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Greed or good deeds: An examination of the relation between corporate social responsibility and the financial performance of U.S. commercial banks around the financial crisis

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ABSTRACT

We examine the relation between banks' corporate social responsibility (CSR) and financial performance in a context of the recent financial crisis. We find that banks, in general, appear to be rewarded for being socially responsible as financial performance is positively and significantly related to CSR scores. We find that the biggest banks pursue socially responsible activities to a significantly greater extent than smaller banks. Further, the largest banks see a steep increase in CSR strengths and a steep drop in CSR concerns after 2009.

"Any modern economy needs a financial system, not only to process payments, but also to transform savings in one part of the economy into productive investment in another part of the economy. However, the Obama administration had decided, like the George W. Bush and Bill Clinton administrations before it, that it needed this financial system — a system dominated by the thirteen bankers who came to the White House in March. Their banks used huge balance sheets to place bets in brand-new financial markets, stirring together complex derivatives with exotic mortgages in a toxic brew that ultimately poisoned the global economy. In the process, they grew so large that their potential failure threatened the stability of the entire system, giving them a unique degree of leverage over the government."

[(13 Bankers: Wall Street Takeover and the Next Financial Meltdown by Simon Johnson and James Kwak, Randomhouse, 2010.)]

1. Introduction

The global economy continues its recovery from the worst recession since the 1930s. While there are a number of positive signs that the economy is slowly improving, the role the financial industry played in this crisis is widely discussed and recognized. As the above passage alludes, banks' obsession with profitability has been noted as a major reason for the advancement of financial innovations and risky speculations, the expansion of high risk loans and subprime mortgages, the increase in asset prices without economic basis, and eventually, the sudden and unexpected decrease in financial asset prices prior to the financial crisis. During and after the crisis, banks (particularly big banks) were heavily criticized for their failure to account for the impact of management decisions on society, e.g., for their failure to be socially responsible. However, large banks are more likely to be too-big-to-fail. Thus, they would not care about being socially responsible and its performance implications. In contrast, when small banks face difficulties they can mobilize the support of stakeholders if they have a history of being socially responsible. Depositors, the community, regulators, governments may step into help small, socially responsible banks emerge from difficult situations. Thus, social responsibility

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may matter more for small banks rather than large banks. Given the devastating effects of bank decisions on the financial system, as financial institutions work to restore growth and build goodwill, the issue of banks' pursuit of corporate social responsibility (CSR) and its relation to financial performance is more relevant than ever.

The aftereffects of the financial crisis and the slow economic recovery have resulted in increased skepticism and scrutiny of commercial banks' motives and actions. While not specifically stating that banks should improve their social responsibility, the Wall Street Reform and Consumer Protection Act of 2010 put big banks under close scrutiny. A way to reduce scrutiny would be to improve their engagement in socially responsible activities. The emergence of social media has resulted in consumers increasingly taking their frustrations to Facebook, Twitter, and petition sites such as www.change.org.[1] Nationwide campaigns, such Bank Transfer Day on November 5, 2011, encouraged consumers to leave their "big" banks for credit unions and community banks.[2] In addition, communities and local governments (e.g., New York City, Los Angeles, and Boston) are pressuring and requiring banks to offer better services in poor neighborhoods and to submit community reinvestment plans regularly in order to do business with them (New York Times, May 14, 2012).

There is some anecdotal evidence that banks are taking CSR more seriously and are working to enhance their CSR records after the financial crisis. For example, in August 2012, Bank of America released its second annual CSR report. The report highlights a number of initiatives such as the bank's ten-year, $1.5 trillion community development lending and investing goal; ten-year, $2 billion philanthropic investment goal; and ten-year, $50 billion environmental business goal. In September 2012, J.P. Morgan Chase released a full set of CSR reports, highlighting the firm's global efforts to help grow the economy, strengthen the communities in which it operates, expand educational opportunities, and promote environmental sustainability. Despite this anecdotal evidence, there has been no academic research on banks' CSR activities around the financial crisis.

In this paper, we investigate whether commercial banks in aggregate are taking substantive steps at being socially responsible, if their engagement in socially responsible activities have changed since the financial crisis, and whether there is a relationship between their CSR and financial performance. Using Environmental, Social, and Governance (ESG) ratings data from MSCI ESG STATS database (formerly KLD), we find that the largest banks (which were most heavily criticized for their obsession with profits and the resulting conduct of activities that led to the crisis) consistently have higher CSR strengths and CSR concerns throughout the sample period. Further, this group sees a steep increase in CSR strengths and a steep drop in CSR concerns after 2009, as the worst of the financial crisis passed. We find that, in both pre-crisis and post-crisis periods, larger banks with more females and minorities on the board of directors and with shorter-tenured directors have significantly higher overall CSR scores[3] and CSR strengths. In contrast, small banks' overall CSR scores and CSR strengths are not impacted by these governance variables. Similarly, large banks operating in Democratic leaning states have significantly higher CSR strengths, while small banks do not.

We find that banks that draw a larger percentage of deposits from low income communities have significantly higher overall CSR scores and CSR strengths scores after the crisis. The results are particularly true for bigger banks. As banks increase the level of deposits from low income communities from low to high, they become more entrenched in the communities. The result is a significant increase in CSR scores. Overall, we conclude that banks, and particularly larger banks that were at the center of criticism for their lack of social conscience prior to the financial crisis, did work to improve their CSR activities after the crisis. Despite the too-big-to-fail status of these banks, the crisis appears to have served as a wakeup call for the banks and their stakeholders to enhance their CSR records.

Many papers have examined the relation between firms' socially responsible behavior and their financial performance in a corporate context. Recent literature contends that firms pursue profit maximizing CSR (e.g., Fatemi et al., 2009; Bénabou and Tirole, 2010; Gillan et al., 2010; Garcia-Castro et al., 2010; Dimson et al., 2013; Servaes and Tamayo, 2013; Fatemi and Fooladi, 2013)[4] and get rewarded for their commitment to CSR in the form of higher values, lower cost of capital, and greater capital inflows (e.g., El Ghoul et al., 2011; Goss and Roberts, 2011; Jo and Harjoto, 2011).[5] Margolis et al. (2009) conduct a meta-analysis of 251 studies that examine the relation between corporate social performance and financial performance. Overall the relation is found to be positive but small: corporate social performance does not appear to penalize companies financially nor impair their economic functioning. They also find that doing bad, if discovered, as is the case for banks during the financial crisis, has a more pronounced effect on financial performance than doing good.

As for the banking industry, evidence on the relation between CSR and financial performance has been scarce. For example, Chih et al. (2010) investigate a total of 520 financial firms in 34 countries over 2003–2005 and conclude that CSR and financial performance are not related. However, only 162 of the sample 520 firms are U.S. financial institutions and only 8 of these have CSR scores. Wu and Shen (2013) analyze 162 banks in 22 countries over 2003–2009 and report that CSR is positively associated with financial performance in terms of return on assets, return on equity, net interest income, and noninterest income. Only 31 of the 162 sample firms are U.S. banks. Further, neither of these papers has a data set that allows for an examination of CSR in banks around the financial crisis. Given the actions of banks leading up to the financial crisis, the criticism of banks for causing the crisis, and the incentives for banks to improve their reputations after the financial crisis, an examination of bank CSR activities surrounding the crisis and their relation to bank performance would be of particular interest.

The relation between CSR and firm performance could be overstated if we do not control for an endogeneity problem.

[1] Molly Katchpole, a 22-year-old woman from Washington, collected more than 300,000 signatures on www.change.org website opposing the plan by Bank of America to charge $5 fee for using debit cards for purchases. Due to the outpouring of complaints, Bank of America abandoned its $5 fee plan on Nov 1, 2011. (The New York Times, Nov 1, 2011).

[2] This campaign ultimately cost big banks 2.2 million customers: http://www.huffingtonpost.com/bill-cheney/bank-transfer-day_b_2056292.html.

[3] As we describe below, our measure of overall CSR is total number of CSR strengths minus total number of CSR concerns in the MSCI ESG STATS database.

[4] Other papers look at issues other than profit and value maximization. For example, Bae et al. (2011) find a firm's incentive or ability to offer fair employee treatment is an important determinant of its financing policy. Edmans (2011) finds that firms' concerns for other stakeholders, such as employees, may ultimately benefit shareholders.

[5] Similarly, Hong and Kacperczyk (2009) find that stocks of companies involved in producing alcohol, tobacco, and gaming are less held by norm-constrained institutions such as pension plans as compared to mutual or hedge funds that are natural arbitrageurs, and they receive less coverage from analysts than do stocks of otherwise comparable characteristics. Deng et al. (2013) find that compared with low CSR acquirers, high CSR acquirers realize higher merger announcement returns, higher announcement returns on the value-weighted portfolio of the acquirer and the target, and larger increases in post-merger long-term operating performance. Finally, Hong and Kostovetsky (2012) find that mutual fund managers who make campaign donations to Democrats hold less of their portfolios (relative to nondonors or Republican donors) in companies that are deemed socially irresponsible (e.g., tobacco, guns).

Specifically, it may be that firms engaging in CSR activities are of higher quality and deliver better performance regardless of whether they choose to become involved in CSR. To address this endogeneity concern, we examine the relation between CSR and firm performance using a two-stage instrumental variable approach. We use proxies for external political environment in the state where bank is headquartered, percent of deposits from low income counties, presence of female and minority directors on the board, and whether the bank is headquartered in a 'green city' as instruments for CSR engagement in the two-stage regressions. After correcting for endogeneity, we find that banks, in general, appear to be rewarded for being socially responsible as ROE is positively and significantly related to CSR scores. The biggest banks (that have been accused of putting their own interests ahead of their customers and the financial system as a whole) pursued socially responsible activities, such as lower deposit fees and increased services to low income communities, to a significantly greater extent than smaller banks. For these banks, amplified participation in CSR activities is related to improved financial performance. The results are robust under various specifications, including alternative definitions of CSR engagement and financial performance, and size cutoffs. Banks, especially large banks, are now more socially responsible. The results show that this is associated with higher bank performance. As such another benefit of this increased CSR is that the likelihood of another crisis is lower.

In the remainder of the paper, Section 2 describes the data and methodology used in the analysis, Section 3 discusses the results of the analysis, and Section 4 concludes the paper.

2. Data and methodology

2.1. Measures of CSR

We first collect environmental, social, and governance (ESG) ratings of the largest 3000 publicly traded companies from the MSCI ESG STATS database over 2003–2013. We choose 2003 as a starting point because that is when KLD coverage expands from 1000 to 3000 largest companies.[6] We then merge the ESG ratings data for financial institutions with the Consolidated Report of Condition and Income (i.e., Call Reports) database from Federal Financial Institutions Examination Council (FFIEC) and the RiskMetrics Directors database.[7] This combined dataset is the base for all our analyses. Because we examine bank CSR behavior around the financial crisis, we remove 2008 and 2009 from the analysis. These years represent the worst of the crisis. Being the focus of blame, banks worked to change many things, including their CSR activities during the crisis. Thus, we use the years 2003–2007 to analyze bank CSR activities before the financial crisis and 2010–2013 to analyze bank CSR activities after the crisis. Finally, eliminating banks with only one year of ESG rating observations results in a sample of 235 unique banks[8] (with an average of 136 banks per year) and 1495 bank-year observations.[9]

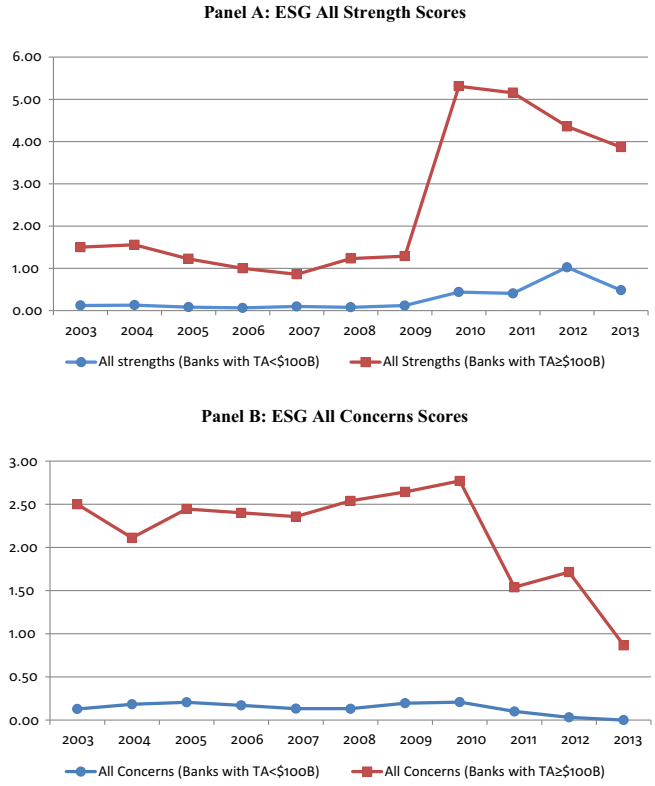

Fig. 1. ESG Strength and concern scores by size group. This figure shows a time series of ESG ratings for a sample of banks from 2003 through 2013. Panel A reports *All Strengths* measured as the sum of all ESG scores on attributes that are identified as strengths. Panel B reports *All Concerns* measured as the sum of all ESG scores on attributes that are identified as concerns. Ratings are reported by two size groups: banks with total assets >$100 billion and banks with total assets ⩾$100 billion.

MSCI ESG STATS evaluates companies on 63 indicators to capture "strengths" and "concerns" attributes in 7 categories: community, environment, diversity, employee relations, human rights, products, and governance. The MSCI ESG STATS product utilizes a binary representation of ESG ratings. If a company meets the criteria established for a rating, this is indicated with a "1." If a company does not meet the criteria established for a rating, this is indicated with a "0." Thus, banks would only receive scores for those indicators that are pertinent to their operations. For example, Biodiversity & Land Use is not a category that is relevant for banks. Accordingly, banks would not be rated in this category, i.e., banks would receive a "0" for this score. This means that the ESG ratings for the sample banks would include all areas relevant to banks and exclude those areas that do not apply to banks. These values are then summed across each category on strength and concern attributes. We construct variables *All Strengths* as the sum of ESG scores on attributes that are identified as strengths and *All Concerns* in an analogous manner. Following Hillman and Keim (2001) and Garcia-Castro et al. (2010), we assign equal importance to ESG categories and construct the variable *ESG Index* (also known as KLD index), our measure of overall CSR, by subtracting *All Concerns* from *All Strengths*.

