediation variable through which CSP affects bank financial performance.

We suppose that bank's CSR commitment enhances client loyalty and bank reputation, allowing banks to apply higher interest on loans and charge a higher price for financial products (Shen et al., 2016), which in turn, boosts bank financial performance. Additionally, according to the Stakeholder Theory and Agency Theory, we argue that bank CSR engagement is also a governance control mechanism to balance the different stakeholder objectives, distributing the limited financial resources for the interests of shareholders and stakeholders groups. Through CSR practices, banks can consolidate relations with their stakeholders, and consequently, achieve easier access to the resources controlled by them, which are crucial for the implementation of lending activity. Thus, for these purposes the banks are induced to adopt risk containment policies, in line with the preferences of stakeholders. Bank stakeholders generally prefer a more prudent approach, since they may be exposed to losses in the event of bankruptcy, but would not benefit from a share of higher profits that might accrue due to higher risk-taking (Jensen and Meckling, 1976). Hence, we suppose that the higher is the CSP, the lower is the bank risk-taking. Finally, we assert that the reduction of bank risk may be a "signal" to the stakeholders that bank operates taking into account their preference towards risk, improving their reputation and trust towards the bank that determine positive effects on the financial performance.

To test the research hypotheses we use a longitudinal dataset of listed banks across 54 countries that are covered by the CSP data from 2002 to 2017.

Our empirical findings highlight a significant and positive relationship between CSP and bank financial performance; and at the same time, present a negative association between CSP and bank risk-taking. Furthermore, the mediation analysis shows that the bank risk-taking partially mediates the effect of CSP on bank financial performance. Our empirical evidence supports the mediating role of bank risk-taking in the association between CSP and bank financial performance also in our robustness checks that we perform using another CSP proxy

This paper contributes to the reference literature in a number of ways. First, the main contribution of our study is to provide empirical evidence on the mediating role of bank risk-taking in the relationship between CSP and financial performance. Our analysis reports a significant negative impact of CSP on bank risk-taking, suggesting that CSR acts as bank governance control mechanism to reduce bank risk, and this lower undertaken risk generates a positive impact on financial performance. Hence, our

study also contributes to the bank risk-taking literature providing evidence of banks' movement towards stakeholders' preferences for lower risk, which is poorly investigated in the bank risk-taking literature (Adhikari and Agrawal, 2016).

Second, our study contributes to the ongoing debate on the impact of banks' adoption of CSR practices. The idea that CSR activities are adopted at the expense of shareholder wealth takes centre stage in the CSR discussion. Our empirical evidence suggests that bank CSR commitment does not induce a resource transfer from shareholders to other stakeholders. Instead, our results give evidence that bank CSR engagement by reducing bank risk-taking actually boosts bank financial performance, and therefore, suggesting it to be a "win-win" situation (Porter and Kramer, 2002; Jensen, 2001).

Finally, we examine the relationship between CSP and financial performance in the banking sector. As noted by Finger et al. (2018), often banks are excluded from samples in the empirical investigation concerning the relationship between CSP and financial performance due to the general perception of banks as being a limited source of the problems linked to CSR activities. However, banks use public resources, provided by stakeholders, to implement ending activity and are often criticized for abusing the trust of clients in adopting misconduct behaviour (Wu and Shen, 2013). Hence, investigating the role of CSR in the banking industry can provide insights for banks and supports their commitment towards CSR, by highlighting the positive effects of CSR activities and policies.

The rest of the paper is organized in the following structure. Section 2 presents the literature review regarding the CSR concept, the importance of CSR for banks, the relationship between CSP and financial performance in the banking sector, and the bank risk-taking. Section 3 describes the hypotheses development. Section 4 illustrates the data sources and sample, measures, and empirical model used for the mediation analysis. Section 5 presents descriptive statistics and correlation matrix as well as the empirical results and robustness tests. Finally, Section 6 reports the main conclusions of our study.

2. Literature Review

2.1 Corporate Social Responsibility

The idea that firms should be responsible for the social and environmental impact of their activities has been labelled *Corporate Social Responsibility* (CSR) (Aguinis and Glavas, 2012; Wood, 2010; Carroll, 1999). While scholars have studied CSR for a long period of time (Frederick, 1960; Bowen,

1953; Berle, 1931), interest in the topic, and thus the volume of academic activity in the area, has expanded considerably in recent years (Bontis and Serenko, 2009). Aguinis and Glavas (2012) conduct a literature review on CSR and observe an increase in academic interest over time about the theme, as almost half of the articles regarding CSR have been published since 2005.

Various definitions of CSR may be found in the literature (Dahlsrud, 2008; Waddock, 2004; Carroll, 1999). Bowen (1953: 6) develops the first definition, framing the CSR in the “*obligations of businessmen to pursue those policies, to make those decisions, or to follow those lines of action which are desirable in terms of the objectives and values of our society*”. More recently, the Commission of the European Communities (2001) provides an institutional interpretation, defining the CSR as “*a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis*”. Thus, to better identify and analyse the concept, the definition adopted in this work is drafted by Aguinis, who suggests that CSR is “*a set of context-specific organizational actions and policies that take into account stakeholders' expectations and the triple bottom line of economic, social and environmental performance*” (Aguinis, 2011: 855).

The intensified interest in CSR has resulted in the inclusion of CSR policies and activities in bank management, which is suggested to be able to increase shareholder value following the instrumental approach of stakeholder theory (Donaldson and Preston, 1985). In this regard, Carroll (1979) suggests that CSR identifies the motivations for which firms should adopt specific policies and activities, but not the achieved outcomes. Thus, it is necessary to develop different performance measures to be able to detect social results reached. As a result, several studies have developed metrics to measure Corporate Social Performance (CSP) (Peloza, 2009). In this study, CSP is defined as “*a set of descriptive categorizations of business activity, focusing on the impacts and outcomes for society, stakeholders and the firm itself*” (Wood, 2010: 54). The use of CSP metrics is supposed to solve two problems. On the one hand, CSP measures might help managers, boards of directors, and shareholders to comprehend and monitor whether the bank is building valuable long-term relationships and assets through socially responsible activities. On the other hand, these metrics can help client, potential employees, regulators and communities to assess the bank's CSR commitment.

The introduction of the term “social” in business performance may be linked to the influence of structural-functionalist theories (Parson, 1951). Structural-functionalist theorists organize society in different institutions to which particular functions are attributed (e.g. the political order governs and redistributes wealth; the economy produces and distributes goods, services and wealth; the family reproduces and socializes). Each institution is composed particular classes of organizations (e.g.

companies, government agencies, families, and schools), which perform their role in society. Friedman (1962) suggests that organizations are specialized in performing certain functions - stressing the basic argument that supports structural-functional theories - and suggests that society can only benefit if organizations do not achieve multifunctional goals. Noting the influence of structural-functionalist theories, many academics have sought to encourage companies to adopt CSR practices by providing empirical evidence on the positive relationship between CSP and financial performance (Wang et al., 2016).

Although there has been increased academic interest in the effects of CSP on financial performance, scholars have not achieved a consensus regarding the impact of CSP on financial performance. In the literature, there are two main hypotheses regarding the association between CSP and financial performance. Cornell and Shapiro (1987) propose the *social impact hypothesis*, postulating a positive association between CSP and financial performance. In this stream of research, scholars explain the positive influence of CSP on financial performance through an increase in reputation and trust (Zhang et al., 2010), enhanced employee productivity (Preston and O'Bannon, 1997), improved brand image, and the competitiveness of products and services (Lambertini and Tampieri, 2015). However, Becchetti, Ciciretti, and Hasan (2007) advocate the *shift of focus hypothesis*, which suggests a negative relationship between the two performance measures. This negative association is due to a change of focus from the maximization of shareholder wealth to the satisfaction of the interests of different groups of stakeholders; such as local communities, environment, clients and workers. The determinants of the negative relationship involve the inefficient use of resources (Friedman 1970), limited product development (Bragdon and Marlin 1972), and useless social activities (Aupperle et al. 1985). Finally, Nollet, Filis, and Mitrokostas (2016) detect a nonlinear association between CSP and financial performance, suggesting that in the long-run CSP effects are positive. Overall, the findings regarding the impact of CSP on financial performance remain ambiguous, and therefore, should be investigated in more depth.

2.2 CSR in banking sector

CSR is notably relevant in the banking sector for several reasons. First, banks might compensate society for the useful resources transferred for lending activities through CSR policies. This aspect is crucial because bank funding consist mainly of deposits, rather than shareholders equity. Moreover, when banks are in distress, governments provide financial resources to save them, at the expense of taxpayers and society (Wu and Shen, 2013).

Second, banks are more influenced by reputational risk and more exposed to the negative opinions of their stakeholders compared to non-financial companies (Thompson and Cowton, 2004). The adoption of CSR practice by banks has the potential to reduce reputational risk, boosting financial performance (Brown and Whysall, 2010; Anderson and Smith, 2006). This motivation could lead banks to adopt different organizational processes based on CSR activities and policies. For instance, Scholtens (2009) observes that in OECD countries there are dedicated banks that propose savings accounts to depositors on the basis that the money will be used to finance eco-friendly projects. Stakeholder pressure on the adoption of bank CSR practice increased especially during and after the global financial crisis (Robins and Krosinsky, 2008). Hence, the banking industry, as well as other industries, might contribute to sustainable development by demonstrating good corporate citizenship (Baumgartner and Ebner, 2010).

Third, CSR has the potential to enhance the reputation of banks and enable them to develop a higher sense of trust from customers (Aramburu and Pescador, 2017). Fombrun and Shanley (1990) state that a greater contribution of a firm to social welfare could enhance its reputation. McWilliams et al., (2006: 4) suggest that CSR “*should be considered as a form of strategic investment which can be viewed as a form of reputation building or maintenance*”. Thus, CSR is particularly important for the banking industry because banks provide intangible products to clients who may not have proper financial knowledge (Wang et al., 2003). Brand reputation and recognition among banks promotes the differentiation of financial products increasing the bank financial performance.

Finally, banks have an essential role in sustainable development because bank lending is necessary for firm growth, including unethical firms that operate in sectors such as oil and gas, chemical, and arms. In 2003, banks adopted the Equator Principles that direct them to finance investment projects that consider their environmental and social impact, instead of the most profitable but potentially unethical projects. Thus, CSR in the banking sector may influence firms to adopt investment projects that contribute to sustainable growth. However, banks' commitment to adopt the Equator Principles may generate “real costs” (Scholtens and Dam, 2007). These costs are linked to the screening and monitoring of social and environmental issues. Wright and Rwabizambuga (2006) suggest that banks have not integrated these activities into their standard procedures and few bankers have the necessary skills for these tasks. Thus, banks that adopt Equator Principles may have to contend with additional costs in order to adapt their business processes.

2.3 CSP and Financial Performance in the Banking Industry

Traditional banking theories are linked to delegated monitoring for reducing borrower moral hazard and mitigating risk sharing. However, few banking theories recognize the role of CSR in the banking system. Wu and Shen (2013) suggest that one way to integrate CSR into banking theories is to link it to bank reputation. In their theoretical model, Chemmanur and Fulghieri (1994) suggest that banks with high reputation have incentives to implement more accurate evaluation of the borrowers' unobservable characteristics compared with banks characterized by low reputation. Bushman and Wittenberg-Moerman (2012) found that the higher is bank reputation, the higher is profitability and borrower credit quality. This higher borrower credit quality could be directly associated with a more rigorous assessment of unobservable borrower traits. Thus, through the implementation of CSR policies banks might obtain positive effects on their reputation selecting and attracting more creditworthy borrowers, which determines higher profit and better asset quality.

In the banking literature, empirical studies regarding the relationship between CSP and financial performance are limited (Shen et al., 2016). Simpson and Kohers (2002) find a positive association between CSP and financial performance in the US banking market. They explain this positive relationship with the *good management hypothesis*, which suggests that good management will do most things well, including balancing the determinants of both social and financial performance (Waddock and Graves, 1997). Moreover, they describe this positive association in the *slack resources hypothesis*. This hypothesis suggests that firms with higher financial performance have "slack resources" as a result of their superior financial performance and that these can be allocated to social performance (Preston and O'Bannon, 1997). Scholtens and Dam (2007) compare the commitment of banks to social and environmental policies, detecting that banks that adopt the Equator Principles achieve important social performance but register lower operational profit than non-adopting banks. Soana (2011), using a correlation methodology, examines the association between CSP and financial performance; finding no statistically significant link between the two performance measures.

Wu and Shen (2013) investigate the effects of CSP in the global banking sector, identifying and analysing the reasons that drive banks to adopt CSR programmes and activities: strategic, altruistic and "greenwashing". Banks adopt CSR programmes and activities with altruistic motives (i.e. philanthropic contributions to the community) when the aims of their CSR programmes are not to increase profit but to promote social development. In contrast, banks adopt CSR activities with strategic reasons when their main aim is to increase profit. Finally, "greenwashing" CSR activities are only a "lip service" activity that generates no additional cost for banks, as well as no increase in financial performance. For instance, banks might provide and promote ethical loans through the adoption of the Equator Principles but not actually engage in this activity (Watchman et al., 2006).

Wu and Shen (2013) posit that these alternative motivations imply differing predictions on the nature of the relationship between CSP and financial performance. Specifically, they suggest that this relationship may be: positive if driven by strategic reasons, since banks engage in CSR to boost brand differentiation, and consequently their financial performance; uncertain if driven by altruistic motivations, since this CSR engagement may lead to increases on both the revenue side and the costs side; and neutral if driven by greenwashing reasons, since greenwashing banks does not support any effects on both their income and cost.