Servaes and Tamayo (2013) state "corporate governance is about the mechanisms that allow the principals (shareholders) to reward and exert control on agents (the managers)...CSR, on the other hand, deals with social objectives and stakeholders other than shareholders." Accordingly, they exclude the corporate governance category from CSR measures. Similarly, Di Giuli and Kostovetsky (2014) state, ESG "rates firms on corporate governance, but this is different from CSR so it is not included in our KLD score." As in these papers, we exclude corporate governance

[6] MSGI ESG STATS database is formerly known as KLD database. KLD Research and Analytics was acquired by RiskMetrics Group in 2009, and RiskMetrics Group was later acquired by MSCI in 2010. MSCI ESG Research consolidated ESG ratings indicators substantially in the 2010 research cycle. This can be seen most prominently with the "concern" ESG indicators. None of the indicators is specific to banking.

[7] When two financial institutions (both with ESG ratings) merge, MSCI ESG Research evaluates the merged firm and determines an overall ESG rating based on the combined firms' CSR performance.

[8] While this number represents about 40% of all publicly traded banks, the sample includes the biggest banks in the U.S. Total assets held by these banks represent over 95% of total assets of all publicly traded banks. These are the banks that would be most watched in terms of CSR activities and most concerned about their CSR reputations.

[9] In contrast to our dataset, Wu and Shen (2013) examine only 31 U.S. banks. Further, their data ends in 2009, while ours runs through 2013, which allows us to look at CSR activities of banks before versus after the financial crisis.

Table 1
Descriptive statistics on ESG ratings data – sample banks. This table reports components of MSCI ESG STATS *All Strengths* and *All Concerns* for a sample of banks from 2003–2007 and 2010–2013. We use the 35 MSCI ESG STATS indicators that are available over the entire sample period. If a company meets the criteria established for a rating, this is indicated with a "1." If a company does not meet the criteria established for a rating, this is indicated with a "0." These values are then summed across each category on strength and concern attributes. Panel A reports the number of sample banks that receive a score by category over the full sample period. We construct a variable *All Strengths* as the sum of ESG scores on attributes that are identified as strengths and construct *All Concerns* in an analogous manner. We assign equal importance to the ESG categories and construct the variable *ESG Index*, our measure of overall CSR, by subtracting *All Concerns* from *All Strengths*. Panel B reports the average ESG scores for the sample banks. Ratings are reported by two size groups: banks with total assets <$100 billion and banks with total assets ⩾$100 billion. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.10$.

ESG variable	Number of banks	Percent of sample
Panel A: Number of banks rated by ESG category		
Community Strengths	92	39.1%
Environment Strengths	26	11.1
Diversity Strengths	91	38.7
Emp. Relations Strengths	66	28.1
Human Rights Strengths	5	2.1
Product Strengths	115	48.9
Community Concerns	55	23.4%
Environment Concerns	8	3.4
Diversity Concerns	2	0.9
Emp. Relations Concerns	55	23.4
Human Rights Concerns	8	3.4
Product Concerns	45	19.1

ESG variable	All banks			Banks with TA < $100B			Banks with TA ⩾ $100B		
	2003–2007	2010–2013	*t*-test	2003–2007	2010–2013	*t*-test	2003–2007	2010–2013	*t*-test
Panel B: Average ESG scores									
ESG Index	−0.15	0.76	***	−0.07	0.50	***	−1.18	2.95	***
All Strengths	0.18	1.02	***	0.10	0.60	***	1.18	4.64	***
Community Strengths	0.01	0.33	***	0.00	0.19	***	0.10	0.75	***
Environment Strengths	0.00	0.21	***	0.00	0.10	***	0.06	1.16	***
Diversity Strengths	0.04	0.64	***	0.01	0.31	***	0.38	1.56	***
Emp. Relations Strengths	0.11	0.13		0.08	0.07		0.50	0.62	
Human Rights Strengths	0.01	0.02	**	0.00	0.00		0.10	0.23	
Product Strengths	0.00	0.30	***	0.00	0.27	***	0.04	0.55	***
All Concerns	0.32	0.26		0.16	0.10	**	2.36	1.69	*
Community Concerns	0.00	0.01	**	0.00	0.00		0.00	0.05	
Environment Concerns	0.00	0.01	*	0.00	0.00		0.00	0.09	**
Diversity Concerns	0.04	0.02	**	0.02	0.00	***	0.28	0.15	*
Emp. Relations Concerns	0.04	0.04		0.02	0.02		0.36	0.24	
Human Rights Concerns	0.02	0.01	*	0.00	0.00		0.24	0.04	***
Product Concerns	0.21	0.18		0.11	0.07	**	1.48	1.13	*
Firm-year Observations	689	521		639	466		50	55	

indicators and three diversity indicators related to board and management (Board of Directors–Gender Strength, Board of Directors–Gender Concern, and Board of Directors–Minorities Concern) from *ESG Index*, *All Strengths*, and *All Concerns*. Rather, we include corporate governance variables in the analysis separately from ESG scores.

The composition of the ESG indicators has changed over the period of our analysis. While we have 63 indicators from MSCI ESG STATS database at the end of our 2003–2013 period, ratings have been added and some ratings have been discontinued over this period.[10] Of the indicators available at the end of 2013, 35 are available over the entire sample period. To ensure that our results are not affected by the changing nature of rating indicators, we use only the 35 indicators that have been consistently used in the MSCI ESG STATS database for the 2003–2013 period to calculate *ESG Index*, *All Strengths*, and *All Concerns* scores.[11] Finally, following Di Giuli and Kostovetsky (2014), in the regression analyses we standardize the CSR measures to have a mean of zero and a standard deviation of one.[12] The paper's appendix provides definitions used by MSCI ESG to determine strengths and concerns.

Fig. 1 shows a time series (2003 through 2013) of ESG *All Strengths* and *All Concerns* and Table 1 presents descriptive statistics of these scores for the sample banks. Panel A of Table 1 reports the number of banks that receive ESG scores over the sample period. Product (e.g., the extent to which a company is…strengthening reputation through providing lending, financing, or products to underrepresented or underbanked communities), community (e.g., company has a notable community engagement program concerning involvement of local communities in areas where the firm has major operations), and diversity (e.g., measures a firm's efforts to promote diversity in its workforce) are the most frequently rated strength areas for the sample banks, while community (e.g., the severity of controversies related to a firm's interactions with communities in which it does business), employee relations (e.g., companies that are involved in employee relations controversy), and product (e.g., the severity of controversies related to a firm's customer relations) are the most frequently rated concern areas. As noted above, ESG ratings are only assigned for those areas that MSCI ESG deems relevant. Thus, few banks are rated for environment and human rights categories.

Panel B lists the average ESG scores for the sample banks. We examine banks based on two size groups consistent with FDIC size groupings: total assets less than $100 billion and total assets greater than or equal to $100 billion. During and after the crisis, the biggest banks were heavily criticized for their failure to be socially responsible. However, from Fig. 1 we see that these banks consistently have higher *All Strengths* and *All Concerns* scores during the sample period. Further, this group sees a steep increase

[10] There is 1 new rating initiation in 2003, 5 in 2005, 1 in 2006, 2 in 2007, 7 in 2010, 18 in 2012, and 16 in 2013. In addition, there are 2 rating discontinuations in 2004, 1 in 2007, 28 in 2009, 1 in 2007, 9 in 2011, and 2 in 2012.

[11] As a robustness test, discussed below, we also perform tests using the 63 indicators available throughout the sample period.

[12] We also examine each of the six categories individually. No single category stands out in its ability to produce significant results any better than the six categories combined.

in *All Strengths* and a steep drop in *All Concerns* after 2009, as the worst of the financial crisis passed. This is consistent with Kotchen and Moon (2012) who find that companies engage in corporate social responsibility in order to offset corporate social irresponsibility, i.e., when companies do more "harm," they also do more "good." Given the apparent large changes around the financial crisis, we split the sample into two subgroups throughout the analysis: 2003–2007 and 2010–2013.

Table 1 confirms that changes surrounding the financial crisis are significant. In addition to the overall *ESG Index*, we report the descriptive statistics for *All Strengths*, *All Concerns*, as well as strengths and concerns in six categories: community, environment, diversity,[13] employee relations, human rights, and products. Consistent with Fig. 1, we see in Table 1 that the largest banks have the highest scores for both strength and concern dimensions. *All Strengths* increases from an average 1.18 in 2003–2007 to 4.64 in 2010–2013 (significant at 1%). The increase in the overall score is driven by a significant increase in four of the six categories (community, environment, diversity, and product). Further, the number of banks with 'access to finance' strengths (part of product category) increases from 0 before the crisis to 102 after the crisis.[14] During the financial crisis, banks (particularly the largest banks) were criticized for a lack of service to underrepresented and/or unbanked communities. According to this measure, it appears that banks worked to reduce this criticism after the crisis. For the largest banks, *All Concerns* decreases from an average 2.36 in 2003–2007 to 1.69 in 2010–2013 (significant at 10%). The decrease in the overall score is driven by a significant decrease in three of the six components. Further, the number of banks with community concerns decreased from 55 before the crisis to just 2 after the crisis (the average scores are 0.00 and 0.05, respectively). During the financial crisis, the largest banks were criticized for a lack of concern of their customers. It appears from this measure that banks worked to reduce this criticism after the crisis and are now operating as more socially responsible firms. Finally, from panel B, larger banks' average ESG score improves from -1.18 (i.e., concerns are greater than strengths) before the crisis to 2.95 (i.e., strengths are greater than concerns) after the crisis. The increase of 4.13 is significant at 1%.

From Table 1, we also see that, smaller banks' *All Strengths* increase from an average 0.10 in 2003–2007 to 0.60 in 2010–2013 (significant at 1%). The increase in the overall score is driven by a significant increase in four of the six individual components. Further, for these banks, *All Concerns* decreases from 0.16 in 2003–2007 to 0.10 in 2010–2013 (significant at 5%). The decrease in the overall score is driven by a significant decrease in two of the six individual components: diversity and product. Finally, from panel B, we see that the smaller banks' overall ESG scores improved from −0.07 in the years before the crisis to 0.50 after the crisis (the increase of 0.57 is significant at 1%). Thus, the largest banks see CSR scores around the financial crisis that are larger in magnitude and larger in size of improvement than smaller banks.

CSR scores have been used in prior research, most often, for industrial firms. To benchmark our sample against other firms, we collect ratings of all companies in the MSCI ESG STATS database. Table 2 reports components of ESG All Strengths and All Concerns for the periods 2003–2007 and 2010–2013 for the sample banks and nonbanks (1210 firm-year observations for banks and 21,636 firm-year observations for nonbanks).[15] The nonbank sample includes all SIC code industries, as well as finance, insurance, and real estate firms excluding commercial banks (2-digit SIC code 60). In panel A, we report the average ESG index and its components for banks and nonbanks by pre- and post-crisis periods. In panel B, we report the weighted average ESG index and its components, where we weight each observation by the market capital for a firm divided by the total market capital. From Table 2, we see that the sample banks differ significantly from nonbanks. In panel A, the

Table 2
Descriptive statistics on ESG ratings data – banks versus nonbanks. This table reports components of MSCI ESG STATS All Strengths and All Concerns for all firms in the MSCI ESG STATS database for the periods 2003–2007 and 2010–2013. Banks include our sample of commercial banks and nonbanks include all SIC code industries, as well as finance, insurance, and real estate firms excluding commercial banks (2-digit SIC code 60). We use the 35 MSCI ESG STATS indicators that are available over the entire sample period. If a company does meet the criteria established for a rating, this is indicated with a "1." If a company does not meet the criteria established for a rating, this is indicated with a "0." These values are then summed across each category on strength and concern attributes. We construct a variable *All Strengths* as the sum of all ESG scores on attributes that are identified as strengths and construct *All Concerns* in an analogous manner. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.10$.

ESG variable	2003–2007			2010–2013		
	Banks	Nonbanks	t-test	Banks	Nonbanks	t-test
Panel A: Simple averages						
ESG Index	−0.15	−0.26	***	0.76	0.34	***
All Strengths	0.18	0.34	***	1.02	0.81	***
Community Strengths	0.01	0.01		0.33	0.27	**
Environment Strengths	0.00	0.08	***	0.21	0.28	**
Diversity Strengths	0.04	0.03		0.64	0.33	***
Emp. Relations Strengths	0.11	0.18	***	0.13	0.19	***
Human Rights Strengths	0.01	0.00		0.02	0.05	***
Product Strengths	0.00	0.02	***	0.30	0.11	***
All Concerns	0.32	0.59	***	0.26	0.47	***
Community Concerns	0.00	0.03	***	0.01	0.03	***
Environment Concerns	0.00	0.15	***	0.01	0.10	***
Diversity Concerns	0.04	0.05		0.02	0.02	
Emp. Relations Concerns	0.04	0.13	***	0.04	0.16	***
Human Rights Concerns	0.02	0.02		0.01	0.02	**
Product Concerns	0.21	0.22		0.18	0.14	
Firm-year Observations	689	12,056		521	9580	
Panel B: Market cap-weighted averages						
ESG Index	−1.12	−0.97	**	2.49	1.54	***
All Strengths	1.59	1.69	*	4.82	3.77	***
Community Strengths	0.19	0.11	***	0.83	0.56	***
Environment Strengths	0.11	0.39	***	1.28	1.13	***
Diversity Strengths	0.47	0.30	***	1.67	1.03	***
Emp. Relations Strengths	0.66	0.76	***	0.66	0.81	***
Human Rights Strengths	0.09	0.02	***	0.28	0.32	*
Product Strengths	0.07	0.11	***	0.46	0.45	
All Concerns	2.70	2.66		2.33	2.23	
Community Concerns	0.00	0.17	***	0.09	0.19	***
Environment Concerns	0.02	0.63	***	0.20	0.43	***
Diversity Concerns	0.36	0.20	***	0.21	0.09	***
Emp. Relations Concerns	0.37	0.45	***	0.34	0.64	***
Human Rights Concerns	0.31	0.18	***	0.08	0.15	***
Product Concerns	1.65	1.02	***	1.41	0.73	***
Firm-year Observations	689	12,056		521	9580	

[13] Following Di Giuli and Kostovetsky (2014), we remove diversity indicators related to management and the board of directors.