Carnevale and Mazzuca (2014) suggest a positive influence of the publication of a sustainability report on the bank share price. Forcadell and Aracil (2017) investigate the effects of reputation improvement through CSR activities on the financial performance of European banks listed in the Dow Jones Sustainability Index. Their results demonstrate that bank efforts to build a reputation deriving from CSR programs positively affect financial performance. Shen et al. (2016) identify a positive association, discovering that accounting performance measures are higher in banks with greater CSP. Wu et al. (2017) suggest that CSR performance has a positive impact on financial performance, and this effect is strengthened with increased bank CSR commitment. Thus, it is possible to conclude that the empirical evidence on the relationship between CSP and financial performance in the banking sector is both limited and ambiguous.

Numerous authors have sought to identify motivations to justify these mixed results (Margolis et al., 2007; McWilliams and Siegel, 2000; Griffin and Mahon, 1997).

One reason could be related to the CSP measures used; some previous empirical studies use CSP proxies that are not able to detect the multidimensional construct of CSR (Griffin and Mahon, 1997; Aupperle et al., 1985). These early empirical analyses have been conducted using CSP measures that identify individual components of CSR, such as; EPA Toxics Release Inventory, the Corporate 500 Philanthropy Data, products recall and illegal actions. However, Carroll (2000) suggests that CSP should be measured using a full assessment of the social performance of the firm concerning to the main social and environmental issues relevant to stakeholders. Several scholars support a multidimensional and complex construct of CSR (Nollet et al., 2016; Rowley and Berman, 2000; Wood, 1991; Wartick and Cochran, 1985). Moreover, measures such as the Fortune Reputation Survey, the Domini 400 Social Index, the board gender equality and minority, and the magnitude of charitable contributions have been used as more consistent measures from a theoretical perspective. However, they present different practical problems (Hillman and Keim, 2001). For instance, Brown and Perry (1994) claim that the Fortune Reputation Survey is primarily based on senior management opinions that may confuse social with financial performance by providing distorted statements and

information. According to Simpson and Kohers (2002), a problem associated with these measures is related to the difficulty in obtaining a representative sample extracted from a specific sector.

Moreover, another problem linked to the CSP measures lies in the notion of “organizational hypocrisy”. Organized hypocrisy seeks to explain the differences between company communications, decisions, and actions, and how these differences may allow corporations to manage stakeholder requests (Cho et al., 2015). For similar reasons, CSP should be measured through a third-party assessment, based on different sources of information such as global media news and NGO websites and taking into account the discrepancies detected with the information presented in corporate social responsibility reports, annual budgets, and stock market documents.

Margolis and Walsh (2003) state that several studies focused only on testing the direct relationship between CSP and financial performance. Causal links are poorly specified and few scholars investigate mediating and moderating variables (Grewatsch and Kleindienst, 2017; Aguinis and Glavas, 2012; Peloza, 2009; Margolis and Walsh, 2003; Wood, 2010). In the management literature, some authors have investigated the mediating effect of different variables in the relationship between CSP and financial performance. Surroca et al. (2010) analyse the mediation effects of intangible resources in the association between CSP and financial performance. The authors find that the impact of CSP on financial performance is fully mediated by reputation, organizational culture, human capital, and innovation. Blanco et al. (2013) examine the role of innovation in the association between the two performance measures for a sample of non-financial firms. They found that CSP positively impacts on financial market-based performance through innovation. Hasan et al. (2018) analysing a sample of manufacturing firms find that total factor productivity is a mediating variable in the association between CSP and Tobin’s Q. In the banking literature, there are no studies that test mediation mechanisms regarding the effects of CSP on financial performance. Therefore, in this study, we try to fill this gap in the literature by investigating the mediation mechanism through which CSP influences bank financial performance.

2.4 Bank Risk-Taking

Bank risk-taking may be defined as policies that increase risk through different channels (Srivastav and Hagendorff, 2016). The risk that banks undertake is a direct consequence of their lending activity. Banks perform a critical role because they select firms that can use society’s savings. In performing this crucial function within the economic system, banks have a huge impact on economic development (Scholtens, 2006). The recent financial crisis has demonstrated the consequences high

levels of bank risk-taking may have on society (García-Kuhnerta et al., 2015). Basel Committee on Banking Supervision (2010: 4) states *“The depth and severity of the crisis were amplified by weaknesses in the banking sector such as excessive leverage, inadequate and low quality capital, and insufficient liquidity buffers [...] Moreover, failure to capture major on and off-balance sheet risks, as well as derivative related exposures, was a key factor that amplified the crisis [...]”*.

During financial crises, governments employ public funds to bail out distressed banks or deposit insurance system to avoid bank runs to the detriment of taxpayers and society as a whole (Wu and Shen, 2013; Bhattacharya and Thakor, 1993). Hence, excessive bank risk-taking can negatively impact not only on shareholders but also other stakeholders such as depositors and taxpayers.

Several scholars have focused on different determinants of bank risk-taking such as competition, size and diversification, governance, ownership and regulation. Boyd and De Nicoló (2005) conduct a literature review on empirical studies concerning the association between competition and risk-taking. They state that studies generally evidence a positive relationship between bank risk-taking and market concentration. Martínez-Miera and Repullo (2010) identify a U-shape relationship between competition and bank risk-taking. The authors explain this relationship by stating that in more concentrated markets a new entry decreases the probability of bank failure, while in more competitive markets a new entry increases the likelihood of bank failure. Demsetz and Strahan (1997) study the relationship between bank size and diversification and their impact on bank risk-taking. Their results show that large banks are better diversified than small banks. However, this higher diversification is positively related to bank risk-taking. Stiroh (2004) finds that among US banks, a more diversified income is associated with a higher level of risk. Saunders et al. (1990) examine the existing association between bank ownership structure and risk-taking. The authors find that shareholder-controlled banks are characterized by significantly higher risk-taking than managerially controlled banks. Laeven and Levine (2009) conduct an empirical examination of theories regarding bank risk-taking, their ownership structures, and national bank regulations. The authors discover that bank risk-taking is positively associated with the power of shareholders within banks' corporate governance structures. Moreover, they show that the relation between bank risk and capital regulations, deposit insurance structure, and restrictions on bank activities are subordinated on each bank's ownership structure. In this stream, Pathan (2009) suggests that strong bank boards positively influence bank risk-taking as they are more effective in advancing shareholders' interest.

In the banking sector, the use of equity-based executive remuneration is perceived as an important determinant of the excessive risk-taking and, therefore, as a cause of the recent financial crisis (Bebchuk and Spamann, 2009). Equity-based compensation incentives incentivises managers to take

on risky projects because their remuneration is directly linked with overall corporate performance (Jensen and Murphy, 1990). However, the empirical evidence on whether and how pay incentives affect risk-taking in the banking industry is surprisingly limited and the results are mixed. For instance, Houston and James (1995) find no empirical evidence that equity-based compensation is used to promote risk-taking in banking. Moreover, Raviv and Sisman (2013) show that the positive impact of equity-based compensation mechanisms on risk-taking may weaken and possibly disappear during systemic financial crises. Another stream of research focuses on investor protection as a motivation for reduced bank risk-taking. John et al. (2008) find that corporate control mechanisms that enhance investor protection are positively associated with corporate risk-taking and firm growth.

Noticeably, existing studies tend to focus on the influence of equity-holders and managers on bank risk-taking. However, few studies analyse the attitudes of key stakeholders toward risk. In response to this, several scholars have advocated the need for bank governance to represent the interests of shareholders, creditors, and taxpayers (Bolton et al., 2015; Adams and Mehran, 2003). Some studies provide evidence on the role of creditors and depositors in bank risk-taking. For instance, depositors can influence bank risk-taking requiring higher interest rate (Berger and Udell, 2014).

Recent empirical evidence suggests that human behaviour is an important element in bank risk-taking (Adhikari and Agrawal, 2016). Despite limited academic studies, it seems generally accepted that human factors, such as the characteristics and preferences of managers and investors, play a role in bank risk-taking behaviour (Hilary and Hui, 2009). In this stream, Mehran et al. (2011) suggest that banks have different stakeholders such as depositors and the government, which have strong motivations to contain excessive bank risk-taking. Hence, whether risk preferences of key stakeholders affect bank risk-taking is an important aspect, the answer to which may generate important effects on the functioning of banks as well as implications for regulatory policies aimed at improving the soundness and stability of the financial system in general. This paper aims to fill this gap in the literature by studying the role of CSP in bank risk-taking.

3. Hypotheses Development

Our study aims to explain the mechanisms through which CSP affects bank financial performance. We analyse the indirect impact of CSP on bank financial performance through the impact of CSP on bank risk-taking.

Financial scandals and financial crises continue to stoke the debate over whether banks should increase their emphasis on social elements as components of their corporate strategy or focus simply on maximizing shareholders returns. Despite significant public and academic attention on CSR, the debates concerning corporate and management responsibility continue. On the one hand, the opponents of CSR state that the principal responsibility of a business is to create a profit for its shareholders and, because a firm's resources are limited. The use financial resources to undertake CSR activities would necessarily reduce the distribution of profit to shareholders and therefore undermine their primary responsibility (Friedman, 1962). On the other hand, advocates of CSR believe that companies need to satisfy the requests of both investing stakeholders (shareholders) and non-investing stakeholders (customers, employees, community) who might affect the survival of corporations. In order to balance the different interests of their stakeholders, corporate managers must engage in in the strategic task of "stakeholder management" (Freeman, 1984); CSR policies, programmes, and activities are the direct results of this stakeholder management.

Despite increased debate regarding CSP, prior research has not yet achieved a consensus as to the association between CSP and bank financial performance (Wu et al., 2017; Shen et al., 2016). CSR could potentially exert its influence on the cost side; increasing bank costs linked with the expenses of philanthropic donations, support of international programs to sustainable development, sectoral programs to address corruption, and so on (Scholtens and Dam, 2007; Wright and Rwabizambuga, 2006). However, CSR also decreases overhead costs based on the reputation gained towards the community, reducing expenses in areas of conflict and public relations (Wu and Shen, 2013). Moreover, Ioannou and Serafeim (2010) suggest that CSR banks improve employees retention rates, which in turn reduces hiring and training costs. Some studies found that banks with higher CSP might boost the amounts of loans, deposit, and wealth management products. CSR creates a positive reputation that improves loyalty among customers, which may determine better performance for CSR banks compared to non-CSR banks (Bushman and Wittenberg-Moerman, 2012; Brønn and Vrioni, 2001; Fombrun and Shanley, 1990). Kim et al. (2005) suggest that firms choose to borrow financial resources from banks characterized by a good reputation irrespective to the possible higher interest rate applied on loans. A firm's preference to borrow from banks with higher reputation may be attributed to the trust that firms have in these kinds of banks. As stated previously, the CSR generates positive effects on bank reputation, allowing banks to apply a higher interest rate and charge higher prices for financial products and services as a direct consequence of reducing price sensitivity (Shen et al., 2016). Moreover, Sen and Bhattacharya (2001) provide evidence that CSR banks experience fewer deposit withdrawals when the deposit rate falls compared with non-CSR banks. Thus, based on the above arguments we formulate the following research:

HY1: CSP is positively related to the bank financial performance

Cornell and Shapiro (1987) suggest that companies have contracts with their stakeholders and that company survival depends on the firm ability to comply with these contracts. Banks have explicit and implicit contracts with their stakeholders. On the one hand, explicit contracts are formal contractual arrangements between banks and their stakeholders, such as investment contracts with shareholders, deposit contracts with depositors, and wage contracts with employees. On the other hand, implicit contracts indicate promises to stakeholders that are uncertain or costly to write in a formal agreement. The objectives of these contracts involve maintaining a safe workplace for employees, providing customers higher quality services, preserving the environment for local communities and governments. Banks could experience both reputational and financial losses from failing to coordinate management interests with those of their salient stakeholders. Thus, a fundamental concept of CSR is the way banks relate to internal and external stakeholders since banks rely on stakeholders to get the necessary resources for their survival and growth.

Frooman (1999) outlines different approaches stakeholders could use to exert their influence on firm management decisions integrating stakeholder theory and resource dependence theory. Resource dependence theory postulates that control and access over strategic resources are crucial for the organizational survival and growth and, therefore, companies have to correctly develop and apply several strategies to preserve access to these essential resources. Banks stakeholders, such as shareholders, depositors, employees, borrowers, regulators and the community, have control over these strategic resources and might affect manager strategies and decisions. Bank CSR programmes and activities may be tools used by banks to reduce the risks related to resource acquisition (Berman et al., 1999; Haley, 1991). Bank CSR engagement generate positive effects on the bank's public image and reputation strengthening relationships with different stakeholder groups. Moreover, these stakeholders have a more positive sentiment toward the firm and could more easily provide the strategic resources they control (Backhaus et al., 2002; Frooman 1999).

From these propositions, it is possible to consider banks' engagement in CSR as a governance control mechanism for balancing the needs of multiple groups of stakeholders in order to easily access critical resources controlled by key stakeholders (Mason and Simmons, 2014). CSR policies and activities resulting from stakeholder management will lead to a more balanced resource allocation to satisfy the needs of both shareholders and stakeholders. Banks with higher CSP distribute their resources to

balance the interests of their key investing and non-investing stakeholders as they have control over different resources that banks need (deposits, labour, and financial resources).

Governance control mechanisms describe the ways shareholder and other stakeholders (employees, governments, depositors, and community) influence the controls on managers in order to promote their interests (Srivastav and Hagendorff, 2016). These control mechanisms may be explained through the agency-theory framework, according to which managers should maximise shareholder utility. However, managers are risk-averse, and consequently, they do not have motivations to undertake risky projects even if they are profitable (Jensen and Meckling, 1976). The risk-averse behaviour of managers toward implementing profitable investments leads to agency costs for shareholders. Hence, key governance structures aim to protect and promote shareholder interests. However, the banking sector is characterised by the risk-shifting problem because the excessive risk undertaken by banks, which can result in bankruptcy, is borne by stakeholders (e.g. taxpayers). In this regard, John, Saunders, and Senbet (2000) find that aligning the interests of shareholders and managers leads to increased bank risk-taking, which benefits shareholders but not creditors and other stakeholder groups.

Bolton, Mehran, and Shapiro (2015) provide a theoretical model to describe the inability of external stakeholder groups to correctly evaluate bank risk. This inaptitude is a direct consequence of the opacity of banks' core activity. This core activity consists of transforming short-term liquid deposits into long-term illiquid loans. During this transformation process, banks privately collect information about the quality of their loans and investment activities. To solve this information problem, different authors have identified the need to restructure bank governance in order to represent the various interests of stakeholders (Bolton et al., 2015; Adams and Mehran, 2003). Even the regulatory authorities require that bank corporate governance should take into account different stakeholders needs. The Basel Committee and the European Union assign multiple objectives to bank corporate governance to serve the welfare of shareholders, depositors, employees, clients, suppliers and community (Basel Committee, 2010; European Union, 2010). Aligning stakeholder and manager interests through internal governance mechanisms with executive pay that reflects stakeholder wealth or CSP achieved is likely to be highly effective. In this context, it is useful to recall the notion of Enlightened Value Maximization as defined by Jensen (2001: 38):

“It is a basic principle of enlightened value maximization that we cannot maximize the long-term market value of an organization if we ignore or mistreat any important constituency. We cannot create value without good relations with customers, employees, financial backers, suppliers, regulators and communities.”

Shareholder value maximization may be interpreted as a balance sheet objective. . However, in order to achieve this goal, a certain amount of care must be given to stakeholders, mainly in the banking sector. Because, the bank's maturities transformation, through the financing of long-term illiquid assets (e.g. loans) with short-term deposits (Diamond-Dybvig, 1983), requires a high level of stakeholder trust towards the bank. Especially, noting that stakeholders provide the essential resources (deposits) to implement the bank's maturities transformation. Therefore, stakeholder management becomes a strategic governance control mechanism for corporate managers to align managers' interests with stakeholders' requests (Freeman, 1984) and CSR programmes and activities are the direct result of this stakeholder management.

Banks characterized by a high level of CSP, and therefore design a corporate strategy that takes into stakeholders' needs, are expected to take on less risk because of the differing risk preferences of shareholders and stakeholders. Bank shareholders have a convex utility function over bank profit that determines an increase in their profit as the risk taken by the bank increases (Jensen and Meckling, 1976). In contrast, stakeholders have a concave utility function due to restricted upside potential on the value of their claims. Hence, while shareholders might see potential benefits in excessive risk-taking, for stakeholders this practice simply implies a higher overall risk with respect to the probability of having to cover any negative outcomes. Thus, we expect banks with a higher level of CSP to be characterized by a low level of risk-taking. As such, our first research hypothesis is formulated as follow:

HY2: CSR performance is negatively related to the bank risk-taking

The literature suggests that the heterogeneity of empirical results could be linked to the limited evidence on the underlying mechanisms, through which CSP affects financial performance (Grewatsch and Kleindienst, 2017; Aguinis and Glavas, 2012). We argue that CSP may also have a positive indirect impact on bank financial performance through the impact of CSR on bank risk-taking, which may, in turn, impact financial performance. Several authors have focused on the relationship between risk-taking and bank performance. In this stream of research, Berger and De Young (1997) observe a negative association between bank risk-taking and financial performance in the US banking sector. This negative relationship may be justified with the “bad luck” hypothesis, which reasons that some external events could increase problematic loans and banks may become inefficient due to the increased resources expended managing these problematic loans. Brissimis et

al. (2011) find evidence of an inverse association between bank risk-taking and financial performance. In addition, Zhang et al. (2013) provide empirical evidence of a negative relationship between risk-taking and bank financial performance in BRIC countries. The authors find that banks taking a lower level of risk perform better, supporting their prudential practices, which enhance the stability of the overall banking sector.

We suppose that banks adopting CSR as a governance control mechanism could meet the needs of their stakeholders, taking less risk. The reduction of bank risk driven by bank's CSR engagement may be a "signal" to stakeholders that bank's objectives are aligned with broader stakeholder interests and not a simply bank "greenwashing" strategy. This "signal" boosts the bank's reputation and trust of bank's stakeholder, which in turn, determines a higher reduction of the price sensitivity generating positive effects on the bank financial performance. Thus, generating a "win-win" situation that balances the conflicting interests of shareholders (maximize profit) and stakeholders (less risky and more responsible banks) (Jensen, 2001; Porter and Kramer, 2002).

HY3: The positive relationship between bank CSR performance and financial performance is mediated, at least partially, through the impact of CSP on bank risk-taking.

4. Methods

4.1 Data and Sample

Our analysis is based on a panel dataset comprising listed banks across 54 countries. The sample period runs from 2002 to 2017 inclusive. We create our dataset by merging different databases. We obtained data on CSP from Thomson Reuters ASSET4, while financial and bank information was obtained from Worldscope. The World Bank Open Data Project provided access to the necessary macroeconomic data. The ASSET4 database comprises 5000 global publicly-listed companies and present data from the fiscal year 2002 for almost 1000 companies (Gomes and Marsat, 2018; Breuer et al., 2018; Lys, Naughton and Wang, 2015). We obtained a starting sample of 487 listed banks with data on CSR performance over the 2002-2017 period. Afterwards, we merged observations of banks with available information from Worldscope, which provides financial data on stock exchange-listed banks (Breuer, Müller, Rosenbach and Astrid Salzmann, 2018; Köster and Pelster, 2017; González, 2005). We collected all financial data in U.S. dollars to avoid biased empirical results due to different

currencies (Irresberger et al., 2015). Finally, we combined the observations with data provided by Bank Open Data Project. To avoid sample selection bias and survival bias issues, we do not request a balanced panel. Hence, the number of banks in our sample diverge from year to year, and the different estimations use as many observations as possible (Cavaco and Crifo, 2014). Our final unbalanced panel sample includes 2,524 year-observations for 394 banks in 54 countries over the 2002–2017 period. Table 1 reports the geographic distribution of our sample. The country coverage contains data from both developed and developing nations. We discovered an extensive heterogeneity in the number of observations across countries. The average values for our main independent variables of interest diverge considerably across countries. A satisfactory level of variation characterizes these data for the purpose of our empirical analysis.

[TABLE 1 HERE]

4.2 Measures

4.2.1 Independent Variables

The literature requires that the CSP measures should take into account the multidimensional construct of bank CSR commitment, suggesting that individual aspects of bank sustainability (e.g. total emissions, clients and employees controversies, and charitable contributions) may be inefficient to capture the overall bank CSR engagement (Griffin and Mahon, 1997). Our data on bank CSP comes from the Thomson Reuters ASSET4 database. To test the research hypotheses, we use the Equal-Weighted rating (*CSP*), which reflects a weighted view of the bank performance in the key economic, environmental, social and corporate governance areas. The Equal-Weighted rating indicator is built by collecting more than 900 data points on sustainability issues for each bank. These data are obtained from different sources as corporate social responsibility reports, annual budgets, stock market documents, news and NGO websites. The individual data points are used to calculate 250 key performance indicators that are grouped into 18 categories, which form the basis of four key performance indicators: corporate governance performance, economic performance, environmental performance and social performance. They key performance indicators jointly determine the Equal-Weighted rating. The Equal-Weighted rating is computed by giving a z-score for each CSR dimensions in year t to bank i , comparing its performance with other banks, based on all information accessible in year $t-1$. Hence, the resulting percentage is a measure of social performance normalized to be between 0 and 100% (Gomes and Marsat, 2018; Utz, 2017; Lys, Naughton and Wang, 2015). On closer inspection, each component of the Equal-Weighted rating can be summarized as follows:

The environmental score refers to a bank reduction of emissions, lowering of resource consumption, and environmentally friendly product innovation.

- The social score refers to bank product responsibility, devotion to its community, to human rights and to diversity, the employees training and development, as well as the commitment to health, safety, and quality of employment.
- The corporate governance pillar measures the bank capacity to direct and control its rights and responsibilities through the creation of incentives, as well as checks and balances in order to generate long-term sustainable value.
- The economic performance component is the reflection of bank financial health and its ability to create long-term shareholder value through its use of best management practices, enhancing shareholder and stakeholder loyalty.

We implement robustness checks using the ESG Combined Score (*ESG Combined*), a further CSR performance measure recently developed by ASSET4. The ESG Combined Score provides comprehensive bank CSR performance because it weights the ESG performance for the ESG controversies detected by global media sources. The ESG controversies are calculated on 23 ESG controversy topics, which in turn are based on all new media materials relating to possible controversies.

4.2.2 *Dependent Variables*

We use return on average assets (ROAA) and return on average equity (ROAE) as bank financial performance measures to test the research hypotheses. ROAA is computed as net income before interest and tax on the average book value of total assets, which is the most powerful single ratio for analysing the efficiency and operational performance of banks as it looks at the returns generated from the assets (Mollah and Zaman, 2015). ROAE is net income after tax on the average book value of total equity, which is a measure of return on shareholder funds (Mollah and Zaman, 2015; Mamatzakis and Bermpei, 2015; Pathan and Faff, 2013). These accounting-based performance measures are able to capture the ability of banks to manage assets and equity to generate revenues (Mirzaei et al. 2013; Simpson and Kohers, 2002). We adopt the average assets and equity in order to account for differences in assets and equity during the fiscal year.

4.2.3 *Mediator Variables*

We analyse the mediation role of bank risk-taking in the association between CSR performance and bank financial performance. We measure the risk-taking behaviour of banks using the Z-score, which is computed as:

$$Z_{it} = \frac{EA_{it} + ROA_{it}}{\sigma(ROA)_{it}}$$

Where EA_{it} is the ratio of equity capital to total assets for bank i in time t ; ROA_{it} is the after-tax return as a percent of assets for bank i in time t ; and $\sigma(ROA)_{it}$ is the standard deviation of the after-tax return on assets for bank i in time t , as a proxy for return volatility. The $\sigma(ROA)_{it}$ is calculated based on a three-year rolling period (Soedarmonoa, Machrouhb and Tarazi, 2013). The Z-score is a proxy of bank distance to default. Hence, a higher value of Z-score indicates less risk-taking; therefore, it leads to a lower probability of insolvency. Because the Z-score is highly skewed, we use the natural logarithm of the Z-score (*Z-score*), which is normally distributed (Altunbas, Binici and Gambacorta, 2018; Mohsni and Otchere, 2014; Laeven and Levine, 2009). We conduct robustness checks of the results by using the stock price volatility as an alternative measures of bank risk-taking. For example, a stock price volatility of 10% detects that the stock annual high and low price has shown a historical variation of +10% to -10% from its annual average price. The standard deviation of stock price volatility (*Stock Volatility*) proxies the market perception of bank risk-taking (Srivastav and Hagendorff, 2016; Bhagat, Bolton and Lu, 2015).

4.2.4 Control Variables

In the regression analysis, we use several control variables that are recognised as determinants of bank risk-taking and financial performance. The control variables can be divided into two categories. The first category is related to the bank-specific characteristics. The logTA (*Size*) refers to the total assets after its logarithmic transformation. The size of the bank is considered a determinant of bank financial performance as well as bank risk-taking (Carnevale and Mazzuca, 2014; Simpson and Kohers, 2002; Ullman, 1985). Demircuc-Kunt and Huizinga (2000) suggest that different aspects including financial and legal factors are linked to bank size, which in turn, influences bank profitability. Pasiouras and Kosmidou (2007) discover a positive relationship between bank size and its financial performance. Larger banks are likely to have a wide range of products, and they are more diversified than smaller banks, obtaining higher financial results that may be linked with the benefits of economies of scale. Thus, we expect a positive relationship between bank size and profitability (Athanasoglou et al., 2008). Regarding the association between bank size and risk-taking, large banks

are expected to be more diversified than small banks; nevertheless, they may also be “*too big to fail*” and may be motivated to take more risks (De Haan and Poghosyan, 2012). On the other hand, big banks could have a negative relationship with bank risk-taking due to better funding conditions and managerial skills (Khan et al., 2017). Hence, we suppose a negative relationship between bank size and risk-taking.

Leverage (*Leverage*) is measured as the ratio of equity to total assets (Wu and Shen, 2013). Banks with a high capital ratio require less external funding and could have higher profitability. The positive association between capitalization and bank profitability has been shown empirically in different studies (Athanasoglou et al., 2008; Kosmidou, 2008). Thus, it is expected that higher capitalized banks are more efficient in undertaking new business opportunities. Moreover, they are more flexible and able to cover unexpected losses generated by exogenous shocks. Furthermore, banks characterized by low capitalization may assume higher risks in order to increase earnings, which could boost its equity thereby improving soundness if maintained inside the bank (Calem and Rob, 1999). Hence, we expect a negative association between bank level capitalization and risk-taking.

The ratio between customer deposits on total asset (*Funding Structure*) is a proxy of bank funding structure. Some studies provide evidence on the role of depositors on bank risk-taking. For instance, they may affect bank risk-taking behaviour requiring higher interest rate in a shock period (Berger and Turk-Ariss, 2015). Hence, we suppose that banks with higher levels of customer deposits might present a negative association with risk-taking measures to avoid an increase in interests that should be paid to depositors. Moreover, we expect that deposit-funded banks could have higher funding costs than wholesale banks, and consequently, we expect a negative impact on bank financial performance.

The ratio of non-interest income to total income (*Business Model*) is a proxy for bank business models (Borio and Gambacorta, 2015). Empirical evidence suggests that diversified banks have a better performance than non-diversified ones (Mergaerts and Vander Vennet, 2016). Thus, we could suppose that the ratio of non-interest income to total income has a positive relationship with bank financial performance measure. As for the relationship between bank risk-taking and diversification, diversified banks are more profitable and more stable (Mergaerts and Vander Vennet, 2016); consequently, we expect a negative relationship between bank business model and measures of its bank risk-taking.