[14] Access to capital has been evaluated by ESG and then MSCI since 1991. The zero score signifies that a firm does not have 'strength' in this area.

[15] Number of firm-year observations for nonbanks (21,636) looks higher than what we have in earlier version of Table 2, because earlier version of Table 2 has pre- and post-crisis averages, which collapsed 21,636 observations into a smaller set.

sample bank's average ESG Index increases 0.91, from −0.15 to 0.76 over the pre-crisis to post-crisis period, while nonbank's ESG Index increases 0.60, from −0.26 to 0.34. In the pre-crisis period, banks had a higher (less negative) ESG Index than nonbanks (−0.15 versus −0.26; the difference is significant at 1%). In the post-crisis period, banks had a much higher ESG Index than nonbanks (0.76 versus 0.34; the difference is significant at 1%). In panel B, using market value weights, the pre-crisis weighted average ESG Index for nonbanks is −0.97 and for banks is −1.12 (significant at the 5%), i.e., banks had a lower ESG Index than nonbanks. The post-crisis period, weighted average ESG index for nonbanks is 1.54 and for banks is 2.49 (significant at the 1%). Thus, banks started with a significantly lower ESG Index and ended up with a significantly higher ESG. From all of these tests we see that, while nonbanks increased their ESG ratings before versus after the crisis, the increase for banks is significantly larger.

2.2. Estimation methods

2.2.1. Determinants of CSR

We first examine the determinants of CSR by estimating the following OLS regressions[16] where independent variables include firm characteristics. Given that our data is a panel data set, all standard errors are clustered at the firm level (Petersen, 2009). Our main measures of CSR are *ESG Index*, *All Strengths*, and *All Concerns*:

$$\begin{aligned} CSR_{i,t} = {} & \alpha + \beta_1 \times Size_{i,t} + \beta_2 \times Tier\ 1\ Cap\ Ratio_{i,t} + \beta_3 \\ & \times High\ Fees\ Dummy_{i,t} + \beta_4 \\ & \times Pct.\ Deposits\ Low\ Income\ Counties_{i,t} + \beta_5 \\ & \times (Pct.\ Deposits\ Low\ Income\ Counties_{i,t})^2 + \beta_6 \\ & \times (Pct.\ Deposits\ Low\ Income\ Counties_{i,t})^3 + \beta_7 \\ & \times Post\ Crisis\ Dummy + \beta_8 \times HQ\ in\ Green\ City_{i,t} + \delta \\ & \times Board\ Composition_{i,t} + \lambda \\ & \times External\ Political\ Environment_{i,t} + \varepsilon_{i,t}. \end{aligned} \quad (1)$$

A number of factors may affect banks' social performance. Larger banks tend to draw higher levels of attention from the public and to have a greater social impact. The financial crisis highlighted both of these attributes. Thus, larger banks are more likely to have stronger social performance and to have enhanced their social performance even further around the financial crisis. To capture the effect of bank size on CSR activities, we use *Log Total Assets*. In addition, capital levels could impact CSR. Banks with higher levels of capital have relatively more funds available to pursue CSR activities than those with lower levels of capital.[17] We measure banks' capital as the *Tier 1 Capital Ratio:* ratio of a bank's core equity capital to total risk-weighted assets. Risk-weighted assets are the total of all assets held by the bank weighted by credit risk according to a formula determined by the Board of Governors of the Federal Reserve System. The metric is primarily used to indicate the ability of the bank to absorb unexpected losses.[18]

A major purpose of this paper is to examine changes in bank CSR activities around the financial crisis. Due to the heightened level of criticism and activism from consumers and communities following the financial crisis, we expect banks' attitudes toward CSR change following the crisis. In the regressions with all years included, we use a variable *Post-Crisis Dummy* to capture the effects of the crisis on banks' attitudes toward CSR. *Post-Crisis Dummy* is set equal to 1 during years 2010–2013 and 0 during the years 2003–2007. In regressions on pre- and post-crisis subsamples, year dummies capture the time-varying nature of CSR activities.

Banks' obsession with profitability has been noted as a major reason for the financial crisis. During and after the crisis, banks were heavily criticized for their failure to account for the impact of management decisions on society and the communities in which they operate. We include two measures of banks' service to society and their local communities around the financial crisis: deposit fee revenue and presence in low income communities.[19]

Due to the low interest rate environment and slow economic growth, banks are under enormous pressure to find new sources of income. One source of revenue is bank service fees such as ATM fees and checking account fees. Many big banks, including Bank of America, J.P. Morgan Chase, and Wells Fargo, rolled out plans that aim to raise fee revenue. However, following customer revolts and a wave of criticism, many of these banks had to retreat from their plans to raise fees. One of the criticisms of banks during the financial crisis was that they charge excessive fees, thus failing to be socially responsible and consumer friendly. This became a rallying cry for consumers as they criticized banks and became the central point behind activities such as Bank Transfer Day. From 2000 through 2009, customer account fees amounted to an average of 17% of total income.[20] Customers and regulators have increasingly recognized this push and resisted. After peaking in 2009, annual account fees collected at U.S. commercial banks declined markedly, to 14.1% of total income, even as the volume of bank deposits grew.

As a source of revenue, fees could have a positive effect on CSR by increasing cash flows available to invest in socially responsible activities. As a source of criticism, fees could have a negative effect on CSR given that excessive fees charged on deposits have been a contentious issue at banks. Both effects are relevant to higher levels of fees. Close examination of the fees to deposits ratio reveals that it is highly skewed. Thus, we create a *High Fees Dummy* variable in the regressions, which takes a value of one if the fees to deposits ratio is greater than 0.68%, and zero otherwise. This cutoff represents the top 25 percent of the distribution.

We also expect geographic area to play a role in a bank's decision to pursue CSR. For example, banks with a higher presence in low income counties may invest more in CSR due to a commitment to the communities they serve. Conversely, banks may invest less in CSR because these communities generate fewer deposits in general. To measure the effect of presence in low income neighborhoods, and its impact on banks' CSR, we collect summary

[16] We also estimate fixed effect regressions to verify that the results are not due to the sample banks changing through time. Results from these regressions are similar to OLS regressions reported in the paper, i.e., ESG Index and All Strengths increase significantly in the post-crisis years. Another way to verify that the results are not due to changes in the sample banks is to examine whether compositional selection bias exists, i.e., use a balanced panel for CSR regressions. For this test, instead of including all sample banks (which included those that survived and those that did not), we restrict the sample to banks with at least 3 observations in each of the pre- and post-crisis period only banks that survived, and then, separately, to sample banks with 9 observations (2003–2007, 2010–2013). These regressions show if ESG index is changing for banks that are in the sample most and, then, every year. Results are robust to inclusion of firm fixed effects and to using a balanced panel of surviving banks as well.

[17] Hong et al. (2012) show that firms pursue CSR only when they have financial slack.

[18] During the financial crisis, the TARP Capital Purchase Program (CPP) injected over $200 billion of Tier I capital into banks. The goal of the CPP was to strengthen the capital base of economically sound banks. The CPP was not intended to be awarded to banks that were economically unviable in the long term. The majority of our sample banks received TARP CPP injections.

[19] While community strengths and concerns are part of the ESG score, revenue generation and business presence are not part of the score. As listed in Table 1A, community strengths measure a company's charitable giving programs and/or community engagement programs, while concerns measure the severity of controversies related to a firm's interactions with communities in which it does business.

[20] FDIC *Quarterly Banking Profiles* Commercial Bank Section, various years, www.fdic.gov/bank/analytical/qbp/.

of deposits data from the FDIC Summary of Deposits (SOD) annual survey of branch office deposits. We aggregate branch level deposits data at the county level and merge it with county level poverty estimates from the Small Area Income & Poverty Estimates (SAIPE) data provided by the Census Bureau. If the percentage of all ages in poverty in a county is above the federal poverty rate, we define that county as a low income county. We then calculate the percentage of bank deposits coming from low income counties, *% Deposits Low Income,* for each bank and year.[21]

Unlike the effect of fees on CSR, these effects may be present in different areas of the distribution. For example, banks with limited involvement in low income communities would likely see that a marginal increase in deposits from those unserved communities may actually result in lower CSR scores. However, banks that are more actively involved in low income communities would more likely see that further involvement (in the form of increased deposits from these communities) leads to the recognition of higher CSR scores. To determine if there is such a curvilinear relationship between banks' presence in low income communities and CSR, we include the percent of deposits from low income counties using orthogonal polynomials in the regression analysis: linear, squared, and cubic terms of the variable *% Deposits Low Income*.

The effectiveness of corporate governance may also affect a bank's social performance.

For example, Brown et al. (2006) find that firms with larger boards are more likely to engage in socially responsible activities. Wang and Coffey (1992) document a positive relation between several measures of board composition (ratio of insiders to outsiders, percentage of stock ownership, and the proportion of female and minority board members) and firms' charitable contributions. Similarly, Williams (2003) and Bear et al. (2010) both find that board diversity in terms of higher proportion of female and minority board members has a positive impact on firms' CSR. Using average director tenure as a proxy for the degree of board independence, Hong et al. (2015) find that average director tenure is negatively related to the existence of CSR incentives.[22] Therefore, we use measures of board composition from RiskMetrics Directors database (percentage of independent directors, percentage of female and minority board members, CEO-chair duality (dummy = 1 if yes and 0 if no), and median tenure of directors) to measure the level of corporate governance in the firm. When RiskMetrics data are not available, we supplement the board composition data with hand-collected data from proxy statements.

Banks with more effective corporate governance (i.e., banks with greater proportion of independent directors, separate CEO and board chairman roles, etc.) are expected to put more resources into CSR activities. In addition to the typical measures of board composition, the presence of women and minorities on the board is of particular interest. Female directors often have backgrounds in such fields as law, education, or nonprofit activities, and therefore, may be more sensitive to a firm's CSR activities than male directors (Williams, 2003). Board diversity in terms of expertise, experience, network ties as well as gender composition is found to be positively related to CSR ratings (Bear et al., 2010). Therefore, we include a proportion of female and minority directors to measure board diversity.

The concept of green cities, or sustainable cities, emerged in the 1980 s and 1990 s. As described by the city of Pasadena, CA (from the Pasadena website, cityofpasadena.net/GreenCity/), a green city "is a community of residents, neighbors, workers, and visitors who strive together to balance ecological, economic, and social needs to ensure a clean, healthy and safe environment for all members of society and for generations to come." The characteristics listed here are consistent with those used to measure corporate social responsibility. Examining data on environmental quality, number of parks per 10,000 residents, green transportation, and housing density, NerdWallet analyzed data for the 150 largest U.S. cities to find the 'greenest cities'.[23] Using these rankings, we create a dummy variable *HQ in Green City* set equal to 1 if a sample bank is headquartered in a 'green city' and 0 otherwise. As members of the community, we expect banks headquartered in a 'green city' would pursue more CSR activities.

Di Giuli and Kostovetsky (2014) find that Democratic-leaning firms spend $20 million more on CSR than Republican-leaning firms, or roughly 10% of net income. Further, they find no evidence that firms recover these expenditures through increased sales. They collect data on firms' internal (i.e., political contributions of CEOs, board members, and founders) and external political environments (i.e., political tilt of the firm's employees, suppliers, shareholders, customers, and regulators based on the state where the firm is headquartered) to define political affiliation. Following Di Giuli and Kostovetsky, we collect information on the political environment of the state in which the sample banks are headquartered. Specifically, we construct three variables representing the external political environment for a bank: the proportion of the vote received by the Democratic candidate for president in the last election in the state where the firm is headquartered (*President Vote D%*), 0.5× proportion of senators who are democrats +0.5× proportion of congressmen who are democrats in the state where the firm is headquartered (*Congress Delegation D%*), 0.5× indicator equal to one if governor is democrat +0.25× indicator equal to one if the state legislature upper chamber is controlled by democrats +0.25× indicator equal to one if the state legislature lower chamber is controlled by democrats (*State Government D%*).[24] As in Di Giuli and Kostovetsky, we apply principal component analysis to the three dimensions of a bank's political affiliation (*President Vote D%*, *Congress Delegation D%*, and *State Government D%*) and use the first principal component to create a comprehensive measure of the political environment of a bank called *Political Environment*. This principal component explains 75% of the variation in the three political affiliation variables.

Table 3 presents descriptive statistics for all variables used in the analysis. The median value of *ESG index* is zero, highlighting the need to decompose *ESG Index* into *All Strengths* and *All Concerns* indicators. That is, by examining *All Strengths* and *All Concerns* separately, we can distinguish between banks with equal, but varying, numbers of strengths and concerns, resulting in an *ESG Index* of zero, i.e., *ESG Index* would not distinguish between a bank with 1 strength and 1 concern from a bank with 10 strengths and 10 concerns. *All Strength* scores range from 0 to 14, while *All Concern* scores range from 0 to 7. The sample banks range in size from $28 million to $2.09 trillion and have average total assets of $56.26 billion. The average ROE over the entire period is 8.48% (ranging from −53.48% to 27.38%). Tier 1 capital averages 11.87%.

Corporate social responsibility encompasses issues associated with how banks provide services to customers in their local

[21] We also calculate percentage of low income counties served by dividing the number of low income counties served by total number of counties served for each bank and year. Results and conclusions are consistent with both measures. Thus, in the paper we focus on results using the percentage of bank deposits that come from low income counties.