Bank liquidity (*Liquidity*) is measured through the cash and securities to total deposits ratio. Molyneux and Thornton (1992) suggest an inverse relationship between liquidity and bank performance. This negative association may be explained with the argument that retained liquidity, particularly when required by regulatory authorities, represents a cost for the bank. Hence, we expect

an inverse relationship between bank liquidity and bank performance. As for bank risk-taking, the literature suggests a positive association between bank liquidity and risk-taking because a high level of liquidity could promote the transfer of financial resources to more risky assets (Acharya and Naqvi, 2012). Hence, we suppose a positive association between bank liquidity and risk-taking.

Efficiency refers to the cost income ratio (*Efficiency*) computed as the operating costs divided by the total income (Wu and Shen, 2013). This ratio measures the effect of operating efficiency on bank profitability. Empirical evidence suggests a positive relationship between operating efficiency and profitability (Goddard et al., 2009). Thus, we expect higher cost-income ratios to have a negative effect on bank profitability. Banks with a lower efficiency could engage in risky investment opportunities, in order to increase their income and to determine positive effects on the operating efficiency. Hence, we suppose a positive relationship between the cost income ratio and bank risk-taking.

The ratio between non-performing loans on total loans (*Credit Quality*) reflects the bank lending quality. On the one hand, we expect that a higher level of nonperforming loans on total loans could negatively affect bank performance (Miller and Noulas, 1997). On the other hand, we suppose that a lower bank lending quality positively affects risk-taking measures because credit risk is only one determinant of overall bank risk. The second category of control variables consists of macroeconomic variables.

We consider the macroeconomic variables because the country development may also affect bank performance and risk-taking. These variables are GDP growth and inflation. An increase in GDP (*GDP growth*) should enhance bank income and profit, therefore increasing bank equity and decreasing bank risk-taking (Altunbas et al. 2018; Khan et al. 2017; Wu and Shen, 2013). Finally, we include inflation (*Inflation*) among our control variables, which is associated with less bank risk-taking (Forssbæck, 2011; Mannasoo and Mayes, 2009). Table 2 presents a more detailed description of all variables, including also those used in the robustness checks.

[TABLE 2 HERE]

4.3 Model Specifications and Identification Strategies

To test our research hypotheses, we use a mediation model identified by Baron and Kenny (1986). Surroca et al., (2010) use this model to test the mediation role of intangible resources between CSP and financial performance, using a heterogeneous sample of companies. In addition, also Hasan et al.

(2018) used the same empirical strategy to test the mediation role of productivity in the relationship between CSP and financial performance. Baron and Kenny's (1986) model requires three regression equations to assess a mediator mechanism. In the first step (1), the dependent variable is regressed on the independent variable. In our model, bank financial performance is a function of CSP and control variables. In this way, a direct connection is tested between bank CSP and financial performance to confirm the first research hypothesis.

$$(1) FP_{it} = \alpha_i + \beta_1 CSP_{it-1} + \beta_2 \log TA_{it} + \beta_3 Leverage_{it} + \beta_4 BusinessModel_{it} + \beta_5 Efficiency_{it} + \beta_6 Liquidity_{it} + \beta_7 FundingStructure_{it} + \beta_8 CreditQuality_{it} + \beta_9 GDPgrowth_{jt} + \beta_{10} Inflation_{jt} + \lambda_t + \eta_i + \varepsilon_{it}$$

In the second step (2) the mediator variable is regressed on the independent variable. We model bank risk-taking as a function of CSP and control variables, to test the second research hypothesis.

$$(2) RiskTaking_{it} = \alpha_i + \beta_1 CSP_{it-1} + \beta_2 \log TA_{it} + \beta_3 Leverage_{it} + \beta_4 BusinessModel_{it} + \beta_5 Efficiency_{it} + \beta_6 Liquidity_{it} + \beta_7 FundingStructure_{it} + \beta_8 CreditQuality_{it} + \beta_9 GDPgrowth_{jt} + \beta_{10} Inflation_{jt} + \lambda_t + \eta_i + \varepsilon_{it}$$

Finally, in the last step (3) the dependent variable is regressed on both the independent variable and the mediator in order to confirm our third research hypothesis. Hence, we include both bank risk-taking and CSP as determinants of bank financial performance.

$$(3) FP_{it} = \alpha_i + \beta_1 CSP_{it-1} + \beta_2 RiskTaking_{it} + \beta_3 \log TA_{it} + \beta_4 Leverage_{it} + \beta_5 BusinessModel_{it} + \beta_6 Efficiency_{it} + \beta_7 Liquidity_{it} + \beta_8 FundingStructure_{it} + \beta_9 CreditQuality_{it} + \beta_{10} GDPgrowth_{jt} + \beta_{11} Inflation_{jt} + \lambda_t + \eta_i + \varepsilon_{it}$$

We assess the mediating role of bank risk-taking in the relationship between CSR performance and bank financial performance by examining the significance and magnitude of the coefficients of CSP in all three steps (Baron and Kenny 1986). To confirm our research hypotheses, CSP should significantly explain bank financial performance (step 1) and bank risk-taking (step 2). Moreover, the inclusion of bank risk-taking (step 3) should reduce (or eliminate) the significance of CSP in explaining bank financial performance. In the case of the total loss of both statistical significance and magnitude, there is a full mediation; in the case of the partial reduction, there is a partial mediation due to the combined effects of the independent variable and the mediator on the dependent variable.

The model of Baron and Kenny (1986) aims to define the conditions of a mediation mechanism but lacks an explicit test of the indirect effect of the independent variable on the dependent variable through the mediator variable. Thus, the Sobel test has been carried out to test the statistical

significance of the indirect effect of bank risk-taking (Hansan et al., 2018). The Sobel test provided an approximate test of statistical significance for the indirect effect of the independent variable on the dependent variable through the mediator (MacKinnon, Warsi and Dwyer, 1995; Sobel, 1982; Goodman, 1960).

In these models, we apply several techniques to address endogeneity problems (Antonakis et al., 2014). To overcome the possible omitted variable bias problem, relating to unobserved characteristics of our CSP, we include bank fixed effect to control for unobservable and time-invariant heterogeneity across banks. Moreover, we use year fixed effects to control for economy-wide shocks and time trends due to the extensive length of the period covered by the analysis. Additionally, Preston and O'Bannon (1997) propose the slack resources hypothesis to explain the relationship between CSP and financial performance, which postulates that firms with higher financial performance have “slack resources” as a result of their superior financial performance and that these can be allocated to social performance. This hypothesis may predict a possible reverse causality problem; therefore, to control this reverse causality, we lag the main independent variable of interest by one period in all models (Surroca et al., 2010).

5. Results

We report the descriptive statistics for all variables employed in the main empirical analyses and in the robustness checks in Table 3. Table 3 shows that the mean of ROAA is 1.24%, while the mean of ROAE is 10.84%. The average value of the independent variables referred to the CSP measures are the following: for Equal-Weighted rating (*CSP*) 55.49%, while for ESG Combined Score (*ESG Combined*) it is 46.90%. The averages of the two mediator variables used in the econometric models are: for the log of Z-score (*Z-Score*) 3.99; while the mean of yearly stock price volatility (*Stock Volatility*) is 24.90%. The average value for the bank-specific variables are as following: 18.38 for log of total assets (*Size*); 8.34% for equity to total asset ratio (*Leverage*); 10.33% for customer deposits to total asset ratio (*Funding Structure*); 58.38% for cash and securities to total deposits ratio (*Liquidity*); 1.58% for non-interest income to total income ratio (*Business Model*); 77.46% for cost income ratio (*Efficiency*); while 3.15% for the non-performing loans to total loans ratio (*Credit Quality*). The means for the country-specific variables are as follows: 2.54% for GDP Growth (*GDP Growth*); and 2.19% for Inflation (*Inflation*).

[TABLE 3 HERE]

Table 4 provides the correlation matrix. We test the correlations as well as the variance inflation factors (VIF) in the different regression analyses. There are no multicollinearity problems in the data.

[TABLE 4 HERE]

5.1 Mediation Analyses: The Role of bank risk-taking in the CSP and financial performance relationship

Table 5 shows the results referring to the regression analysis testing the mediating role of Z-Score, as a measure of overall bank risk-taking, in the relationship between CSP and CFP. In panel A, we implement the Baron and Kenny's model using ROAA as dependent variable; in panel B, we use ROAE as the dependent variable to test the robustness of the empirical results. We perform the three steps identified by Baron and Kenny for each dependent variable and report the empirical result in columns 1-3 for each panel of the table.

In column 1, panel A, we examine the impact of CSP on ROAA, along with a set of control variables, banks fixed effects, and year fixed effects. We find that CSP positively and significantly influences the ROAA ($\beta = 0.0023$; $p=0.018$); this relationship represents the total effect, confirming our first research hypothesis. The second step requires to test the relationship between CSP and Z-Score, which is the test for our second research hypothesis. Thus, in column 2, results show whether CSP is also a significant determinant of Z-Score. The results show a significantly positive effect of CSP on Z-score ($\beta = 0.0031$; $p=0.037$), which validates our second research hypothesis. . In accordance with existing literature (Baron and Kenny, 1986; Surroca et al., 2010), to confirm the mediating role in the third regression equations controlling for CSP, Z-Score must have a significant statistical relationship with ROAA, and the main independent variable CSP should reduce the magnitude and the statistical significance. In column 3, Z-Score has a statistical and significant positive influence on ROAA ($\beta = 0.0507$; $p=0.002$), and both the statistical significance and magnitude of CSP decrease ($\beta = 0.0021$; $p=0.027$). In order to test the statistical significance of indirect effect we conduct the Sobel test (Sobel, 1982; Preacher and Hayes, 2004), which reveals a statistical significance of indirect effect ($p=0.050$), suggesting that the total effect mediated by the Z-Score is equal to 6.72% of the total effect. This empirical evidence suggests that bank risk-taking is a mediator variable in the association between CSP and bank financial performance.

Furthermore, in order to confirm our results, in panel B, we present the results for ROAE as the dependent variable. Column 4 shows that CSP has a positive and statistically significant impact on the ROAE ($\beta = 0.0296$; $p=0.026$). Column 5, reports the empirical results for the relationship between CSP and Z-Score. These results suggest a significantly positive association between CSP and Z-score ($\beta = 0.0034$; $p=0.032$). Finally, in column 6, we perform the regression equation to assess the mediation mechanism. Our findings highlight a statistical and positive influence of Z-Score on ROAE ($\beta = 0.0507$; $p=0.002$), and both the statistical significance and magnitude of CSP decrease ($\beta = 0.0264$; $p=0.042$). We carry out a Sobel test to evaluate the magnitude of the mediation effect, which reveals a significant indirect effect ($p=0.019$), suggesting a total mediated effect by the Z-Score equal to 10.73%. Thus, the empirical evidence supports a partial mediation as proposed by our research hypotheses.

[TABLE 5 HERE]

To verify our empirical results we use stock price volatility as an alternative measure of bank risk-taking. Table 6 refers to empirical findings on the mediation role of stock price volatility, as a measure of market perception about bank risk-taking, in the relationship between CSP and financial performance. Baron and Kenny's model is employed for the ROAA and ROAE as dependent variable, respectively, in panel A and B. In column 1 of panel A, we find that CSP significantly and positively impacts on ROAA ($\beta = 0.0026$; $p=0.011$). In column 2, we analyse the association between CSP and stock price volatility. The results describe a statistical and significant negative impact of CSP on stock price volatility ($\beta = -0.0244$; $p=0.021$), which suggests that the higher is the bank CSP, the lower is the yearly stock price volatility. In column 3, we test the mediation role of stock price volatility. The empirical evidence suggests a partial mediation because the stock price volatility negatively effects ROAA ($\beta = -0.0251$; $p=0.007$) and CSP loses partially both its magnitude and statistical significance ($\beta = 0.0019$; $p=0.061$). Finally, the Sobel test suggests that the total mediated effect of CSP by stock price volatility on ROAA is equal to 24.04% ($p=0.000$).

We perform the same model with stock price volatility as the mediator variable on the ROAE. Column 4 of panel B shows a significantly positive impact of CSP on ROAE ($\beta = 0.0357$; $p=0.008$). Column 5 refers to the relationship between CSP and stock price volatility and suggests a negative association ($\beta = -0.0339$; $p=0.005$). Finally, in column 6, we perform the regression equation to test the mediation role. Empirical evidence highlights a partial mediation because stock price volatility has a negative influence on ROAE ($\beta = -0.4456$; $p=0.000$) and the coefficient on CSP is substantially lessened, both in terms of magnitude and statistical significance ($\beta = 0.00207$; $p=0.059$). The total mediated effect

is equal to 42.27% ($p=0.000$) and statistically significant. Thus, empirical evidence in Table 5 and 6 show a significant association between CSP and both mediator variables as well as a significant partial mediation effect on the CSP and financial performance association, confirming our research hypotheses. The control variables present the predicted signs explained in the section of control variables.

[TABLE 6 HERE]

5.2 Robustness tests

We test the robustness of the empirical findings by employing an alternative measure of CSP. We replicate the previous econometric analyses using the ESG Combined Score. The ESG Combined Score refers to bank environmental, social, and governance performance combined with ESG controversies detected by global media sources. Table 7 provides empirical results of the regression analyses, testing the mediating role of Z-Score in the association between ESG Combined and CFP. We use ROAA as the dependent variable in panel A and ROAE in panel B. In column 1 of panel A, we find a significantly positive influence of ESG Combined on ROAA ($\beta = 0.0019$; $p=0.045$). In column 2, we test whether ESG Combined is also an important determinant of Z-Score. The empirical findings show a significantly positive relationship between ESG Combined and Z-score ($\beta = 0.0054$; $p=0.006$). Finally, to assess the mediation mechanism, we test both ESG Combined and Z-Score on our dependent variable. Our findings suggest a partial mediation because the risk-taking measure has a positive influence on the ROAA ($\beta = 0.0509$; $p=0.003$) and the main dependent variable loses its statistical significance and magnitude ($\beta = 0.0016$; $p=0.088$). The Sobel test validates the statistical significance of the indirect effect ($p=0.007$), indicating a total mediated effect equal to 15.04%.

In the panel B, we use as dependent variable ROAE. In column 4, we test the direct link between ROAE and ESG Combined. We found a positive relationship between the two performance measures ($\beta = 0.0291$; $p=0.022$). Subsequently, in column 5 we investigate the association between ESG Combined and Z-Score, which turns out to be positive and statistically significant ($\beta = 0.0052$; $p=0.006$). Lastly, in column 6, we examine the mediation mechanism controlling ROAE for both ESG Combined and Z-Score. The empirical evidence presents a partial mediation because Z-score has a positive and statistically significant association with ROAE ($\beta = 0.8478$; $p=0.000$) and ESG Combined partially loses its statistical significance and magnitude ($\beta = 0.0246$; $p=0.052$). The Sobel test supports these results, providing evidence of a statistically significant mediated total effect of 15.29% ($p=0.004$).

[TABLE 7 HERE]

The ESG Combined measure is also used to validate the empirical results obtained for yearly stock volatility as a measure of bank risk-taking. The findings are reported in Table 8. Column 1 of panel A shows a positive impact of ESG Combined on ROAA ($\beta = 0.0030$; $p=0.001$). Moreover, in column 2, we observe that ESG Combined negatively impacts on yearly stock volatility ($\beta = -0.0220$; $p=0.067$). Finally, as in the previous model, the mediation mechanism is tested. Also in this model, our empirical results provide evidence of a partial mediation because the stock volatility has a negative impact on the financial performance measure ($\beta = -0.0337$; $p=0.000$) and the main independent variable reduces its magnitude and statistical significance ($\beta = 0.0022$; $p=0.014$). The Sobel Test confirms these results, indicating a mediated total effect equal to 24.95% ($p=0.004$).

Lastly, panel B reports the empirical results of the mediation model with ESG Combined as an independent variable, stock volatility as mediator variables, and ROAE as the dependent variable. Column 4 shows a positive association between ESG Combined and ROAE ($\beta = 0.0273$; $p=0.030$). Column 5 shows the negative impact that ESG Combined score has on yearly stock price volatility ($\beta = -0.0313$; $p=0.005$). In the last column empirical analysis indicates a full mediation of stock price volatility ($\beta = -0.5642$; $p=0.000$) in transferring the effects of ESG Combined ($\beta = -0.0097$; $p=0.295$) on ROAE. Finally, the Sobel test asserts this full mediation, computing a statistically significant indirect effect ($p=0.000$) equal to 64.60%. Thus, we can conclude that none of these additional tests affect our results; instead, they reinforce our main empirical evidence, confirming the research hypotheses.

[TABLE 8 HERE]

6. Discussion and Conclusions

Numerous scholars have examined the relationship between CSP and financial performance in the banking sector (Simpson and Kohers, 2002; Scholtens and Dam, 2007; Soana, 2011; Wu and Shen, 2013; Carnevale and Mazzuca, 2014; Forcadell and Aracil, 2017; Wu et al., 2017). Despite extensive empirical evidence on the relationship between CSP and bank financial performance scholars have not reached univocal results (Shen et al., 2016). The heterogeneity of empirical results could be

directly linked to the lack of understanding of the underlying mechanisms through which the CSP influences financial performance (Luo et al. 2015). In this respect, Aguinis and Glavas (2012) suggest that only 7% of empirical studies analysed the effects of the mediation variables between the two performance measures. Based on our knowledge in the banking literature, there are no studies that investigate the underlying mechanisms that act as mediators in the relationship between CSP and bank financial performance; rather these empirical studies focus their attention on a direct link.

To fill this gap in the literature, we investigate the role of bank risk-taking as a mediation variable in the association between CSP and financial performance.

We assert that the bank's CSR engagement reduces the price sensitivity through an increase in client loyalty and bank reputation. The reduction of clients' price sensitivity enables banks to apply higher interest on loans and charge a higher price on financial products (Shen et al., 2016) as well as to reduce operational costs, which in turn, may enhance bank financial performance. Subsequently, we suggest that bank CSR commitment is a governance control mechanism that balances the different interests of stakeholder groups, allocating financial resources on the basis of both shareholders and stakeholders needs. Banks use CSR as a control mechanism to facilitate access to the resources that stakeholders control because bank funding structure consists mainly of deposits provided by stakeholders, instead of shareholders equity. Thus, we suppose that bank CSR commitment negatively influences bank risk-taking, due to the differing risk preference of bank shareholders and stakeholders. On the one hand, bank shareholders prefer a higher risk-taking because they expect to obtain additional profit with increasing risk-level. On the other hand, bank stakeholders face increased potential losses due to financial distress as a result of increased risk-taking. We, therefore, assume that bank's CSR commitment may negatively influence bank risk-taking as it allows easier access to resources controlled by risk-averse stakeholders. Finally, to promote the mediation mechanism, we suppose that the reduction of bank risk may be a tangible "signal" that bank in performing its activity consider the stakeholders preference towards a lower bank risk, and consequently, stakeholders develop a higher reputation and trust that generate positive effects on the bank financial performance. Thus, bank risk-taking may be considered a mediating variable in the association between CSP and financial performance in the banking sector.

We employ a large longitudinal dataset composed the global listed banks in the period 2002 – 2017 and carry out different robustness checks. We document robust empirical evidence showing that CSP positively affects bank financial performance and, simultaneously, the negative influence of CSP on the level of risk undertaken by banks. Lastly, through the mediation analysis we highlight the partial mediation role of bank risk-taking in transferring the CSP effects on the bank financial performance.

These empirical results confirm our research hypotheses, supporting the idea that bank's CSR commitment is a strategic tool to reduce the client price sensitivity, which in turn, positively affects bank financial performance. The reduction of client price sensitivity is a direct consequence of reputation and sense of trust that CSR banks might foster from their stakeholders (Kim et al., 2005). Contextually, our results confirm the role of CSR as a governance control mechanism to balance the conflicting interests of shareholders and stakeholders. Banks' commitment to CSR activities leads to a lower level of bank risk-taking due to stakeholders' preference towards risk undertaken by the bank, which may generate positive effects for the banking system as a whole. Finally, a lower level of bank risk-taking is not detrimental for shareholder value because it presents a positive impact on bank financial performance, supporting the bank prudential practice. Thus, we state that bank CSR engagement determines a "win-win" situation (Porter and Kramer, 2002; Jensen, 2001) as it allows balance the shareholder interests, maximization of profit, and stakeholder interests, less risky and more socially responsible banks.

Our study also contributes to the growing literature investigating the underlying mechanisms through which CSP influences bank financial performance. In this regard, our empirical evidence explains that positive effects of CSP on bank financial performance are partially transmitted through a reduction in bank risk-taking.

Our study provides empirical evidence which contributes to the debate surrounding CSR, showing that banks engagement in CSR policies does not create a transfer of financial resource from shareholders to other stakeholders. Instead, CSR commitment may reduce bank risk, one of the main causes of financial crises, and positively influences bank financial performance.

Our work also provides implications for bank managers, trying to motivate them to integrate CSR strategies in bank activity processes, showing positive effects both for shareholder value maximization and for stakeholder engagement. Despite, the fact that the stakeholder theory connects CSR to stakeholder management to achieve strategic objectives (Freeman, 1984), bank managers still lack a consistent framework to investigate the mechanisms by which CSP affects financial performance. In this respect, the mediation role of bank risk-taking may help bank managers to understand and monitor CSR effects, in order to set "explicit performance targets" to achieve (Porter and Kramer, 2006).

Our findings generate important implications for bank shareholders, urging them to consider the banks' CSR commitment positively because it does not necessarily lead to a reduction in their value creation. Instead, the bank CSR commitment may have a positive impact on bank financial performance through a reduction of bank risk-taking.

Our results present implications for policy makers that should consider bank's CSR commitment and introduce incentives that might motivate banks' manager to adopt CSR policies and activities (e.g. managers payment systems based on CSP achieved); which in turn, might generate positive effects on bank's risk reduction that determines positive effects for the stability of the financial system as a whole.

We identify some limitations in our study. First, our sample is composed only of listed banks that might be more under the pressure of stakeholder attention. We suggest that future research should investigate our research model also for non-listed banks, in order to discover some potential differences. Second, our sample is composed of banks not specialised in the so-called "ethical bank", but in turn is "normal" banks that undertake CSR activities and policies. Future research should investigate the potential effects and differences between these kinds of banks. Third, although we believe that ASSET4 improves the CSP measures, it is not free from criticism. The ASSET4 database also if use a comparison between the news detected in NGO website and media with the information provided by banks in the CSR report, might provide CSP measures influenced by the phenomenon of "organizational hypocrisy". Future research should try to develop CSP measures purified this phenomenon. Finally, we have obtained a partial mediation of bank risk-taking in the relationship between CSP and bank financial performance; therefore, other variables could act as a mediating mechanism in this association. Future research should identify and discover other potential underlying mechanisms by which CSP affects financial performance. In particular, observing the role of intangible resources in the banking sector. Further researches is required to investigate whether intangible resources such as bank reputation, relational capital, organizational culture, and human capital are mediation variables in the relationship between CSP and bank financial performance. Moreover, for instance, other variable linked to the business environment might moderate the influence of CSP on mediator variables. In this respect, future research could analyse the national cultures, degree of competition, and degree of corruption as moderation variables in the relationship between CSP and mediator variables.

References

- Acharya, V., & Naqvi, H. (2012). The seeds of a crisis: A theory of bank liquidity and risk taking over the business cycle. *Journal of Financial Economics*, 106(2), 349-366.
- Adams, R. B. & Mehran, H. (2003). Is corporate governance different for bank holding companies?, *Economic Policy Review*, 9(1), 123-142.
- Adhikari, B. K., & Agrawal, A. (2016). Does local religiosity matter for bank risk-taking?. *Journal of Corporate Finance*, 38, 272-293.

- Aguinis, H. (2011). Organizational responsibility: Doing good and doing well. In S. Zedeck (Ed.), *APA handbook of industrial and organizational psychology* (Vol. 3, pp. 855-879).
- Aguinis, H., & Glavas, A. (2012). What we know and don't know about corporate social responsibility: A review and research agenda. *Journal of Management*, 38(4), 932-968.
- Altunbas, Y., Binici, M., & Gambacorta, L. (2018). Macroprudential policy and bank risk. *Journal of International Money and Finance*, 81, 203-220.
- Anderson, J., & Smith, G. (2006). A great company can be a great investment. *Financial Analysts Journal*, 62(4), 86-93.
- Antonakis, J., Bendahan, S., Jacquart, P., & Lalive, R. (2014). And solutions. *The Oxford handbook of leadership and organizations*, 93.
- Aramburu, I. A., & Pescador, I. G. (2019). The effects of corporate social responsibility on customer loyalty: The mediating effect of reputation in cooperative banks versus commercial banks in the Basque country. *Journal of Business Ethics*, 154(3), 701-719.
- Athanasoglou, P. P., Brissimis, S. N., & Delis, M. D. (2008). Bank-specific, industry-specific and macroeconomic determinants of bank profitability. *Journal of International Financial Markets, Institutions and Money*, 18(2), 121-136.
- Aupperle, K. E., Carroll, A. B., & Hatfield, J. D. (1985). An empirical examination of the relationship between corporate social responsibility and profitability. *Academy of Management Journal*, 28(2), 446-463.
- Backhaus, K. B., Stone, B. A., & Heiner, K. (2002). Exploring the relationship between corporate social performance and employer attractiveness. *Business & Society*, 41(3), 292-318.
- Barnett, M. L., & Salomon, R. M. (2006). Beyond dichotomy: The curvilinear relationship between social responsibility and financial performance. *Strategic Management Journal*, 27(11), 1101-1122.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of Personality and Social Psychology*, 51(6), 1173.
- Basel Committee on Banking Supervision. (2010). Principles for Enhancing Corporate Governance. Final, October, 1–34.
- Baumgartner, R. J., & Ebner, D. (2010). Corporate sustainability strategies: sustainability profiles and maturity levels. *Sustainable Development*, 18(2), 76-89.
- Bebchuk, L. A., & Spamann, H. (2009). Regulating bankers' pay. *Geo. LJ*, 98, 247.
- Becchetti, L., Ciciretti, R., & Hasan, I. (2009). Corporate social responsibility and shareholder's value: an event study analysis. *Bank of Finland Research Discussion Paper*, (1).
- Berger, A. N., & DeYoung, R. (1997). Problem loans and cost efficiency in commercial banks. *Journal of Banking & Finance*, 21(6), 849-870.
- Berger, A. N., & Turk-Ariss, R. (2015). Do depositors discipline banks and did government actions during the recent crisis reduce this discipline? An international perspective. *Journal of Financial Services Research*, 48(2), 103-126.
- Berle, A.A. (1931). Corporate powers as powers in trust. *Harvard Law Review*, 44(7), 1049-1074.