[22] Justification behind this proxy is based on social network theory which suggests that board members develop and solidify their friendship or social ties with management as their tenure on the board increases, making them less independent.

[23] Details of the ranking and a listing of the top 25 greenest cities can be found at NerdWallet's website, www.nerdwallet.com/blog/cities/lifestyle/americas-greenest-cities-2015. NerdWallet was listed on CNNMoney's Top 20 Best Money Sites in 2010, and its rankings are widely cited in media outlets such as Forbes, Huffington Post, www.bizjournals.com, www.ecowatch.com, and www.marketwatch.com.

[24] The states in which the sample banks are headquartered are obtained from BHC level data.

Table 3
Descriptive statistics on bank corporate social responsibility, performance, and governance. This table reports descriptive statistics for variables used to analyze the sample banks from 2003 through 2013. We first collect environmental, social, and governance (ESG) ratings of largest 3000 publicly traded companies from MSCI ESG STATS. We then merge the ESG ratings data for financial institutions with the Call Reports database from FFIEC and the RiskMetrics Directors database. Eliminating banks with only one year of ESG rating observation results in a sample of 235 unique banks (with an average of 136 banks per year) and 1495 bank-year observations. Measures of board composition are collected from RiskMetrics Directors database, supplemented with data collected from proxy statements when RiskMetrics data were not available.

Variable	Mean	Median	Minimum	Maximum	Std. Dev.
ESG Index	0.83	0.00	−4.00	13.00	1.84
All Strengths	1.35	0.00	0.00	14.00	2.39
All Concerns	0.52	0.00	0.00	7.00	1.09
Total Assets ($ billions)	56.26	4.68	0.28	2087.79	221.86
ROA	0.84%	1.07%	−5.24%	3.30%	1.15%
ROE	8.48%	10.28%	−53.48%	27.38%	11.70%
Operating Profit	1.86%	1.87%	−2.48%	5.90%	0.99%
Tobin's Q	1.06	1.05	0.91	1.37	0.07
Tier 1 Capital Ratio	11.87%	11.02%	3.51%	61.58%	4.24%
Fees to Deposits	0.51%	0.46%	0.00%	3.67%	0.37%
% Deposits Low Income	49.19%	54.08%	0.00%	100.00%	32.17%
% Independent Directors	77.31%	80.00%	27.27%	100.00%	12.57%
CEO-Chair Duality	48.60%	0.00%	0.00%	100.00%	50.00%
% Fem & Minority Directors	15.14%	11.11%	0.00%	122.22%	15.06%
Median Tenure Directors	9.59	9.00	1.00	28.00	4.27
HQ in Green City	0.11	0.00	0.00	1.00	0.31
President Vote D%	51.05%	51.38%	24.67%	89.18%	8.31%
Congress Delegation D%	55.34%	53.57%	7.14%	100.00%	28.26%
State Government D%	56.89%	50.00%	0.00%	100.00%	37.92%

community, including charging of various fees on deposits. Fees charged as a percent of deposits average 0.51%, ranging from 0% to 3.67%. CSR also encompasses the extent to which banks conduct business in low income communities. The average percentage of deposits coming from low income counties is 49.19%.

An average of 77.31% of the board directors is independent. On average, the boards of directors include 15.14% females and minorities (ranging from 0.00% to 122.22%).[25] The CEO and Chairman of the Board roles are combined in 48.60% of the sample banks. Finally, the mean tenure of the board directors is 9.59 years. Eleven percent of the sample banks are headquartered in a 'green city.' The percent of the vote received by the Democratic candidate for president in the last election in the state where the bank is head-quartered averages 51.05%, the congressional delegation represented by Democrats measure averages 55.34%, and the composition of the state government measure averages 56.89% (ranging from 0% to 100%). Thus, all three measures of external political environment show a slight preponderance of Democratic-leaning for the states in which the sample banks are headquartered.

2.2.2. Relation between CSR and bank performance

Next, we examine the relation between CSR and firm performance. We use return on equity (*ROE*, or net income/common equity) as our main measure of bank financial performance.[26] Fig. 2 shows the time series in ROE for our banks from 2003–2013. As seen in Fig. 2, all banks in the sample experience a decline in financial performance during the financial crisis. However, performance recovers in 2010–2013. Smaller banks (total assets < $100 billion) show the biggest decline in performance, while big banks (total assets ⩾ 100 billion) show the smallest decline and the most rapid recovery.

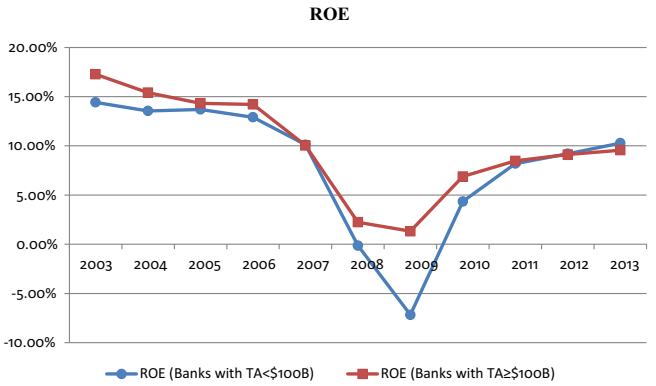

Fig. 2. Financial performance by size group. This figure shows a time series of ROE for a sample of banks from 2003 through 2013. ROE is reported by two size groups: banks with total assets <$100 billion and banks with total assets ⩾$100 billion.

As mentioned earlier, the relation between CSR and firm performance could be overstated if we do not control for the endogeneity problem: it may be that firms engaging into CSR activities are simply of higher quality and deliver better performance, regardless of whether they choose to become involved in CSR. To address this endogeneity concern, we examine the relation between CSR and firm performance using the following IV-GMM regression:

$$Bank\ Perf_{i,t} = \alpha + \beta \times CSR_{i,t} + \delta \times Control\ Variables_{i,t} + \eta \times Year\ Dummies_t + \varepsilon_{i,t}. \quad (2)$$

The choice of excludable instruments is drawn from the set of CSR determinants in the first stage regression outlined in Section 2.2.1. that satisfy both the relevance (strength of instrument) and validity (exogeneity with bank performance) criteria. We use *Political Environment*, *% Deposits Low Income*, $(\%\ Deposits\ Low\ Income)^2$, $(\%\ Deposits\ Low\ Income)^3$, the *Percentage of Female and Minority Directors*, and *HQ in Green City* as instruments for the CSR variable in each of the IV-GMM regressions. Di Giuli and Kostovetsky (2014) find that firms have higher CSR scores when they have Democratic rather than Republican founders, CEOs, and directors, and when they are headquartered in Democratic rather than Republican-leaning states. Further, they find no evidence that firms recover these expenditures through increased sales. Thus, we use *Political Environment* as an instrumental variable (IV) for CSR in the performance regressions. The *% Deposits Low Income* variables measure banks' involvement in low income communities. Banks that do a lot of business in low income communities are found to have significantly higher CSR scores. However, the community in which deposits are issued would not impact net income as the banks would pay the same rate on deposits from all communities. Thus, we use *% Deposits Low Income* as a second IV. The *% Female & Minority Directors* captures management's culture, decision-making style, and ethical attitude. Adams and Ferreira (2009) find that female directors have better attendance records than male directors, male directors have fewer attendance problems the more gender-diverse the board is, and women are more likely to join monitoring committees. Further, Adams and Funk (2012) find that female directors are more benevolent and universally concerned, but less power-oriented than men. However, there is nothing inherent about female directors that lead them to produce greater profit for a firm than male

[25] If there is a director who is female and of minority group, that particular director gets counted twice.

[26] Alternate measures include ROA, operating profit, and Tobin's Q. We define and present results for these measures in Section 3.3.2. of the paper. We also look at the percent change in deposits and percent change in loans as alternative measures of performance. Results are similar and lead to identical conclusions as regressions using *ROE*.

directors. The final IV is *HQ in Green City*. Given that traits used to characterize a 'green city' are consistent with those used to measure CSR, we expect banks headquartered in a 'green city' would pursue more CSR activities. However, operating in a 'green city' would not have a direct effect on a bank's profitability.

IV-GMM is an instrumental variables estimator implemented using the Generalized Method of Moments (GMM). Conventional IV estimators such as two-stage least squares (2SLS) are special cases of this IV-GMM estimator. For an exactly-identified model, the efficient GMM and traditional IV-2SLS estimators coincide, and under the assumptions of conditional homoskedasticity and independence, the efficient GMM estimator is the traditional IV-2SLS estimator (Hayashi, 2000). However, for an over-identified equation, IV-GMM cluster robust estimates will differ and will be more efficient than the robust 2SLS estimates. Since we have an over-identified model where number of excluded instruments is greater than the number of included endogenous variables, we use IV-GMM estimator rather than 2SLS estimator.

Control variables include bank size, Tier 1 capital ratio, the high fees dummy, and the remaining governance variables (% of independent directors, CEO-Chair duality, and director tenure). Banks that are larger, have higher levels of capital, and that charge higher fees are more likely to have a higher ROE. Further, better governed banks are expected to perform better.

3. Results

3.1. CSR regressions

3.1.1. Full sample results

Table 4 reports results of OLS regressions examining the determinants of CSR. Panel A reports results for the full sample period (2003–2007 and 2010–2013), panel B looks at the period before the financial crisis (2003–2007), and panel C reports results for 2010–2013 (after the worst of the financial crisis had passed). In all panels, regression 1 uses the overall *ESG Index*, regression 2 uses *All Strengths* only, and regression 3 uses only *All Concerns*.[27]

From panel A, regression 1, larger banks have higher *ESG Index* scores (coefficient on *Log Total Assets* is 0.158, significant at 1%). Further, larger banks have higher *All Strengths and All Concerns* scores (the coefficient on *Log Total Assets* is 0.436 in regression 2 and 0.398 in regression 3, both significant at 1%). These results are consistent with Fig. 1 and Kotchen and Moon (2012) who find that companies (in this case, large banks) engage in corporate social responsibility in order to offset corporate social irresponsibility. This makes sense remembering that the biggest banks were hit hardest in the press and by regulators with real and perceived violations of corporate social responsibility. Thus, it is this group of banks that have a bigger incentive to perform better along CSR lines. Regression 1 also highlights that *ESG Index* scores increase significantly in 2010–2013 (coefficient on *Post-Crisis Dummy* is 0.675). However, regressions 2 and 3, separating the *ESG index* by strengths and concerns, produce varied results. For *All Strengths* the coefficient on *Post-Crisis Dummy* is 0.339 and for *All Concerns* the coefficient on *Post-Crisis Dummy* is −0.330, i.e., CSR strengths increase significantly and concerns decrease significantly after the worst of the crisis had passed.

From regression 2, banks that charge lower fees have significantly higher *All Strengths* scores (coefficient on *High Fees Dummy* is −0.151). While the *% Deposits Low Income* variable is insignificant, the coefficient on $(\%\ Deposits\ Low\ Income)^2$ is positive (0.116) and significant at 1%. These results suggest that the relation between the percent of deposits from low income communities is not linearly related to *All Strengths* scores. Rather, the relationship is convex, suggesting that for those banks that do a lot of business in low income communities, additional deposits significantly increase CSR scores. Finally, banks with higher capital ratios, headquartered in states with Democratic leanings, more independent directors on the board, and with shorter tenured board directors have significantly higher *All Strengths* scores (coefficient on *Tier 1 Capital Ratio* is 4.568, on *Political Environment* is 0.081, on *% Independent Directors* is 0.416, and *Director Tenure* is −0.158).

While results from regression 1 and 2 look similar, generalized Hausman specification test[28] on the difference between two models is significant (chi-square test-statistic = 910.10, significant at 1%), suggesting that it is worth reporting results from both regressions separately. As for the difference between individual coefficients, Hausman tests on the difference between the coefficients on *Log Total Assets*, *Tier 1 Capital Ratio*, *Post-Crisis Dummy*, and *Political Environment* in regressions 1 and 2 are all significant.

In regression 3, fewer characteristics explain *All Concerns* scores. Only bank size, capital ratios, the percent of deposits from low income communities, and Democratic leaning are significant (the coefficient on *Log Total Assets* is 0.398, on *Tier 1 Capital Ratio* is 3.733, on $(\%\ Deposits\ Low\ Income)^2$ is 0.070, and on *Political Environment* is 0.103). A generalized Hausman specification test on the difference between regression 2 and 3 is significant (chi-square test-statistic = 12,387.25, significant at 1%), mainly driven by the significantly different coefficients on *Post-Crisis Dummy* (chi-square test statistic = 40.38, significant at 1%).

From panels B and C, we see some variations exist across time periods. For example, focusing on regression 2, banks with high levels of capital have significantly higher *All Strengths* scores after the crisis (coefficient on *Tier 1 Capital* is 6.873, significant at 1%, in panel C), but this is not the case before the crisis (coefficient is 0.550, insignificant, in panel B). A Hausman test on the difference in the coefficients on *Tier 1 Capital* confirms this difference (chi-square statistic = 59.86, significant at 1%). Thus, banks that hold more capital after the crisis had the ability to use at least some of this capital for CSR. Additionally, *Director Tenure* is significant in the 2010–2013 period only (coefficient on *Director Tenure* is −0.197 in regression 2 in panel C, significant at 10%), but this is not the case before the crisis (coefficient is 0.018 in regression 2 in panel B, insignificant). A Hausman test on the difference in the coefficients on *Director Tenure* confirms this difference (chi-square statistic = 3.71, significant at 10%). Thus, corporate governance in the form of shorter tenured board directors is more important in determining CSR after the worst of the crisis had passed. Given the differences found in Table 4, we concentrate the remainder of our discussion on results that separate the pre-crisis and post-crisis periods.