- Berman, S. L., Wicks, A. C., Kotha, S., & Jones, T. M. (1999). Does stakeholder orientation matter? The relationship between stakeholder management models and firm financial performance. *Academy of Management Journal*, 42(5), 488-506.
- Bhagat, S., Bolton, B., & Lu, J. (2015). Size, leverage, and risk-taking of financial institutions. *Journal of Banking & Finance*, 59, 520-537.
- Bhattacharya, S., & Thakor, A. V. (1993). Contemporary banking theory. *Journal of Financial Intermediation*, 3(1), 2-50.
- Blanco, B., Guillamón-Saorín, E., & Guiral, A. (2013). Do non-socially responsible companies achieve legitimacy through socially responsible actions? The mediating effect of innovation. *Journal of Business Ethics*, 117(1), 67-83.
- Board, F. S. Basel Committee on Banking Supervision, 2010. *Assessing the Macroeconomic Impact of the Transition to Stronger Capital and Liquidity Requirements*.
- Bolton, P., Mehran, H., & Shapiro, J. (2015). Executive compensation and risk taking. *Review of Finance*, 19(6), 2139-2181.
- Bontis, N., & Serenko, A. (2009). A follow-up ranking of academic journals. *Journal of Knowledge Management*, 13(1), 16-26.
- Borio, C., & Gambacorta, L. (2017). Monetary policy and bank lending in a low interest rate environment: diminishing effectiveness?. *Journal of Macroeconomics*, 54, 217-231.
- Bowen, H.R. (1953). *Social responsibilities of the businessman*. New York: Harper & Row.
- Boyd, J. H., & De Nicolo, G. (2005). The theory of bank risk taking and competition revisited. *The Journal of Finance*, 60(3), 1329-1343.
- Bowen, H.R. (1953). *Social Responsibilities of the Businessman*. New York, Harper and Row
- Bragdon, J. H., & Marlin, J. (1972). Is pollution profitable. *Risk management*, 19(4), 9-18.
- Breuer, W., Müller, T., Rosenbach, D., & Salzmann, A. (2018). Corporate social responsibility, investor protection, and cost of equity: A cross-country comparison. *Journal of Banking & Finance*, 96, 34-55.
- Brissimis, S. N., Delis, M. D., & Papanikolaou, N. I. (2008). Exploring the nexus between banking sector reform and performance: Evidence from newly acceded EU countries. *Journal of Banking & Finance*, 32(12), 2674-2683.
- Brønn, P. S., & Vroni, A. B. (2001). Corporate social responsibility and cause-related marketing: an overview. *International Journal of Advertising*, 20(2), 207-222.
- Brown, B., & Perry, S. (1994). Removing the financial performance halo from Fortune's "most admired" companies. *Academy of Management Journal*, 37(5), 1347-1359.
- Brown, M., & Whysall, P. (2010). Performance, reputation, and social responsibility in the UK's financial services: A post-'credit crunch' interpretation. *The Service Industries Journal*, 30(12), 1991-2006.
- Bushman, R. M., & Wittenberg-Moerman, R. (2012). The role of bank reputation in "certifying" future performance implications of borrowers' accounting numbers. *Journal of Accounting Research*, 50(4), 883-930.

- Calem, P., & Rob, R. (1999). The impact of capital-based regulation on bank risk-taking. *Journal of Financial Intermediation*, 8(4), 317-352.
- Carnevale, C., & Mazzuca, M. (2014). Sustainability report and bank valuation: evidence from European stock markets. *Business Ethics: A European Review*, 23(1), 69-90.
- Carroll, A. B. (1979). A three-dimensional conceptual model of corporate performance. *Academy of Management Review*, 4(4), 497-505.
- Carroll, A. B. (1999). Corporate social responsibility: Evolution of a definitional construct. *Business & Society*, 38(3), 268-295.
- Carroll, A. B. (2000). A commentary and an overview of key questions on corporate social performance measurement. *Business & Society*, 39(4), 466-478.
- Cavaco, S., & Crifo, P. (2014). CSR and financial performance: complementarity between environmental, social and business behaviours. *Applied Economics*, 46(27), 3323-3338.
- Chemmanur, T. J., & Fulghieri, P. (1994). Investment bank reputation, information production, and financial intermediation. *The Journal of Finance*, 49(1), 57-79.
- Cho, C. H., Laine, M., Roberts, R. W., & Rodrigue, M. (2015). Organized hypocrisy, organizational façades, and sustainability reporting. *Accounting, Organizations and Society*, 40, 78-94.
- Commission European Communities. (2001). *Green Paper. Promoting a European Framework for Corporate Social Responsibility* (Commission of the European Communities, Brussels, Belgium).
- Committee of European Banking Supervisors. (2010). High Level Principles for Risk Management. February, 1–6.
- Cornell, B., & Shapiro, A. C. (1987). Corporate stakeholders and corporate finance. *Financial management*, 5-14.
- Dahlsrud, A. (2008). How corporate social responsibility is defined: an analysis of 37 definitions. *Corporate Social Responsibility and Environmental Management*, 15(1), 1-13.
- De Haan, J., & Poghosyan, T. (2012). Bank size, market concentration, and bank earnings volatility in the US. *Journal of International Financial Markets, Institutions and Money*, 22(1), 35-54.
- Demirgüç-Kunt, A., & Huizinga, H. (2000). Financial structure and bank profitability. *World Bank Policy Research Working Paper*, (2430).
- Demsetz, R. S., & Strahan, P. E. (1997). Diversification, size, and risk at bank holding companies. *Journal of Money, Credit, and Banking*, 300-313.
- Diamond, D. W., & Dybvig, P. H. (1983). Bank runs, deposit insurance, and liquidity. *Journal of Political Economy*, 91(3), 401-419.
- Donaldson, T., & Preston, L. E. (1995). The stakeholder theory of the corporation: Concepts, evidence, and implications. *Academy of Management Review*, 20(1), 65-91.
- Finger, M., Gaviols, I., & Manos, R. (2018). Environmental risk management and financial performance in the banking industry: A cross-country comparison. *Journal of International Financial Markets, Institutions and Money*, 52, 240-261.
- Fombrun, C., & Shanley, M. (1990). What's in a name? Reputation building and corporate strategy. *Academy of Management Journal*, 33(2), 233-258.

- Forcadell, F. J., & Aracil, E. (2017). European banks' reputation for corporate social responsibility. *Corporate Social Responsibility and Environmental Management*, 24(1), 1-14.
- Forssbäck, J. (2011). Ownership structure, market discipline, and banks' risk-taking incentives under deposit insurance. *Journal of Banking & Finance*, 35(10), 2666-2678.
- Frederick, W.C. (1960). The growing concern over business responsibility. *California Management Review*, 2(4), 54-51.
- Freeman, R. E. (1984). *Strategic management: A stakeholder approach* (p. 46). Boston: Pitman.
- Friedman, M. (1962). *Capitalism and freedom: With the assistance of Rose D. Friedman*. University of Chicago Press.
- Friedman, M. (1970). A Friedman doctrine: The social responsibility of business is to increase its profits. *The New York Times Magazine*, 13(1970), 32-33.
- Frooman, J. (1999). Stakeholder influence strategies. *Academy of Management Review*, 24(2), 191-205.
- García-Kuhnert, Y., Marchica, M. T., & Mura, R. (2015). Shareholder diversification and bank risk-taking. *Journal of Financial Intermediation*, 24(4), 602-635.
- Goddard, J., Liu, H., Molyneux, P., & Wilson, J. O. (2013). Do bank profits converge?. *European Financial Management*, 19(2), 345-365.
- Gomes, M., & Marsat, S. (2018). Does CSR impact premiums in M&A transactions?. *Finance Research Letters*, 26, 71-80.
- Gonzalez, F. (2005). Bank regulation and risk-taking incentives: An international comparison of bank risk. *Journal of Banking & Finance*, 29(5), 1153-1184.
- Goodman, L. A. (1960). On the exact variance of products. *Journal of the American Statistical Association*, 55(292), 708-713.
- Grewatsch, S., & Kleindienst, I. (2017). When does it pay to be good? Moderators and mediators in the corporate sustainability–corporate financial performance relationship: A critical review. *Journal of Business Ethics*, 145(2), 383-416.
- Griffin, J. J., & Mahon, J. F. (1997). The corporate social performance and corporate financial performance debate: Twenty-five years of incomparable research. *Business & Society*, 36(1), 5-31.
- Haley, U. C. (1991). Corporate contributions as managerial masques: Reframing corporate contributions as strategies to influence society. *Journal of Management Studies*, 28(5), 485-510.
- Hasan, I., Kobeissi, N., Liu, L., & Wang, H. (2018). Corporate social responsibility and firm financial performance: The mediating role of productivity. *Journal of Business Ethics*, 149(3), 671-688.
- Hilary, G., & Hui, K. W. (2009). Does religion matter in corporate decision making in America?. *Journal of Financial Economics*, 93(3), 455-473.
- Hillman, A. J., & Keim, G. D. (2001). Shareholder value, stakeholder management, and social issues: what's the bottom line?. *Strategic Management Journal*, 22(2), 125-139.
- Houston, J. F., & James, C. (1995). CEO compensation and bank risk Is compensation in banking structured to promote risk taking?. *Journal of Monetary Economics*, 36(2), 405-431.

- Ioannou, I., & Serafeim, G. (2010). *What drives corporate social performance?: International evidence from social, environmental and governance sources*. Cambridge, MA: Harvard Business School.
- Irresberger, F., Mühlnickel, J., & Weiß, G. N. (2015). Explaining bank stock performance with crisis sentiment. *Journal of Banking & Finance*, 59, 311-329.
- Jendou, K. (2008). The determinants of banks' profits in Greece during the period of EU financial integration. *Managerial Finance*, 34(3), 146-159.
- Jensen, M. C. (2001). Value maximization, stakeholder theory, and the corporate objective function. *Journal of Applied Corporate Finance*, 14(3), 8-21.
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360.
- Jensen, M. C., & Murphy, K. J. (1990). Performance pay and top-management incentives. *Journal of Political Economy*, 98(2), 225-264.
- John, K., Litov, L., & Yeung, B. (2008). Corporate governance and risk-taking. *The Journal of Finance*, 63(4), 1679-1728.
- John, K., Saunders, A., & Senbet, L. W. (2000). A theory of bank regulation and management compensation. *The Review of Financial Studies*, 13(1), 95-125.
- Khan, M. S., Scheule, H., & Wu, E. (2017). Funding liquidity and bank risk taking. *Journal of Banking & Finance*, 82, 203-216.
- Kim, M., Kristiansen, E. G., & Vale, B. (2005). Endogenous product differentiation in credit markets: What do borrowers pay for?. *Journal of Banking & Finance*, 29(3), 681-699.
- Köster, H., & Pelster, M. (2017). Financial penalties and bank performance. *Journal of Banking & Finance*, 79, 57-73.
- Laeven, L., & Levine, R. (2009). Bank governance, regulation and risk taking. *Journal of Financial Economics*, 93(2), 259-275.
- Lambertini, L., & Tampieri, A. (2015). Incentives, performance and desirability of socially responsible firms in a Cournot oligopoly. *Economic Modelling*, 50, 40-48.
- Luo, X., & Bhattacharya, C. B. (2009). The debate over doing good: Corporate social performance, strategic marketing levers, and firm-idiosyncratic risk. *Journal of Marketing*, 73(6), 198-213.
- Luo, X., Wang, H., Raithel, S., & Zheng, Q. (2015). Corporate social performance, analyst stock recommendations, and firm future returns. *Strategic Management Journal*, 36(1), 123-136.
- Lys, T., Naughton, J. P., & Wang, C. (2015). Signaling through corporate accountability reporting. *Journal of Accounting and Economics*, 60(1), 56-72.
- MacKinnon, D. P., Warsi, G., & Dwyer, J. H. (1995). A simulation study of mediated effect measures. *Multivariate Behavioral Research*, 30(1), 41-62.
- Mamatzakis, E., & Bermpei, T. (2015). The effect of corporate governance on the performance of US investment banks. *Financial Markets, Institutions & Instruments*, 24(2-3), 191-239.
- Männasoo, K., & Mayes, D. G. (2009). Explaining bank distress in Eastern European transition economies. *Journal of Banking & Finance*, 33(2), 244-253.

- Margolis, J. D., & Walsh, J. P. (2003). Misery loves companies: Rethinking social initiatives by business. *Administrative Science Quarterly*, 48(2), 268-305.
- Margolis, J. D., Elfenbein, H. A., & Walsh, J. P. (2009). Does it pay to be good... and does it matter? A meta-analysis of the relationship between corporate social and financial performance. *And does it matter*. Available at SSRN: <http://ssrn.com/abstract=1866371>.
- Martinez-Miera, D., & Repullo, R. (2010). Does competition reduce the risk of bank failure?. *The Review of Financial Studies*, 23(10), 3638-3664.
- Mason, C., & Simmons, J. (2014). Embedding corporate social responsibility in corporate governance: A stakeholder systems approach. *Journal of Business Ethics*, 119(1), 77-86.
- McWilliams, A., & Siegel, D. (2000). Corporate social responsibility and financial performance: correlation or misspecification?. *Strategic Management Journal*, 21(5), 603-609.
- McWilliams, A., Siegel, D. S., & Wright, P. M. (2006). Corporate social responsibility: Strategic implications. *Journal of Management Studies*, 43(1), 1-18.
- Mehran, H., Morrison, A. D., & Shapiro, J. D. (2011). Corporate governance and banks: What have we learned from the financial crisis?. *FRB of New York Staff Report*, (502).
- Mergaerts, F., & Vander Vennet, R. (2016). Business models and bank performance: A long-term perspective. *Journal of Financial Stability*, 22, 57-75.
- Miller, S. M., & Noulas, A. G. (1997). Portfolio mix and large-bank profitability in the USA. *Applied Economics*, 29(4), 505-512.
- Mirzaei, A., Moore, T., & Liu, G. (2013). Does market structure matter on banks' profitability and stability? Emerging vs. advanced economies. *Journal of Banking & Finance*, 37(8), 2920-2937.
- Mohsni, S., & Otchere, I. (2014). Risk taking behavior of privatized banks. *Journal of Corporate Finance*, 29, 122-142.
- Mollah, S., & Zaman, M. (2015). Shari'ah supervision, corporate governance and performance: Conventional vs. Islamic banks. *Journal of Banking & Finance*, 58, 418-435.
- Molyneux, P., & Thornton, J. (1992). Determinants of European bank profitability: A note. *Journal of banking & Finance*, 16(6), 1173-1178.
- Nollet, J., Filis, G., & Mitrokostas, E. (2016). Corporate social responsibility and financial performance: A non-linear and disaggregated approach. *Economic Modelling*, 52, 400-407.
- Orlitzky, M., Schmidt, F. L., & Rynes, S. L. (2003). Corporate social and financial performance: A meta-analysis. *Organization Studies*, 24(3), 403-441.
- Parsons, T. (1991). *The social system*. Psychology Press.
- Pasiouras, F., & Kosmidou, K. (2007). Factors influencing the profitability of domestic and foreign commercial banks in the European Union. *Research in International Business and Finance*, 21(2), 222-237.
- Pathan, S. (2009). Strong boards, CEO power and bank risk-taking. *Journal of Banking & Finance*, 33(7), 1340-1350.
- Pathan, S., & Faff, R. (2013). Does board structure in banks really affect their performance?. *Journal of Banking & Finance*, 37(5), 1573-1589.