3.1.2. Results by size groups

Table 5 reports CSR regression results, separating the sample banks by size: total assets <$100 billion and ⩾$100 billion.[29] Specifically, to examine the impact of bank size on CSR we interact the independent variables with a bank size dummy, *Small*, equal to

[27] Another way to examine the impact of the financial crisis on CSR would be to include an interaction term in the full sample period regression, e.g., interact CSR scores with the post-crisis dummy. However, in this regression we would be unable to see if the impact of the independent variables on CSR changes around the financial crisis. Thus, we run separate regressions for the pre-crisis period and post-crisis period.

[28] The test we use is the generalized Hausman specification test (Hausman, 1978) on the difference between two models and difference between individual coefficients. We implement these tests using suest/test combination and Hausman command in Stata.

[29] We also examine banks with total assets less than or equal to $10 billion and banks with total assets between $10 billion and $100 billion separately. However, the results for these two subgroups are consistently similar. Thus, we report results for the combined groups in the paper.

Table 4
Corporate social responsibility regressions. This table reports OLS regression results in which we examine determinants of corporate social responsibility ESG ratings. Panel A includes the entire sample period (2003–2007 and 2010–2013), panel B examines years before and at the start of the financial crisis (2003–2007), and panel C includes the period 2010–2013. We collect environmental, social, and governance (ESG) ratings of largest 3000 publicly traded companies from MSCI ESG STATS. We then merge the ESG ratings data for financial institutions with the Call Reports database from FFIEC and the RiskMetrics Directors database. This combined dataset is the base for all our analyses. Eliminating banks with only one year of ESG rating observation results in a sample of 235 unique banks (with an average of 136 banks per year) and 1495 bank-year observations. In the regression analyses, we standardize the CSR measures to have a mean of zero and a standard deviation of one. Measures of board composition are collected from RiskMetrics Directors database, supplemented with data collected from proxy statements when RiskMetrics data were not available. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.10$.

	(1)		(2)		(3)	
	ESG Index	*t*-stat	All Strengths	*t*-stat	All Concerns	*t*-stat
Panel A: All Years						
Log Total Assets	0.158***	(3.24)	0.436***	(10.03)	0.398***	(5.74)
Tier 1 Capital Ratio	2.030**	(2.36)	4.568***	(4.74)	3.733***	(5.85)
High Fees Dummy	−0.234**	(−2.17)	−0.151*	(−1.85)	0.070	(0.75)
% Deposits Low Income	0.055	(1.28)	0.012	(0.32)	−0.048	(−1.20)
(% Deposits Low Income)^2	0.074*	(1.92)	0.116***	(3.44)	0.070*	(1.77)
(% Deposits Low Income)^3	0.023	(0.61)	0.001	(0.02)	−0.026	(−0.67)
Post-Crisis Dummy	0.675***	(6.16)	0.339***	(4.14)	−0.330***	(−4.51)
% Independent Directors	0.475*	(1.68)	0.416**	(1.99)	0.004	(0.02)
% Female & Minority Directors	0.048	(0.19)	−0.097	(−0.40)	−0.185	(−0.72)
CEO-Chair Duality	0.050	(0.70)	−0.018	(−0.23)	−0.082	(−0.96)
Log Director Tenure	−0.086	(−1.20)	−0.158**	(−2.58)	−0.110	(−1.28)
Political Environment	0.005	(0.13)	0.081**	(2.26)	0.103***	(2.65)
HQ in Green City	0.015	(0.09)	0.083	(0.55)	0.093	(0.45)
Constant	−3.114***	(−3.79)	−7.460***	(−10.99)	−6.328***	(−6.17)
Adjusted R-squared	0.23		0.51		0.42	
Number of Observations	1208		1208		1208	

	(1)		(2)		(3)	
	ESG Index	*t*-stat	All Strengths	*t*-stat	All Concerns	*t*-stat
Panel B: 2003–2007						
Log Total Assets	−0.158***	(−2.97)	0.174***	(3.96)	0.414***	(5.45)
Tier 1 Capital Ratio	−3.401***	(−4.71)	0.550	(1.05)	4.666***	(4.84)
High Fees Dummy	−0.069	(−0.68)	−0.056	(−0.70)	0.006	(0.05)
% Deposits Low Income	0.036	(0.84)	0.020	(0.85)	−0.016	(−0.32)
(% Deposits Low Income)^2	−0.006	(−0.15)	0.030	(1.53)	0.047	(1.01)
(% Deposits Low Income)^3	0.017	(0.45)	−0.021	(−1.07)	−0.048	(−1.07)
% Independent Directors	−0.419	(−1.30)	−0.223	(−1.60)	0.187	(0.51)
% Female & Minority Directors	0.443	(1.24)	0.494*	(1.69)	0.145	(0.33)
CEO-Chair Duality	−0.090	(−1.27)	−0.136**	(−2.15)	−0.077	(−0.80)
Log Director Tenure	0.009	(0.13)	0.018	(0.46)	0.014	(0.15)
Political Environment	−0.063	(−1.08)	0.032	(1.32)	0.091**	(2.00)
HQ in Green City	−0.132	(−0.66)	−0.002	(−0.01)	0.151	(0.63)
Constant	2.935***	(3.36)	−2.806***	(−4.07)	−7.130***	(−5.84)
Adjusted R-squared	0.14		0.37		0.45	
Number of Observations	687		687		687	

	(1)		(2)		(3)	
	ESG Index	*t*-stat	All Strengths	*t*-stat	All Concerns	*t*-stat
Panel C: 2010–2013						
Log Total Assets	0.483***	(8.61)	0.721***	(16.01)	0.400***	(5.36)
Tier 1 Capital Ratio	4.811***	(6.12)	6.873***	(8.13)	3.585***	(4.66)
High Fees Dummy	−0.104	(−0.70)	−0.046	(−0.36)	0.059	(0.41)
% Deposits Low Income	0.069	(0.86)	0.003	(0.04)	−0.077	(−1.41)
(% Deposits Low Income)^2	0.094	(1.45)	0.149**	(2.59)	0.090*	(1.70)
(% Deposits Low Income)^3	0.091	(1.42)	0.073	(1.37)	−0.008	(−0.14)
% Independent Directors	0.983**	(2.27)	0.773*	(1.84)	−0.108	(−0.30)
% Female & Minority Directors	0.020	(0.07)	−0.213	(−0.69)	−0.307	(−1.28)
CEO-Chair Duality	0.241*	(1.94)	0.128	(1.10)	−0.109	(−1.00)
Log Director Tenure	0.007	(0.06)	−0.197*	(−1.83)	−0.270**	(−2.23)
Political Environment	0.105*	(1.73)	0.149***	(2.72)	0.077*	(1.70)
HQ in Green City	0.054	(0.22)	0.064	(0.27)	0.022	(0.10)
Constant	−8.974***	(−8.64)	−12.739***	(−13.96)	−6.578***	(−5.47)
Adjusted R-squared	0.52		0.70		0.43	
Number of Observations	521		521		521	

1 if total assets <$100 billion and 0 if total assets ⩾$100 billion. The relation between CSR and the specific variable is similar for big and small banks when interaction term variables are insignificant. Panel A reports results for the period 2003–2007 and panel B reports results for 2010–2013.

Notice first, that the largest banks find significantly stronger relations than smaller banks. For example, the coefficient on *Log Total Assets* in regression 2 of panel A is 0.186, while the coefficient on the interactive term, *Log Total Assets*∗*Small,* is −0.078. The results indicate that while larger banks see a positive relation between bank size and *All Strengths*, smaller banks see a significantly smaller positive relation. The same pattern is found in regression 3: while bigger banks have significantly higher *All Concerns*, this relation is significantly less positive for small banks.

Table 5
Corporate social responsibility regressions by size group. This table reports regression results in which we examine determinants of corporate social responsibility ESG ratings by size of the sample banks. To examine the impact of bank size on CSR we interact the independent variables with a bank size dummy equal to 1 if total assets <$100 billion and 0 if total assets ⩾$100 billion. Panel A examines years before the start of the financial crisis (2003–2007) and panel B includes the period 2010–2013. We collect environmental, social, and governance (ESG) ratings of largest 3000 publicly traded companies from MSCI ESG STATS. We then merge the ESG ratings data for financial institutions with the Call Reports database from FFIEC and the RiskMetrics Directors database. This combined dataset is the base for all our analyses. In the regression analyses, we standardize the CSR measures to have a mean of zero and a standard deviation of one. Measures of board composition are collected from RiskMetrics Directors database, supplemented with data collected from proxy statements when RiskMetrics data were not available. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.10$.

	(1)		(2)		(3)	
	ESG Index	*t*-stat	All Strengths	*t*-stat	All Concerns	*t*-stat
Panel A: 2003–2007						
Log Total Assets	−0.530***	(−11.79)	0.186***	(4.63)	0.861***	(17.32)
Log Total Assets∗Small	0.501***	(11.32)	−0.078*	(−1.94)	−0.684***	(−15.32)
Tier 1 Capital Ratio	44.355***	(3.59)	3.444	(0.47)	−46.717***	(−3.16)
Tier 1 Capital Ratio∗Small	−47.737***	(−3.86)	−3.042	(−0.42)	51.164***	(3.46)
High Fees Dummy	0.136	(0.47)	−0.789**	(−2.21)	−1.207***	(−2.78)
High Fees Dummy∗Small	−0.152	(−0.51)	0.788**	(2.20)	1.226***	(2.77)
% Deposits Low Income	0.495	(0.97)	0.082	(0.25)	−0.463	(−0.74)
% Deposits Low Income∗Small	−0.463	(−0.91)	−0.072	(−0.22)	0.440	(0.70)
(% Deposits Low Income)^2	−0.538	(−1.23)	−0.373	(−1.36)	0.125	(0.22)
(% Deposits Low Income)^2∗Small	0.542	(1.24)	0.394	(1.42)	−0.103	(−0.18)
(% Deposits Low Income)^3	0.201	(0.82)	0.113	(0.74)	−0.082	(−0.28)
(% Deposits Low Income)^3∗Small	−0.194	(−0.79)	−0.137	(−0.88)	0.042	(0.14)
% Independent Directors	1.043	(1.30)	−0.774	(−1.31)	−2.237**	(−2.44)
% Independent Directors∗Small	−1.349	(−1.62)	0.635	(1.06)	2.405**	(2.52)
% Female & Minority Directors	8.625***	(13.42)	4.495***	(5.16)	−3.992***	(−3.83)
% Female & Minority Directors∗Small	−8.759***	(−12.48)	−4.342***	(−4.91)	4.351***	(4.01)
CEO-Chair Duality	−0.498	(−1.50)	−0.528***	(−4.15)	−0.127	(−0.43)
CEO-Chair Duality∗Small	0.385	(1.13)	0.462***	(3.55)	0.170	(0.56)
Log Director Tenure	0.447*	(1.96)	−0.690***	(−3.28)	−1.435***	(−3.45)
Log Director Tenure∗Small	−0.471**	(−2.04)	0.702***	(3.35)	1.479***	(3.54)
Political Environment	−0.431**	(−2.43)	0.459*	(1.83)	1.108***	(3.87)
Political Environment∗Small	0.398**	(2.21)	−0.455*	(−1.81)	−1.066***	(−3.69)
HQ in Green City	0.007	(0.03)	0.077	(0.33)	0.095	(0.31)
HQ in Green City∗Small	0.131	(0.51)	−0.069	(−0.29)	−0.243	(−0.77)
Constant	0.993	(1.45)	−1.870***	(−4.55)	−3.637***	(−4.89)
Adjusted R-squared	0.38		0.63		0.69	
Number of Observations	687		687		687	
	(1)		(2)		(3)	
	ESG Index	*t*-stat	All Strengths	*t*-stat	All Concerns	*t*-stat
Panel B: 2010–2013						
Log Total Assets	0.142	(1.32)	0.644***	(6.98)	0.693***	(5.20)
Log Total Assets∗Small	0.301***	(2.77)	−0.107	(−1.12)	−0.490***	(−3.16)
Tier 1 Capital Ratio	−2.863	(−0.26)	−28.336***	(−3.12)	−34.407**	(−2.08)
Tier 1 Capital Ratio∗Small	7.105	(0.67)	34.270***	(3.85)	37.399**	(2.31)
High Fees Dummy	−0.319	(−1.42)	0.484	(1.33)	1.014**	(2.35)
High Fees Dummy∗Small	0.294	(1.12)	−0.556	(−1.43)	−1.081**	(−2.48)
% Deposits Low Income	0.395**	(2.19)	−0.090	(−0.79)	−0.577***	(−2.89)
% Deposits Low Income∗Small	−0.369*	(−1.93)	0.063	(0.45)	0.511***	(2.58)
(% Deposits Low Income)^2	0.802***	(2.79)	1.028***	(4.46)	0.441	(1.17)
(% Deposits Low Income)^2∗Small	−0.783***	(−2.67)	−0.937***	(−3.84)	−0.342	(−0.87)
(% Deposits Low Income)^3	0.225***	(1.12)	0.369***	(6.78)	0.232***	(2.69)
(% Deposits Low Income)^3∗Small	−0.210**	(−0.52)	−0.388***	(−5.98)	−0.274***	(−3.16)
% Independent Directors	5.058**	(4.40)	5.101***	(4.76)	0.939	(0.44)
% Independent Directors∗Small	−4.466*	(−4.56)	−4.638***	(−4.33)	−1.009	(−0.47)
% Female & Minority Directors	4.452***	(2.11)	2.921**	(2.17)	−1.260	(−0.79)
% Female & Minority Directors∗Small	−4.347***	(−1.79)	−2.941**	(−2.13)	1.113	(0.69)
CEO-Chair Duality	0.376	(3.41)	0.060	(0.19)	−0.355	(−0.97)
CEO-Chair Duality∗Small	−0.180	(−3.18)	0.110	(0.34)	0.355	(0.95)
Log Director Tenure	1.365***	(2.88)	−0.498**	(−2.27)	−2.242***	(−6.70)
Log Director Tenure∗Small	−1.492***	(−2.41)	0.344	(1.39)	2.184***	(6.40)
Political Environment	0.229	(1.63)	0.490***	(4.78)	0.388**	(2.03)
Political Environment∗Small	−0.147	(−0.92)	−0.400***	(−3.21)	−0.363*	(−1.87)
HQ in Green City	1.559***	(−3.27)	1.209***	(−4.36)	−0.193	(0.18)
HQ in Green City∗Small	1.559***	(3.09)	1.209***	(3.51)	−0.193	(−0.37)
Constant	−7.696***	(−4.23)	−9.640***	(−5.55)	−3.930***	(−2.64)
Adjusted R-squared	0.59		0.74		0.64	
Number of Observations	521		521		521	

In the years after the crisis (panel B), bank size is related to *All Strengths* for all banks (*Log Total Assets* is 0.644, significant at 1%; *Log Total Assets∗Small* is −0.107, insignificant), but bank size is related to both *All Concerns* for the larger banks only (*Log Total Assets* is 0.693; *Log Total Assets∗Small* is −0.490, both significant at 1%).