- Peloza, J. (2009). The challenge of measuring financial impacts from investments in corporate social performance. *Journal of Management*, 35(6), 1518-1541.
- Porter, M. E. & M. R. Kramer. (2002). The Competitive Advantage of Corporate Philanthropy. *Harvard Business Review*, 80(12), 56-69
- Porter, M. E., & Kramer, M. R. (2006). The link between competitive advantage and corporate social responsibility. *Harvard Business Review*, 84(12), 78-92.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behavior Research Methods, Instruments, & Computers*, 36(4), 717-731.
- Preston, L. E., & O'bannon, D. P. (1997). The corporate social-financial performance relationship: A typology and analysis. *Business & Society*, 36(4), 419-429.
- Raviv, A., & Sisli-Ciamarra, E. (2013). Executive compensation, risk taking and the state of the economy. *Journal of Financial Stability*, 9(1), 55-68.
- Robins, N., & Krosinsky, C. (2008). After the credit crunch: the future of sustainable investing. *Public Policy Research*, 15(4), 192-197.
- Rowley, T., & Berman, S. (2000). A brand new brand of corporate social performance. *Business & Society*, 39(4), 397-418.
- Saunders, A., Strock, E., & Travlos, N. G. (1990). Ownership structure, deregulation, and bank risk taking. *The Journal of Finance*, 45(2), 643-654.
- Scholtens, B. (2006). Finance as a driver of corporate social responsibility. *Journal of Business Ethics*, 68(1), 19-33.
- Scholtens, B. (2009). Corporate social responsibility in the international banking industry. *Journal of Business Ethics*, 86(2), 159-175.
- Scholtens, B., & Dam, L. (2007). Banking on the Equator. Are banks that adopted the Equator Principles different from non-adopters?. *World Development*, 35(8), 1307-1328.
- Sen, S., & Bhattacharya, C. B. (2001). Does doing good always lead to doing better? Consumer reactions to corporate social responsibility. *Journal of Marketing Research*, 38(2), 225-243.
- Shen, C. H., Wu, M. W., Chen, T. H., & Fang, H. (2016). To engage or not to engage in corporate social responsibility: Empirical evidence from global banking sector. *Economic Modelling*, 55, 207-225.
- Simpson, W. G., & Kohers, T. (2002). The link between corporate social and financial performance: Evidence from the banking industry. *Journal of Business Ethics*, 35(2), 97-109.
- Soana, M. G. (2011). The relationship between corporate social performance and corporate financial performance in the banking sector. *Journal of Business Ethics*, 104(1), 133.
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological Methodology*, 13, 290-312.
- Soedarmono, W., Machrouh, F., & Tarazi, A. (2013). Bank competition, crisis and risk taking: Evidence from emerging markets in Asia. *Journal of International Financial Markets, Institutions and Money*, 23, 196-221.
- Srivastav, A., & Hagendorff, J. (2016). Corporate governance and bank risk-taking. *Corporate Governance: An International Review*, 24(3), 334-345.

- Stiroh, K. J. (2004). Diversification in banking: Is noninterest income the answer?. *Journal of Money, Credit, and Banking*, 36(5), 853-882.
- Surroca, J., Tribó, J. A., & Waddock, S. (2010). Corporate responsibility and financial performance: The role of intangible resources. *Strategic Management Journal*, 31(5), 463-490.
- Thompson, P., & Cowton, C. J. (2004). Bringing the environment into bank lending: implications for environmental reporting. *The British Accounting Review*, 36(2), 197-218.
- Ullmann, A. A. (1985). Data in search of a theory: A critical examination of the relationships among social performance, social disclosure, and economic performance of US firms. *Academy of Management Review*, 10(3), 540-557.
- Utz, S. (2017). Over-investment or risk mitigation? Corporate social responsibility in Asia-Pacific, Europe, Japan, and the United States. *Review of Financial Economics*.
- Waddock, S. (2004). Parallel universes: Companies, academics, and the progress of corporate citizenship. *Business and Society Review*, 109(1), 5-42.
- Waddock, S. A., & Graves, S. B. (1997). The corporate social performance–financial performance link. *Strategic Management Journal*, 18(4), 303-319.
- Wang, Q., Dou, J., & Jia, S. (2016). A meta-analytic review of corporate social responsibility and corporate financial performance: The moderating effect of contextual factors. *Business & Society*, 55(8), 1083-1121
- Wang, Y. S., Wang, Y. M., Lin, H. H., & Tang, T. I. (2003). Determinants of user acceptance of Internet banking: an empirical study. *International Journal of Service Industry Management*, 14(5), 501-519.
- Wartick, S. L., & Cochran, P. L. (1985). The evolution of the corporate social performance model. *Academy of Management Review*, 10(4), 758-769.
- Watchman, P., Partner, F., & Deringer, B. (2006). Banks, business and human rights. *Butterworths Journal of International Banking and Financial Law*, 2, 47-50.
- Wood, D. J. (1991). Corporate social performance revisited. *Academy of Management Review*, 16(4), 691-718.
- Wood, D. J. (2010). Measuring corporate social performance: A review. *International Journal of Management Reviews*, 12(1), 50-84.
- Wright, C., & Rwabizambuga, A. (2006). Institutional pressures, corporate reputation, and voluntary codes of conduct: An examination of the equator principles. *Business and Society Review*, 111(1), 89-117.
- Wu, M. W., & Shen, C. H. (2013). Corporate social responsibility in the banking industry: Motives and financial performance. *Journal of Banking & Finance*, 37(9), 3529-3547.
- Wu, M. W., Shen, C. H., & Chen, T. H. (2017). Application of multi-level matching between financial performance and corporate social responsibility in the banking industry. *Review of Quantitative Finance and Accounting*, 49(1), 29-63.
- Zhang, J., Jiang, C., Qu, B., & Wang, P. (2013). Market concentration, risk-taking, and bank performance: Evidence from emerging economies. *International Review of Financial Analysis*, 30, 149-157.

Zhang, R., Zhu, J., Yue, H., & Zhu, C. (2010). Corporate philanthropic giving, advertising intensity, and industry competition level. *Journal of Business Ethics*, 94(1), 39-52.

Table 1. Sample breakdown by country

Country	Obs	MeanCSP	MeanESG Combined	MeanGDP Growth	MeanInflation	Country	Obs	MeanCSP	MeanESG Combined	MeanGDP Growth	Mean Inflation
Argentina	4	18.6%	56.23%	1.68%	25.32%	Malaysia	50	52.59%	53.18%	4.97%	1.93%
Australia	75	87.97%	55.41%	2.84%	2.85%	Mexico	23	35.05%	43.44%	2.19%	4.24%
Austria	23	59.58%	49.73%	1.50%	1.74%	Morocco	10	49.17%	53.10%	3.91%	1.13%
Belgium	29	74.73%	52.72%	1.44%	1.66%	Netherlands	6	95.80%	49.18%	1.30%	0.91%
Bermuda	8	27.86%	42.43%	2.15%	1.58%	Nigeria	8	27.67%	35.35%	4.04%	8.65%
Brazil	16	83.60%	62.49%	0.88%	7.36%	Norway	15	86.03%	63.57%	1.60%	3.55%
Canada	102	89.57%	56.71%	1.88%	1.81%	Oman	18	36.79%	45.90%	3.08%	1.39%
Chile	28	50.23%	54.43%	3.06%	3.99%	Panama	1	14.89%	32.91%	5.32%	2.03%
China	68	58.39%	44.74%	7.61%	2.62%	Peru	1	6.33%	25.26%	2.52%	3.93%
Colombia	4	33.05%	54.02%	5.04%	3.92%	Philippines	29	45.15%	48.33%	6.21%	2.16%
Czech Republic	9	55.52%	61.55%	1.43%	1.14%	Poland	62	47.69%	45.57%	3.29%	1.44%
Denmark	38	37.36%	38.82%	1.00%	1.69%	Portugal	27	83.44%	60.69%	0.13%	1.74%
Egypt	15	30.68%	45.16%	3.27%	12.70%	Puerto Rico	10	53.27%	38.41%	-1.13%	2.26%
Finland	12	90.56%	59.58%	1.01%	1.86%	Qatar	20	20.29%	39.38%	4.39%	-3.42%
France	52	88.44%	48.85%	1.06%	1.32%	Russian Federation	23	52.55%	45.46%	1.22%	8.47%
Germany	30	86.91%	47.35%	1.35%	1.30%	Saudi Arabia	15	16.82%	38.30%	2.14%	1.28%
Greece	55	50.02%	46.84%	-0.02%	1.85%	Singapore	34	48.60%	44.69%	5.54%	1.43%
Hong Kong	37	73.31%	56.75%	3.50%	1.96%	South Africa	35	85.84%	62.57%	1.59%	6.11%
Hungary	9	80.61%	53.37%	1.23%	2.76%	Spain	63	90.31%	66.18%	1.28%	1.25%
India	57	37.50%	35.29%	7.07%	5.37%	Sweden	43	82.90%	63.55%	2.22%	1.70%
Indonesia	43	57.97%	57.43%	5.43%	6.11%	Switzerland	40	51.83%	44.09%	1.67%	0.20%
Ireland	29	61.58%	47.01%	4.32%	0.57%	Taiwan	72	40.72%	49.16%	7.70%	2.85%
Israel	29	58.82%	53.84%	3.70%	1.95%	Thailand	51	68.31%	57.65%	3.38%	2.15%
Italy	115	49.07%	43.68%	-0.18%	1.47%	Turkey	47	64.12%	54.57%	5.81%	7.61%
Japan	193	25.19%	37.33%	0.82%	-0.15%	United Arab Emirates	11	29.37%	55.16%	2.75%	-3.08%
Jordan	9	81.06%	44.70%	2.81%	4.01%	United Kingdom	88	87.32%	47.85%	1.62%	2.03%
South Korea	44	64.60%	64.85%	3.15%	1.68%	United States	589	43.38%	38.18%	1.89%	1.76%
Total sample							2524	55.49%	46.90%	2.54%	2.19%

This table explain the country distribution for the 2524 banks-year observations comprising the sample between 2002 and 2017.

Table 2. Variable definitions and data sources

Variable	Description	Source
<i>Independent Variables</i>		
CSP	The Equal Weighted Rating reflects a balanced view of a bank performance in four areas, economic, environmental, social and corporate governance.	ASSET4 ESG
ESG Combined	ESG Combined Score is an overall bank score based on the reported information in the environmental, social and corporate governance pillars taking into account the ESG Controversies.	ASSET4 ESG
<i>Mediator Variables</i>		
Z-Score	<p>A measure of bank risk-taking computed as:</p> $Z_{it} = \frac{EA_{it} + ROA_{it}}{\sigma(ROA)_{it}}$ <p>We use the natural logarithm of the Z-score.</p>	Worldscope
σ StockVolatility	A measure of a stock average annual price volatility.	Worldscope
<i>Dependent Variable</i>		
ROAA	The ratio of net income before interest and tax on the average book value of total assets.	Worldscope
ROAE	The ratio of net income after tax on the average book value of total equity.	Worldscope
<i>Control Variables</i>		
Size	The natural logarithm of total assets in \$US.	Worldscope
Leverage	The ratio of equity to total assets	Worldscope
Business Model	The ratio of non-interest income to total income	Worldscope
Efficiency	The ratio of overhead costs to total income	Worldscope
Liquidity	The ratio of cash and securities on total deposits	Worldscope
Funding Structure	The ratio of customer deposits on total asset	Worldscope
Credit Quality	The ratio of nonperforming loans on total loans	Worldscope
GDP growth	Annual percentage growth rate of GDP at market prices based on constant local currency.	World bank
Inflation	Inflation as measured by the annual growth rate of the GDP implicit deflator shows the rate of price change in the economy as a whole	World bank

This table explain the definitions and sources of variables of interest in our analysis.