Second, notice the differences across time period and bank size for the percentage of deposits from low income communities. In panel A, none of the coefficients are significant. However, in panel B, after the worst of the crisis, as the percent of deposits from low income communities increases, *All Strengths* scores increase. Further, the relation is not linear. As *% Deposits Low Income* increase,

the relation becomes increasingly positive and significant (in regression 2, coefficient on *% Deposits Low Income* is −0.090, insignificant, while coefficient on (*% Deposits Low Income*)^2 is 1.028, significant at 1%, and coefficient on (*% Deposits Low Income*)^3 is 0.369, significant at 1%). CSR encompasses the extent to which banks conduct business in low income communities. These results suggest that relatively small involvement (via deposit taking) in low income communities has no effect on banks' CSR scores. As banks increase the level of deposits from low income communities from low to high, they become increasingly entrenched in the communities. The result is a significant increase in CSR *All Strengths* scores. The results are strongest after the crisis as banks' service to low income communities was more prominent in the press. Further, coefficients that are positive and significant for large banks are significantly lower for smaller banks (in regression 2, coefficient on *% Deposits Low Income*)^2∗*Small* is −0.937 and coefficient on (*% Deposits Low Income*)^3∗*Small* is −0.388, both significant at 1%). Thus, the impact that community involvement has on large banks' CSR after the crisis is not evident for smaller banks.

The relations are similar for *All Concerns* scores. As the percent of deposits from low income communities increase, scores decrease for large banks (coefficient on *% Deposits Low Income* is −0.577 significant at 1%). Further, this relation is not evident for smaller banks (coefficient on *% Deposits Low Income∗Small* is 0.511, significant at 1%). As *% Deposits Low Income* continues to increase, the relation turns positive (coefficient on (*% Deposits Low Income*) ^{3} is 0.232, significant at 1%). Again, this relation is reversed for small banks (coefficient on (*% Deposits Low Income*) ^{3}∗*Small* is −0.274, significant at 1%). Initial involvement in low income communities reduces *All Concern* scores. As large banks increase the level of deposits from low income communities from low to high, *All Concerns* increase. Thus, excessive presence in low income communities actually results in deterioration in a bank's CSR.

Looking at the corporate governance variables, we see in panel A that large banks with more female and minority directors have significantly higher *All Strengths* scores before the crisis (coefficient on *% Female & Minority Directors* is 4.495, significant at 1%). Previous research has found that women and minorities bring a number of strengths to the board including an increased sensitivity to CSR and participative decision-making styles, and these benefits may contribute to enhanced corporate responsibility strength ratings (see Bear et al., 2010). Also banks in which the board chair and CEO are not the same person and banks with shorter tenured board directors have higher *All Strengths* scores (coefficient on *CEO-Chair Duality* is −0.528 and coefficient on *Director Tenure* is −0.690, both significant at 1%). In all cases, coefficients on interaction terms are the opposite (coefficient on *% Female & Minority Directors∗Small* is −4.342, on *CEO-Chair Duality∗Small* is 0.462, and on *Director Tenure∗Small* is 0.702, all significant at 1%) and signify that these relations are not significant for smaller banks. The results suggest that large banks with stronger corporate governance contribute more to CSR, which produces higher *All Strengths* scores. In regression 3, we see that these relations are generally reversed or insignificant for *All Concerns*.

Note that in panel B, after the worst of the crisis has passed, the corporate governance variables are smaller or no longer significant with some notable exceptions. The effect of female and minority directors on CSR strengths still persists. The coefficient on *% Female & Minority Directors* is 2.921 for the largest banks and the coefficient on the interaction term is −2.941 (both significant at 5%). These results indicate that the presence of female and minority directors on the board has a positive effect on CSR strengths for the largest banks, but no effect for smaller banks. Further, while independent directors have no effect on bank CSR strengths before the crisis, it becomes more important for the largest banks post-crisis. The coefficient on *% Independent Directors* is 5.101 for the largest banks and the coefficient on the interaction term is −4.638 (both significant at 1%). After the crisis, director tenure has a negative effect on CSR strengths for all banks. Finally, operating in green cities has a positive and significant effect on CSR strengths for the largest banks and a significantly more positive effect for smaller banks.

3.2. Financial performance regressions

Table 6 reports results of IV-GMM regressions examining the relation between CSR and firm performance.[30] As discussed above, the choice of excludable instruments is drawn from the set of CSR determinants in the first stage regression that satisfy both the relevance (strength of instrument) and validity (exogeneity with bank performance) criteria. We use the *Political Environment*, *% Deposits Low Income*, (*% Deposits Low Income*)^2, (*% Deposits Low Income*)^3, the *Percentage of Female and Minority Directors*, and *HQ in Green City* as instruments for CSR variables in each of the IV-GMM regressions. Further, given the differences found in Tables 4 and 5, we separate pre-crisis and post-crisis periods and include the size-based interaction terms in the regressions. Panel A of the table reports results for 2003–2007; panel B for 2010–2013.

In panel A, we see that in the pre-crisis years CSR scores are positively and significantly related to bank performance (measured by ROE) for both large and small banks (coefficient on *ESG Index* is 0.020, significant at 1%, and *ESG Index∗Small* is −0.013, insignificant). Similarly, high *All Strengths* scores are positively and significantly related to bank financial performance and the relation is even stronger among smaller banks (e.g., coefficient on *All Strengths* is 0.032 and on *All Strengths∗Small* is 0.181, both significant at better than 5%). Finally from panel A, in the pre-crisis years *All Concerns* is not related to financial performance (coefficient on *All Concerns* is 0.000 and on *All Concerns∗Small* is 0.002).

From panel B, we again find that CSR scores are positively and significantly related to bank performance for all banks (coefficient on *ESG Index* is 0.027, significant at 1%, and *ESG Index∗Small* is −0.035, insignificant). Similarly, the coefficient on *All Strengths* is 0.017 (significant at 1%) and on *All Strengths∗Small* is 0.001 (insignificant). However, after the crisis, we also see that *All Concerns* is positively and significantly related to bank performance for large and small banks (coefficient on *All Concerns* is 0.016, significant at 1%, and *All Concerns∗Small* is 0.022, insignificant). After the crisis, banks that spend less on CSR see an increase in ROE. However, (while Fig. 1 shows an overall decrease in CSR concerns) for these banks CSR concerns increase. Further, the significance of the overall *ESG Index* indicates that the increase in performance resulting from an increase in *All Strengths* outweighs the increase in performance resulting from reduced expenditures on CSR, i.e., efforts to increase CSR strengths outweigh the increase in CSR concerns in their effect on bank performance.[31]

From Table 6, we also see that some variations in the control variables exist across time periods. Banks that charge high fees have significantly higher performance in 2003–2007 (e.g., coefficient on *High Fees Dummy* is 0.042, significant at 1%, in regression 2 of panel A), but significantly lower performance in 2010–2013 (e.g., coefficient on *High Fees Dummy* is −0.021, significant at 10%, in regression 2 of panel B). High deposit fees were a growing source of bank revenue before and during the height of the crisis. However, deposit fees were a source of criticism after the crisis.

[30] We also ran reduced form OLS regressions and fixed effects IV-GMM regressions. Results are similar, therefore we only report the IV-GMM results for brevity.

[31] Further, from Fig. 1 and Table 1, panel B, we see that, overall, banks CSR concerns fall after the crisis. Thus, on average, banks are choosing to spend resources to decrease CSR concerns even at the expense of higher ROEs.

Table 6
Financial performance regressions. This table reports IV-GMM regression results in which we examine determinants of financial performance. Panel A includes the years before the start of the financial crisis (2003–2007) and panel B includes the period 2010–2013. To examine the impact of bank size on CSR we interact the independent variables with a bank size dummy equal to 1 if total assets <$100 billion and 0 if total assets ⩾$100 billion. As excluded instruments, we use *Political Environment, % Deposits Low Income,* (*% Deposits Low Income*)^2, (*% Deposits Low Income*)^3, *% Female & Minority Directors*, and *HQ in Green City*. We collect environmental, social, and governance (ESG) ratings of largest 3000 publicly traded companies from MSCI ESG STATS. We then merge the ESG ratings data for financial institutions with the Consolidated Report of Condition and Income (i.e., Call Reports) database from Federal Financial Institutions Examination Council (FFIEC) and the RiskMetrics Directors database. This combined dataset is the base for all our analyses. In the regression analyses, we standardize the CSR measures to have a mean of zero and a standard deviation of one. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.10$.

	(1)		(2)		(3)	
	ROE	*t*-stat	ROE	*t*-stat	ROE	*t*-stat
Panel A: 2003–2007						
ESG Index	0.020***	(5.45)				
ESG Index∗Small	−0.013	(−0.25)				
All Strengths			0.032***	(5.74)		
All Strengths∗Small			0.181**	(2.26)		
All Concerns					0.000	(0.04)
All Concerns∗Small					0.002	(0.07)
Log Total Assets	0.006*	(1.69)	−0.024***	(−4.00)	−0.002	(−0.18)
Log Total Assets∗Small	−0.002	(−0.59)	0.005	(1.17)	0.006	(0.97)
Tier 1 Capital Ratio	−0.606	(−1.10)	−0.173	(−0.35)	−0.137	(−0.21)
Tier 1 Capital Ratio∗Small	0.192	(0.35)	−0.386	(−0.80)	−0.322	(−0.48)
High Fees Dummy	0.014*	(1.69)	0.042***	(3.72)	0.013	(0.64)
High Fees Dummy∗Small	0.002	(0.15)	−0.028**	(−2.15)	0.003	(0.12)
% Independent Directors	−0.016	(−0.54)	0.051**	(2.01)	0.025	(0.67)
% Independent Directors∗Small	0.034	(0.97)	−0.009	(−0.23)	−0.009	(−0.20)
CEO-Chair Duality	0.017	(1.60)	0.035***	(3.16)	0.028***	(2.68)
CEO-Chair Duality∗Small	0.034	(−1.28)	−0.009	(−1.79)	−0.009	(−2.48)
Log Director Tenure	0.015	(0.97)	0.017	(1.41)	0.037**	(2.33)
Log Director Tenure∗Small	0.003	(0.20)	−0.004	(−0.31)	−0.017	(−1.05)
Constant	0.022	(0.32)	0.451***	(3.11)	0.031	(0.21)
Number of observations	687		687		687	
First-stage F-statistic for CSR	27.92***		7.93***		3.89***	
First-stage F-statistic for CSR∗Small	8.00***		1.22		4.04***	
Hansen-J Chi-sq statistic	11.23		12.62		15.41	

	(1)		(2)		(3)	
	ROE	*t*-stat	ROE	*t*-stat	ROE	*t*-stat
Panel B: 2010–2013						
ESG Index	0.027***	(4.12)				
ESG Index∗Small	−0.035	(−1.34)				
All Strengths			0.017***	(3.90)		
All Strengths∗Small			−0.001	(−0.04)		
All Concerns					0.016**	(2.12)
All Concerns∗Small					0.022	(0.55)
Log Total Assets	0.006	(0.92)	−0.005	(−0.68)	−0.008	(−1.38)
Log Total Assets∗Small	−0.005	(−0.86)	−0.003	(−0.64)	0.004	(0.86)
Tier 1 Capital Ratio	−0.865**	(−2.57)	−0.590**	(−2.32)	0.021	(0.08)
Tier 1 Capital Ratio∗Small	0.001	(3.12)	0.030*	(2.21)	0.035**	(−0.55)
High Fees Dummy	0.007	(0.51)	−0.021*	(−1.85)	−0.027**	(−2.35)
High Fees Dummy∗Small	0.001	(0.05)	0.030*	(1.80)	0.035**	(2.23)
% Independent Directors	0.022	(0.32)	−0.025	(−0.42)	0.050	(0.81)
% Independent Directors∗Small	0.012	(0.17)	0.041	(0.65)	−0.006	(−0.08)
CEO-Chair Duality	−0.009	(−0.81)	−0.008	(−0.95)	0.002	(0.14)
CEO-Chair Duality∗Small	0.027**	(2.10)	0.021*	(1.73)	0.017	(1.19)
Log Director Tenure	−0.015	(−0.88)	0.025**	(1.98)	0.042*	(1.83)
Log Director Tenure∗Small	0.025	(1.33)	−0.010	(−0.64)	−0.028	(−1.13)
Constant	0.037	(0.18)	0.202	(0.96)	0.120	(1.30)
Number of observations	521		521		521	
First-stage F-statistic for CSR	9.01***		23.84***		6.88***	
First-stage F-statistic for CSR∗Small	2.25**		2.33**		4.74***	
Hansen-J Chi-sq statistic	11.94		9.23		10.86	

We see that the banks that charge high deposit fees after the worst of the crisis had passed are penalized with lower financial performance. Banks with a common CEO and board chair have significantly higher performance in 2003–2007 (e.g., coefficient on *CEO-Chair Duality* is 0.035, significant at 1%, in regression 2 of panel A), but this significant relation hold only for smaller banks in 2010–2013 (e.g., coefficient on *CEO-Chair Duality∗Small* is 0.021, significant at 10%, in regression 2 of panel B). Similarly, banks with longer tenured directors have significantly higher performance in 2010–2013 (e.g., coefficient on *Director Tenure* is 0.025, significant at 5%, in regression 2 of panel B), but there is no consistent relation with performance in 2003–2007 (e.g., coefficient on *Director Tenure* is 0.017, insignificant, in regression 2 of panel A). Thus, corporate governance in the form of separation of CEO and board chair is less important in determining financial performance before the crisis, but seasoned directors lead to better performance as banks recovered from the crisis.

The first-stage F-statistic is a validity test of the relevance of our instruments (requiring that excluded instruments are sufficiently correlated with included endogenous regressors). In panels A and

Table 7
Financial performance regressions using variations of CSR scores. This table reports IV-GMM regression results in which we examine determinants of financial performance using variations on the CSR score. In panel A, for the 35 indicator variables, we create relative ESG variables within each size group. For each bank-year, *Relative ESG Index* is $(ESG_{it} - Min\_ESG_{jt})/(Max\_ESG_{jt} - Min\_ESG_{jt})$, *Relative All Strengths* is $(All\ Strengths_{it} - Min\_All\ Strengths_{jt})/(Max\_All\ Strengths_{jt} - Min\_All\ Strengths_{jt})$, *Relative All Concerns* is $(All\ Concerns_{it} - Min\_All\ Concerns_{jt})/(Max\_All\ Concerns_{jt} - Min\_All\ Concerns_{jt})$, where j stands for FDIC size group. In panel B, we remove the indicator variables in the Environment and Human Rights categories. In panel C, we follow Servaes and Tamayo (2013) and scale the CSR score for each category (community, environment, etc.) by the maximum value for that category in a given year. We then add all strengths and concerns. In each panel, we report results for years before the start of the financial crisis (2003–2007) and, separately, years after the worst of the crisis (2010–2013). To examine the impact of bank size on CSR we interact the independent variables with a bank size dummy equal to 1 if total assets <$100 billion and 0 if total assets ⩾$100 billion. As excluded instruments, we use *Political Environment*,*% Deposits Low Income*, *(% Deposits Low Income)*^{2}, *(% Deposits Low Income)*^{3}, *% Female & Minority Directors*, and *HQ in Green City*. We collect environmental, social, and governance (ESG) ratings of largest 3000 publicly traded companies from MSCI ESG STATS. We then merge the ESG ratings data for financial institutions with the Consolidated Report of Condition and Income (i.e., Call Reports) database from Federal Financial Institutions Examination Council (FFIEC) and the RiskMetrics Directors database. This combined dataset is the base for all our analyses. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.10$.

2003–2007	(1)		(2)		(3)	
	ROE	*t*-stat	ROE	*t*-stat	ROE	*t*-stat
Panel A: Performance regressions using relative CSR variables						
Relative ESG Index	0.087***	(3.71)				
Relative ESG Index∗Small	0.094	(0.57)				
Relative All Strengths			0.094***	(4.82)		
Relative All Strengths∗Small			0.194	(1.57)		
Relative All Concerns					0.009	(0.21)
Relative ESG Concerns∗Small					0.007	(0.08)
Constant	−0.336	(−1.04)	0.323***	(2.73)	0.047	(0.28)
Number of observations	687		687		687	
First-stage F-statistic for CSR	33.76***		18.80***		2.71***	
First-stage F-statistic for CSR∗Small	4.78***		23.94***		3.28***	
Hansen-J Chi-sq statistic	7.74		12.86		15.42	
2010–2013	ROE	t-stat	ROE	t-stat	ROE	t-stat
Relative ESG Index	0.156***	(5.04)				
Relative ESG Index∗Small	−0.308***	(−4.05)				
Relative All Strengths			0.059***	(3.34)		
Relative All Strengths∗Small			0.001	(0.01)		
Relative All Concerns					0.042	(1.39)
Relative ESG Concerns∗Small					0.104	(0.70)
Constant	0.261**	(1.96)	0.116	(0.69)	0.099	(1.18)
Number of observations	521		521		521	
First-stage F-statistic for CSR	3.77***		22.14***		3.16***	
First-stage F-statistic for CSR∗Small	7.63***		1.68*		3.00***	
Hansen-J Chi-sq statistic	4.36		13.65	11.28		

2003–2007	(1)		(2)		(3)	
	ROE	*t*-stat	ROE	*t*-stat	ROE	*t*-stat
Panel B: Performance regressions excluding Environment and Human Rights ESG categories						
ESG Index New	0.002	(0.39)				
ESG Index New∗Small	0.005	(0.20)				
All Strengths New			0.035***	(5.98)		
All Strengths New∗Small			0.139**	(2.23)		
All Concerns New					0.011**	(2.07)
All Concerns New∗Small					0.027	(0.91)
Constant	−0.008	(−0.08)	0.469***	(3.21)	0.200	(1.46)
Number of observations	687		687		687	
First-stage F-statistic for CSR	57.20***		4.14***		7.92***	
First-stage F-statistic for CSR∗Small	36.16***		3.32***		3.71***	
Hansen-J Chi-sq statistic	16.15*		12.66		15.01	
2010–2013	ROE	t-stat	ROE	t-stat	ROE	t-stat
ESG Index New	0.001	(0.19)				
ESG Index New∗Small	−0.017	(−0.65)				
All Strengths New			0.021***	(3.28)		
All Strengths New∗Small			0.004	(0.17)		
All Concerns New					0.009*	(1.85)
All Concerns New∗Small					0.012	(0.46)
Constant	0.016	(0.13)	0.232	(1.25)	0.141	(1.18)
Number of observations	521		521		521	
First-stage F-statistic for CSR	2.50***		11.20***		5.20***	
First-stage F-statistic for CSR∗Small	3.29***		3.37***		3.16***	
Hansen-J Chi-sq statistic	11.61		12.29		12.01	

Table 7 (*continued*)

2003–2007	(1)		(2)		(3)	
	ROE	*t*-stat	ROE	*t*-stat	ROE	*t*-stat
Panel C: Performance regressions using Servaes and Tamayo Definitions						
Adjusted ESG Index	0.024***	(5.54)				
Adjusted ESG Index∗Small	−0.031	(−0.33)				
Adjusted All Strengths			0.029***	(5.16)		
Adjusted All Strengths∗Small			0.167*	(1.75)		
Adjusted All Concerns					−0.012	(−0.68)
Adjusted All Concerns∗Small					0.004	(0.06)
Constant	0.031	(0.44)	0.282**	(2.56)	−0.009	(−0.06)
Number of observations	687		687		687	
First-stage F-statistic for CSR	33.17***		12.05***		2.39***	
First-stage F-statistic for CSR∗Small	6.13***		1.04		1.90**	
Hansen-J Chi-sq statistic	10.27		13.96		15.99*	
2010–2013	ROE	t-stat	ROE	t-stat	ROE	t-stat
Adjusted ESG Index	0.040***	(3.74)				
Adjusted ESG Index∗Small	−0.050	(−1.30)				
Adjusted All Strengths			0.024***	(4.09)		
Adjusted All Strengths∗Small			−0.011	(−0.35)		
Adjusted All Concerns					0.029*	(1.83)
Adjusted All Concerns∗Small					0.067	(0.90)
Constant	0.052	(0.27)	0.162	(0.85)	0.122	(1.35)
Number of observations	521		521		521	
First-stage F-statistic for CSR	7.02***		20.19***		3.58***	
First-stage F-statistic for CSR∗Small	3.07***		2.68***		2.93***	
Hansen-J Chi-sq statistic	12.98		8.99		10.09	

B, the F-statistic from the first stage is always significant at 1%, indicating that our instruments are jointly significant. As for the Hansen-J test of over-identifying restrictions (which tests whether excluded instruments are appropriately independent of the error process), we fail to reject the null hypothesis, indicating that our instruments satisfy the validity criteria.

As Staiger and Stock (1997) show, the weak instruments problem can arise even when the first-stage *t*- and *F*-tests are significant at conventional levels. Therefore, we also check Stock and Yogo (2005) test statistics and their robust version Kleibergen-Paap rk statistic to see if our instruments are weak. In untabulated results, we always reject the null hypothesis that instruments are weak in all our specifications. In addition, we also check Continuously Updated GMM Estimator (GMM-CUE), which has been found to be more resistant to weak instruments problems than the IV estimator. We still find results similar to those reported in Table 6.

3.2.1. Economic significance

Table 6 indicates that CSR is related to bank financial performance in both pre- and post-crisis periods. But, the question remains whether the effect is economically significant. Focusing on regression 1 from panel A (results for pre-crisis period), we calculate a predictor variable's economic significance as the difference in or *ROE* for banks with an *ESG Index* score one standard deviation above the mean and one standard deviation below the mean. We find that large banks with an *ESG Index* score one standard deviation above the mean have a *ROE* that is 2.64% higher than large banks with an *ESG Index* score one standard deviation below the mean (2.64% corresponds to 0.51 standard deviation change in *ROE*). Similarly, from regression 2, the *All Strengths* score has the highest economic significance among the predictor variables. In particular, large banks with an *All Strengths* score one standard deviation above the mean have an ROE that is 2.98% higher than large banks with an *All Strengths* score one standard deviation below the mean (2.98% corresponds to 0.58 standard deviation change in ROE).

For the post-crisis period (reported in panel B), large banks with an *ESG Index* score one standard deviation above the mean have a *ROE* that is 6.60% higher than large banks with an *ESG Index* score one standard deviation below the mean (6.60% corresponds to 0.98 standard deviation change in *ROE*). Similarly, large banks with an *All Strengths* score one standard deviation above the mean have an ROE that is 4.93% higher than large banks with an *All Strengths* score one standard deviation below the mean (4.93% corresponds to 0.73 standard deviation change in ROE). We conclude from these results that bank performance is positively and significantly related to the overall *ESG Index*, as well as the *All Strengths*. That is, banks that pursue CSR appear to be rewarded for these activities with increased financial performance.

3.3. Robustness tests for CSR measure

Our empirical tests measure CSR using each bank's *ESG Index*, *All Strengths*, or *All Concerns* scores, which are based on the 35 indicators that were consistently used over 2003–2013. To ensure that our results are not driven by this choice of indicators, we look at three alternative measures of CSR: relative CSR, CSR excluding environment and human rights categories, and CSR using all available indicator variables. Results for the alternate measures are shown in Table 7. We report only coefficients on the CSR variables (*ESG Index*, *All Strengths*, or *All Concerns*) and the variables with the interaction term for bank size (*ESG Index∗Small*, *All Strengths∗Small*, or *All Concerns∗Small*). All control variables used in previous versions of the regression are included in regressions for Table 7. To conserve space we do not include them in the table. Values and significance levels for control variables are consistent with Table 6.

3.3.1. Relative measure of CSR

Just as firms generally benchmark their executive compensation to similar firms in the industry, CSR policies are likely to follow certain "norms" based on industry trends. Consequently, within size group variation in CSR is arguably an important aspect and offers additional perspective. To examine this, we create relative ESG variables within each size group. For each bank-year, *Relative ESG Index* is $(ESG_{it}-Min\_ESG_{jt})/(Max\_ESG_{jt}-Min\_ESG_{jt})$, *Relative All Strengths* is $(All\ Strengths_{it}-Min\_All\ Strengths_{jt})/(Max\_All$

Table 8
Financial performance regressions using variations of performance measure. This table reports IV-GMM regression results in which we examine various measures financial performance. In panel A, we use return on assets (*ROA*) to measure financial performance. In panel B, we use *Operating Profit* to measure financial performance. In panel C, we use *Tobin's Q* to measure financial performance. In each panel, we report results for years before the start of the financial crisis (2003–2007) and, separately, years after the worst of the crisis (2010–2013). To examine the impact of bank size on CSR we interact the independent variables with a bank size dummy equal to 1 if total assets <$100 billion and 0 if total assets ⩾$100 billion. As excluded instruments, we use *Political Environment*,*% Deposits Low Income*, (*% Deposits Low Income*)^2, (*% Deposits Low Income*)^3, *% Female & Minority Directors*, and *HQ in Green City*. We collect environmental, social, and governance (ESG) ratings of largest 3000 publicly traded companies from MSCI ESG STATS. We then merge the ESG ratings data for financial institutions with the Consolidated Report of Condition and Income (i.e., Call Reports) database from Federal Financial Institutions Examination Council (FFIEC) and the RiskMetrics Directors database. This combined dataset is the base for all our analyses. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.10$.