Table 3. Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ROAE	2524	10.84%	8.62%	-35.7%	31.84%
ROAA	2034	1.24%	0.84%	-1.14%	5.5%
CSP	2524	55.49%	32.09%	2.61%	98.42%
ESG Combined	2524	46.90%	16.82%	12.27%	92.4%
Z-Score	2263	3.99	1.15	0.93472	6.67
Stock Volatility	2524	24.90%	7.77%	11.85%	57.58%
Size	2524	18.38	1.58	12.50	21.94
Leverage	2524	8.34%	3.51%	2.08%	24%
Funding Structure	2524	10.33%	17.62%	0.43%	50.40%
Liquidity	2524	58.35%	52.09%	9.91%	372.4%
Business Model	2524	1.58%	2.68%	-8.61%	16.30%
Efficiency	2524	77.46%	9.89%	62.01%	93.77%
Credit Quality	2524	3.15%	4.81%	0%	60.71%
GDP Growth	2524	2.54%	2.84%	-5.48%	14.23%
Inflation	2524	2.19%	3.11%	-15.71%	25.3%

Table 4. Correlation matrix

Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1 ROAE	1.0000														
2 ROAA	0.6476*	1.0000													
3 CSP	0.0726*	-0.0002	1.0000												
4 ESG Combined	0.1348*	0.0968*	0.6431*	1.0000											
5 Z-Score	0.1479*	-0.0064	-0.1532*	-0.0753*	1.0000										
6 Stock Volatility	-0.2757*	0.0170	0.0113	0.0233	-0.4163*	1.0000									
7 Size	0.0054	-0.1976*	0.6449*	0.2650*	-0.2231*	0.0727*	1.0000								
8 Leverage	0.0595*	0.4486*	-0.2876*	-0.1575*	0.2543*	-0.0162	-0.5655*	1.0000							
9 Funding Structure	0.0347	-0.0159	-0.1935*	-0.0099	0.0930*	0.0686*	-0.0259	-0.0271	1.0000						
10 Liquidity	-0.0945*	-0.0566*	0.2148*	0.0257	-0.2172*	0.1955*	0.4285*	-0.2795*	-0.1345*	1.0000					
11 Business Model	-0.0203	-0.0813*	0.1592*	0.0412*	-0.0829*	0.0519*	0.2147*	-0.1641*	-0.0227	0.2508*	1.0000				
12 Efficiency	-0.2911*	-0.1798*	0.2416*	0.1085*	-0.5160*	0.3251*	0.2943*	-0.3463*	-0.0512*	0.2761*	0.2858*	1.0000			
13 Credit Quality	-0.4349*	-0.1718*	0.0672*	0.0353	-0.2836*	0.4244*	0.0393*	0.0125	-0.0346	0.0029	-0.0299	0.3240*	1.0000		
14 GDP Growth	0.2307*	0.1630*	-0.0643*	0.0124	0.2166*	-0.0132	-0.0222	0.0827*	0.1178*	-0.1386*	-0.0700*	-0.2886*	-0.1771*	1.0000	
15 Inflation	0.2776*	0.4264*	0.0179	0.0593*	-0.0611*	0.1664*	-0.0461*	0.1278*	0.0462*	-0.0058	-0.0113	0.0436*	-0.0497*	0.2192*	1.0000

* p<0.05

Table 5. CSP and financial performance: the mediating role of bank risk-taking (Z-Score)

Dependent Variables	Panel A: ROAA			Panel B: ROAE		
	(1) ROAA	(2) Z-score	(3) ROAA	(4) ROAE	(5) Z-score	(6) ROAE
LagCSP	0.0023** (0.0010)	0.0031** (0.0015)	0.0021** (0.0010)	0.0296** (0.0132)	0.0034** (0.0016)	0.0264** (0.0130)
Z_score			0.0507*** (0.0166)			0.9345*** (0.1902)
Size	0.3502*** (0.1009)	0.0670 (0.0942)	0.3426*** (0.0981)	7.6352*** (1.1856)	0.0536 (0.1289)	7.5852*** (1.1849)
Leverage	0.0495*** (0.0150)	0.1451*** (0.0161)	0.0423*** (0.0145)	0.3933* (0.2294)	0.1315*** (0.0218)	0.2704 (0.2173)
Funding Structure	-0.0130 (0.0083)	-0.0080 (0.0128)	-0.0133 (0.0085)	0.0521 (0.0827)	-0.0113 (0.0143)	0.0627 (0.0781)
Liquidity	0.0008 (0.0010)	-0.0012 (0.0010)	0.0009 (0.0010)	-0.0262* (0.0139)	-0.0014 (0.0011)	-0.0249* (0.0142)
Business Model	0.0021 (0.0029)	0.0206*** (0.0070)	0.0012 (0.0030)	0.0873* (0.0479)	0.0225*** (0.0070)	0.0664 (0.0479)
Efficiency	-0.0101*** (0.0025)	-0.0267*** (0.0036)	-0.0089*** (0.0026)	-0.1844*** (0.0333)	-0.0299*** (0.0050)	-0.1565*** (0.0323)
Credit quality	-0.0285*** (0.0054)	-0.0409*** (0.0048)	-0.0266*** (0.0053)	-0.6488*** (0.1320)	-0.0440*** (0.0081)	-0.6077*** (0.1271)
GDPgrotwh	-0.0039 (0.0086)	0.0153 (0.0124)	-0.0040 (0.0087)	0.0446 (0.1094)	0.0108 (0.0128)	0.0345 (0.1079)
Inflation	0.0049 (0.0058)	0.0131 (0.0099)	0.0043 (0.0056)	0.1221*** (0.0446)	0.0125 (0.0107)	0.1104** (0.0434)
Bank Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,034	2,034	2,034	2,263	2,263	2,263
R-squared	0.4213	0.3258	0.4300	0.5604	0.3219	0.5734
Number of banks	340	340	340	391	391	391
Sobel Test			p<0.05			p<0.05
Indirect Effect			0.0002			0.0032
Direct Effect			0.0021			0.0264
Total Effect			0.0023			0.0296
Mediated total effect (%)			6.72%			10.73%

Robust standard errors clustered by banks in parenthesis. * p<0.10; ** p<0.05;*** p<0.01

Table 6. CSP and financial performance: the mediating role of bank risk-taking (Stock price volatility)

Dependent Variables	Panel A: ROAA			Panel B: ROAE		
	(1) ROAA	(2) Stock Volatility	(3) ROAA	(4) ROAE	(5) Stock Volatility	(6) ROAE
LagCSP	0.0026** (0.0010)	-0.0244** (0.0105)	0.0019* (0.0010)	0.0358*** (0.0133)	-0.0339*** (0.0121)	0.0207* (0.0109)
Stock Volatility			-0.0251*** (0.0092)			-0.4456*** (0.0767)
Size	0.3343*** (0.1019)	-7.0744*** (1.0456)	0.1565 (0.1035)	5.6370*** (1.3846)	-3.9383*** (1.1613)	3.8819*** (0.9900)
Leverage	0.0430*** (0.0152)	0.0376 (0.1389)	0.0439*** (0.0146)	0.2402 (0.1884)	0.1919 (0.1491)	0.3258* (0.1738)
Funding Structure	-0.0110 (0.0078)	-0.3023*** (0.0507)	-0.0186** (0.0082)	0.0206 (0.0617)	-0.2593*** (0.0472)	-0.0950 (0.0713)
Liquidity	0.0008 (0.0010)	0.0298*** (0.0103)	0.0016 (0.0012)	-0.0377*** (0.0119)	0.0205 (0.0131)	-0.0285** (0.0124)
Business Model	0.0032 (0.0032)	-0.0755** (0.0371)	0.0013 (0.0028)	0.1011** (0.0469)	-0.0868** (0.0402)	0.0624 (0.0450)
Efficiency	-0.0102*** (0.0027)	0.0949*** (0.0259)	-0.0078*** (0.0021)	-0.1947*** (0.0325)	0.0723*** (0.0231)	-0.1624*** (0.0289)
Credit quality	-0.0282*** (0.0055)	0.3735*** (0.0573)	-0.0188*** (0.0068)	-0.6165*** (0.1209)	0.3748*** (0.0761)	-0.4495*** (0.1101)
GDPgrotwh	-0.0001 (0.0091)	0.1312** (0.0617)	0.0032 (0.0089)	0.0502 (0.1025)	0.1241** (0.0541)	0.1055 (0.0934)
Inflation	0.0046 (0.0062)	-0.0698 (0.0504)	0.0029 (0.0052)	0.0912** (0.0353)	0.0025 (0.0319)	0.0923*** (0.0342)
Bank fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,983	1,983	1,983	2,524	2,524	2,524
R-squared	0.4187	0.6184	0.4517	0.5673	0.5593	0.6123
Number of banks	329	329	329	394	394	394
Sobel Test			p<0.01			p<0.01
Indirect Effect			0.0006			0.0151
Direct Effect			0.0019			0.0207
Total Effect			0.0025			0.0358
Mediated total effect (%)			24.04%			42.27%

Robust standard errors clustered by banks in parenthesis. * p<0.10; ** p<0.05;*** p<0.01

Table 7. ESG Combined and financial performance: the mediating role of bank risk-taking (Z-Score)

Dependent Variables	Panel A: ROAA			Panel B: ROAE		
	(1) ROAA	(2) Z-Score	(3) ROAA	(4) ROAE	(5) Z-Score	(6) ROAE
LagESG Combined	0.0019** (0.0009)	0.0055*** (0.0020)	0.0016* (0.0009)	0.0291** (0.0126)	0.0052*** (0.0019)	0.0246* (0.0126)
Z_Score			0.0509*** (0.0167)			0.8478*** (0.1912)
Size	0.3764*** (0.1017)	0.0900 (0.1214)	0.3718*** (0.1004)	5.6415*** (1.4541)	0.1310 (0.1157)	5.5304*** (1.4511)
Leverage	0.0519*** (0.0146)	0.1476*** (0.0225)	0.0444*** (0.0144)	0.2604 (0.2486)	0.1387*** (0.0218)	0.1428 (0.2357)
Funding Structure	-0.0127 (0.0081)	-0.0073 (0.0142)	-0.0123 (0.0085)	0.0400 (0.0849)	-0.0098 (0.0139)	0.0482 (0.0820)
Liquidity	0.0008 (0.0010)	-0.0012 (0.0010)	0.0008 (0.0009)	-0.0256 (0.0194)	-0.0013 (0.0011)	-0.0245 (0.0199)
Business Model	0.0023 (0.0030)	0.0208*** (0.0066)	0.0012 (0.0030)	0.1023* (0.0545)	0.0222*** (0.0070)	0.0835 (0.0542)
Efficiency	-0.0105*** (0.0026)	-0.0266*** (0.0049)	-0.0091*** (0.0026)	-0.1528*** (0.0352)	-0.0305*** (0.0051)	-0.1270*** (0.0347)
Credit quality	-0.0286*** (0.0057)	-0.0415*** (0.0059)	-0.0265*** (0.0055)	-0.7520*** (0.1515)	-0.0419*** (0.0077)	-0.7165*** (0.1474)
GDPgrotwh	-0.0049 (0.0087)	0.0140 (0.0134)	-0.0056 (0.0086)	0.1311 (0.1187)	0.0076 (0.0126)	0.1246 (0.1172)
Inflation	0.0053 (0.0059)	0.0143 (0.0135)	0.0046 (0.0056)	0.1788*** (0.0508)	0.0116 (0.0106)	0.1689*** (0.0491)
Bank Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	2,034	2,034	2,034	2,263	2,263	2,263
R-squared	0.4185	0.3280	0.4273	0.4852	0.3224	0.4959
Number of banks	340	340	340	391	391	391
Sobel Test			p<0.01			p<0.01
Indirect Effect			0.0003			0.0045
Direct Effect			0.0016			0.0246
Total Effect			0.0019			0.0291
Mediated total effect (%)			15.04%			15.29%

Robust standard errors clustered by banks in parenthesis. * p<0.10; ** p<0.05;*** p<0.01

Table 8. ESG Combined and financial performance: the mediating role of bank risk-taking (Stock price volatility)

Dependent Variables	Panel A: ROAA			Panel B: ROAE		
	(1) ROAA	(2) Stock Volatility	(3) ROAA	(4) ROAE	(5) Stock Volatility	(6) ROAE
LagESG Combined	0.0030*** (0.0010)	-0.0220* (0.0119)	0.0022** (0.0009)	0.0273** (0.0125)	-0.0313*** (0.0111)	0.0097 (0.0092)
Stock Volatility			-0.0337*** (0.0087)			-0.5642*** (0.0859)
Size	0.2332*** (0.0842)	-5.6606*** (1.2239)	0.0423 (0.0851)	4.3321*** (1.2916)	-3.1896*** (1.1419)	2.5326*** (0.7404)
Leverage	0.0364** (0.0159)	0.1341 (0.1650)	0.0409*** (0.0146)	0.1668 (0.2015)	0.2275 (0.1437)	0.2952 (0.1824)
Funding Structure	-0.0112 (0.0080)	-0.2974*** (0.0461)	-0.0212** (0.0085)	0.0356 (0.0598)	-0.2743*** (0.0454)	-0.1191 (0.0748)
Liquidity	0.0009 (0.0007)	0.0294* (0.0150)	0.0019* (0.0010)	-0.0363** (0.0145)	0.0195 (0.0150)	-0.0252* (0.0135)
Business Model	0.0044 (0.0038)	-0.0896** (0.0449)	0.0013 (0.0031)	0.1040** (0.0520)	-0.0897** (0.0436)	0.0534 (0.0475)
Efficiency	-0.0088*** (0.0026)	0.0763*** (0.0280)	-0.0062*** (0.0020)	-0.1633*** (0.0331)	0.0522** (0.0242)	-0.1338*** (0.0282)
Credit quality	-0.0324*** (0.0063)	0.4274*** (0.0652)	-0.0180** (0.0070)	-0.7233*** (0.1336)	0.4415*** (0.0828)	-0.4742*** (0.1175)
GDPgrotwh	0.0043 (0.0093)	0.0679 (0.0628)	0.0066 (0.0086)	0.1210 (0.1103)	0.0843 (0.0559)	0.1686* (0.0944)
Inflation	0.0086 (0.0068)	-0.1200* (0.0622)	0.0045 (0.0052)	0.1429*** (0.0393)	-0.0286 (0.0370)	0.1268*** (0.0344)
Bank Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	1,983	1,983	1,983	2,524	2,524	2,524
R-squared	0.3580	0.5407	0.4296	0.5023	0.5052	0.5833
Number of banks	329	329	329	394	394	394
Sobel Test			p<0.01			p<0.01
Indirect Effect			0.0007			0.0176
Direct Effect			0.0022			0.0097
Total Effect			0.0029			0.0273
Mediated total effect (%)			24.95%			64.60%

Robust standard errors clustered by banks in parenthesis. * p<0.10; ** p<0.05; *** p<0.01