2003–2007	(1)		(2)		(3)	
	ROA	*t*-stat	ROA	*t*-stat	ROA	*t*-stat
Panel A: Performance regressions using return on assets						
ESG Index	0.002***	(4.82)				
ESG Index∗Small	0.000	(0.01)				
All Strengths			0.002***	(4.30)		
All Strengths∗Small			0.017***	(2.77)		
All Concerns					−0.000	(−0.42)
All Concerns∗Small					0.000	(0.11)
Constant	0.004	(0.76)	0.043***	(4.08)	0.004	(0.34)
Number of observations	687		687		687	
First-stage F-statistic for CSR	27.92***		7.93***		3.89***	
First-stage F-statistic for CSR∗Small	8.00***		1.22		4.04***	
Hansen-J Chi-sq statistic	6.73		7.83		10.42	
2010–2013	ROA	t-stat	ROA	t-stat	ROA	t-stat
ESG Index	0.002***	(2.77)				
ESG Index∗Small	−0.001	(−0.53)				
All Strengths			0.002***	(3.80)		
All Strengths∗Small			0.002	(0.83)		
All Concerns					0.002***	(3.33)
All Concerns∗Small					0.002	(0.47)
Constant	0.025	(1.18)	0.050**	(2.41)	0.027***	(2.96)
Number of observations	521		521		521	
First-stage F-statistic for CSR	9.01***		23.84***		6.88***	
First-stage F-statistic for CSR∗Small	2.25**		2.33**		4.71***	
Hansen-J Chi-sq statistic	15.11		11.32		10.46	
2003–2007	(1)		(2)		(3)	
	Operating Profit	*t*-stat	Operating Profit	*t*-stat	Operating Profit	*t*-stat
Panel B: Performance regressions using operating profit						
ESG Index	0.003***	(2.85)				
ESG Index∗Small	0.003	(0.64)				
All Strengths			0.003***	(2.70)		
All Strengths∗Small			0.023*	(1.95)		
All Concerns					0.001	(0.41)
All Concerns∗Small					−0.003	(−0.59)
Constant	0.009	(1.09)	0.066***	(2.97)	0.004	(0.20)
Number of observations	687		687		687	
First-stage F-statistic for CSR	27.92***		7.93***		3.89***	
First-stage F-statistic for CSR∗Small	8.00***		1.22		4.04***	
Hansen-J Chi-sq statistic	10.18		9.18		14.44	
2010–2013	Operating Profit	t-stat	Operating Profit	t-stat	Operating Profit	t-stat
ESG Index	0.002	(1.09)				
ESG Index∗Small	−0.000	(−0.00)				
All Strengths			0.002**	(2.49)		
All Strengths∗Small			0.003	(0.60)		
All Concerns					0.003***	(3.24)
All Concerns∗Small					0.002	(0.32)
Constant	0.044	(1.41)	0.066**	(2.01)	0.037***	(2.74)
Number of observations	521		521		521	
First-stage F-statistic for CSR	9.01***		23.84***		6.88***	
First-stage F-statistic for CSR∗Small	2.25**		2.33**		4.71***	
Hansen-J Chi-sq statistic	13.08		10.68		11.24	

Table 8 (*continued*)

2003–2007	(1)		(2)		(3)	
	Tobin's Q	*t*-stat	Tobin's Q	*t*-stat	Tobin's Q	*t*-stat
Panel C: Performance regressions using Tobin's Q						
ESG Index	−0.002	(−0.20)				
ESG Index∗Small	0.272**	(2.39)				
All Strengths			0.038***	(4.27)		
All Strengths∗Small			0.160**	(2.05)		
All Concerns					0.031***	(5.66)
All Concerns∗Small					0.090	(1.21)
Constant	0.758***	(7.00)	1.298***	(8.74)	1.211***	(5.21)
Number of observations	652		652		652	
First-stage F-statistic for CSR	26.83***		17.49***		7.24***	
First-stage F-statistic for CSR∗Small	5.41***		2.67***		1.62*	
Hansen-J Chi-sq statistic	15.86		14.75		17.27*	
2010–2013	Tobin's Q	t-stat	Tobin's Q	t-stat	Tobin's Q	t-stat
ESG Index	0.020***	(3.83)				
ESG Index∗Small	−0.008	(−0.51)				
All Strengths			0.012***	(4.33)		
All Strengths∗Small			0.005	(0.32)		
All Concerns					0.014**	(2.31)
All Concerns∗Small					−0.019	(−0.26)
Constant	1.211***	(10.16)	1.302***	(12.01)	1.103***	(10.85)
Number of observations	480		480		480	
First-stage F-statistic for CSR	6.86***		24.87***		33.46	
First-stage F-statistic for CSR∗Small	3.86***		5.54***		0.57	
Hansen-J Chi-sq statistic	13.14		12.21		16.19*	

Table 9

Financial performance regressions by size group – total assets greater than or less than $50 billion. This table reports IV-GMM regression results in which we examine determinants of financial performance by size group. To examine the impact of bank size on CSR we interact the independent variables with a bank size dummy equal to 1 if total assets <$50 billion and 0 if total assets ⩾$50 billion. Panel A includes the years before the start of the financial crisis (2003–2007) and panel B includes the period 2010–2013. As excluded instruments, we use *Political Environment*, *% Deposits Low Income*, (*% Deposits Low Income*)^2, (*% Deposits Low Income*)^3, *% Female & Minority Directors*, and *HQ in Green City*. We collect environmental, social, and governance (ESG) ratings of largest 3000 publicly traded companies from MSCI ESG STATS. We then merge the ESG ratings data for financial institutions with the Consolidated Report of Condition and Income (i.e., Call Reports) database from Federal Financial Institutions Examination Council (FFIEC) and the RiskMetrics Directors database. This combined dataset is the base for all our analyses. In the regression analyses, we standardize the CSR measures to have a mean of zero and a standard deviation of one. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.10$.

	(1)		(2)		(3)	
	ROE	*t*-stat	ROE	*t*-stat	ROE	*t*-stat
Panel A: 2003–2007						
ESG Index	0.015**	(2.42)				
ESG Index∗Small	0.003	(0.06)				
All Strengths			0.031***	(3.61)		
All Strengths∗Small			0.180*	(1.69)		
All Concerns					0.012	(1.62)
All Concerns∗Small					−0.013	(−0.36)
Constant	0.025	(0.36)	0.485**	(2.41)	0.062	(0.39)
Number of observations	687		687		687	
First-stage F-statistic for CSR	9.64***		4.42***		2.46***	
First-stage F-statistic for CSR∗Small	3.90***		0.90		2.18**	
Hansen-J Chi-sq statistic	16.03*		10.34		18.15*	
Panel B: 2010–2013						
ESG Index	0.002	(0.37)				
ESG Index∗Small	0.006	(0.18)				
All Strengths			0.019**	(2.46)		
All Strengths∗Small			0.017	(0.54)		
All Concerns					0.011*	(1.78)
All Concerns∗Small					0.021	(0.27)
Constant	0.076	(0.46)	0.294	(1.61)	0.126	(1.30)
Number of observations	521		521		521	
First-stage F-statistic for CSR	9.51***		5.28***		2.24**	
First-stage F-statistic for CSR∗Small	2.37***		2.52***		0.95	
Hansen-J Chi-sq statistic	11.04		6.62		8.68	

$Strengths_{jt}$–Min_All $Strengths_{jt}$), and *Relative All Concerns* is (All $Concerns_{it}$–Min_All $Concerns_{jt}$)/(Max_All $Concerns_{jt}$–Min_All $Concerns_{jt}$), where j stands for FDIC size group. These measures allow us to look at a bank's CSR activities relative to other banks in its size group.

The results are reported in panel A of Table 7. We again find that, before and after the financial crisis, overall CSR scores and *All Strengths* are positively and significantly related to bank financial performance (e.g., in 2003–2007 coefficient on *ESG Index* (*All Strengths*) is 0.087 (0.094) in regression 1 (regression 2), both are significant at 1%). Further, the first-stage F-statistic is almost always significant at the 1% level (the only exception is for the first stage regression, where the dependent variable is the interaction between *CSR* and *Small* is 1.68, significant at 10%), indicating that our instruments are jointly significant. Further, the Hansen-J test fails to reject the null hypothesis, indicating that our instruments satisfy the validity criteria.

3.3.2. CSR excluding environment and human rights categories

As noted above, ESG ratings are only assigned for those areas that MSCI ESG deems relevant. As reported in Table 1, few banks are rated for environment and human rights categories. To ensure that we capture the most relevant CSR categories in our analysis, we exclude environment and human rights from the CSR score. The results are reported in panel B of Table 7. We find that, before and after the financial crisis, *All Strengths* and *All Concerns* are positively and significantly related to bank financial performance (coefficient on *All Strengths* (*All Concerns*) is 0.035 (0.011) in regression 1 and 2, both are significant at better than 5%). In both cases, efforts to increase CSR strengths outweigh the increase in CSR concerns in their effect on bank performance. The difference in coefficients on *All Strengths* in regressions 2 and 3 is significant at 1% for both pre- and post-crisis periods. The first-stage F-statistic is significant at the 1% level, indicating that our instruments are jointly significant. Finally, the Hansen-J test fails to reject the null hypothesis, indicating that our instruments satisfy the validity criteria.

3.3.3. Incorporate all available indicators into CSR Scores

As stated above, Servaes and Tamayo (2013) and Di Giuli and Kostovetsky (2014) argue that corporate governance should not be considered as part of CSR. Like them, we exclude the corporate governance and three diversity indicators related to the board and management from our CSR scores. Further, to ensure that our results are not affected by the changing nature of the MSCI ESG STATS database, we use only the 35 indicators that are available during the entire sample period. To confirm that our results are not being overly influenced by the inclusion of just these 35 indicators incorporated in our CSR scores, we rerun the regressions, including all indicator variables from the *ESG Index*, *All Strengths*, and *All Concerns* scores, except for the indicators in the corporate governance category and the three diversity indicators related to the board and management. Since the number of possible strengths and concerns varies from year to year, we follow Servaes and Tamayo (2013) and scale the score for each category (community, environment, etc.) by the maximum value for that category in a given year. We then add all strengths and concerns. Accordingly, even if the number of indicators changes over time, we can make time-series comparisons. The results are reported in panel C of Table 7.

We again find that, before and after the financial crisis, overall CSR scores and *All Strengths* are positively and significantly related to bank financial performance (e.g., in 2003–2007 coefficient on *ESG Index* (*All Strengths*) is 0.024 (0.029) in regression 1 (regression 2), both are significant at 1%). Further, the first-stage F-statistic is always significant at the 1% level (in five out of six regressions), indicating that our instruments are jointly significant, while the Hansen-J test fails to reject the null hypothesis (in five out of six regressions).

3.4. Alternative measures of performance

We use ROE as our measure of performance. To ensure that results are not driven by this choice, we look at three alternative performance measures: *ROA*, *Operating Profit*, and *Tobin's Q*. *ROA* is calculated as net income/total assets and represents a broader measure of firm performance than ROE. *Operating Profit* is defined as interest income – interest expense + noninterest income – noninterest expense. This measure excludes provision for loan losses, which is traditionally viewed as the noncash expense item that bank managers use to manage or smooth earning. Thus, *Operating Profit* is free from earnings management. Finally, *Tobin's Q* is calculated as (market value of equity + book value of debt)/book value of total assets. This variable provides a market-based measure of performance. The results are reported in Table 8. Panel A reports results using *ROA*, panel B reports results using *Operating Profit*, and panel C reports results for *Tobin's Q*.

Results for all three measures are comparable to those for *ROE* reported in Table 6. That is, in the pre-crisis years CSR scores are positively and significantly related to bank performance for both large and small banks (e.g., panel B coefficient on *ESG Index* is 0.003, significant at 1%, and *ESG Index*∗*Small* is 0.003, insignificant). Similarly, high *All Strengths* scores are positively and significantly related to bank financial performance and the relation is stronger for small banks (e.g., panel C coefficient on *All Strengths* is 0.038 and on *All Strengths* ∗*Small* is 0.016, both significant at better than 5%). Finally, in panels A and B, in the pre-crisis years *All Concerns* is not related to financial performance. However, using *Tobin's Q*, in panel C, *All Concerns* is positively related to financial performance (coefficient is 0.031, significant at 1%).

In all three panels, after the worst of the financial crisis CSR scores are positively and significantly related to bank performance for both large and small banks (e.g., in panel C, coefficient on *ESG Index* is 0.020, significant at 1%; *ESG Index*∗*Small* is −0.008, insignificant). Similarly, the coefficient on *All Strengths* is positive and significant in all panels, while *All Strengths*∗*Small* is insignificant. After the crisis, *All Concerns* is positively and significantly related to bank performance for large and small banks (e.g., in panel A, the coefficient on *All Concerns* is 0.002, significant at 1%, and *All Concerns*∗*Small* is 0.002, insignificant).

3.5. Alternative bank size cutoff

The Wall Street Reform and Consumer Protection Act (Dodd-Frank) of 2010 assigned particular importance to banks with total assets ⩾$50 billion. labeling these banks as 'systemically important,' the legislation requires them to submit to stricter and more often reviewed regulations. In their more closely watched state, this group of banks may be more concerned with CSR. Thus, in Table 9, we examine banks with total assets greater ⩾$50 billion in assets relative to those with total assets <$50 billion.

The results are similar to those for ROE reported in Table 6. In the pre-crisis years, CSR scores are positively and significantly related to bank performance for both large and small banks (e.g., coefficient on *ESG Index* is 0.015, significant at 5%, and *ESG Index*∗*Small* is 0.003, insignificant). Similarly, *All Strengths* scores are positively and significantly related to bank financial performance and the relation is even stronger for smaller banks. Finally, in the pre-crisis years *All Concerns* is not related to financial performance. After the worst of the financial crisis had past, the coefficient on *All Strengths* is positive and significant, while *All Strengths*∗*Small* is insignificant. After the crisis, *All Concerns* is positive and significantly related to bank performance for all banks.

Table 1A
MSCI ESG STATS ratings definitions. *Source: MSCI ESG STATS User Guide & ESG Ratings Definition*, MSCI ESG Research, June 2013.

This table provides definitions of ESG strength and concern assessments as gauged by MSCI ESG Research.

COMMUNITY:

STRENGTHS

Innovative Giving

This indicator evaluates company charitable giving programs. Companies whose programs support affordable housing, access to healthcare, K-12 public education, initiatives to relieve hunger, or in-kind giving and other programs targeted at disadvantaged communities, score higher.

Community Engagement

The company has a notable community engagement program concerning involvement of local communities in areas where the firm has major operations.

CONCERNS

Community Impact

This indicator measures the severity of controversies related to a firm's interactions with communities in which it does business. Factors affecting this evaluation include, but are not limited to, a history of involvement in land use and/or development-related legal cases, widespread or egregious community impacts due to company operations, and criticism by NGOs and/or other third-party observers.

ENVIRONMENT:

STRENGTHS

Environmental Opportunities

This indicator evaluates how companies are taking advantages of opportunities in the market for environmental technologies, and/or to develop or refurbish buildings with green building characteristics including lower embodied energy, recycled materials, lower energy and water use, waste reduction, and healthier and more productive working environments. Companies that proactively invest in product and services addressing issues of resource conservation and climate change, and/or develop or refurbish buildings to achieve green building certifications score higher. Companies lacking strategies and investments targeting these areas, or that ignore opportunities in green buildings, score lower.

Waste Management

This indicator evaluates companies that are at risk of incurring liabilities associated with pollution, contamination, and the emission of toxic and carcinogenic substances, and/or companies that produce or sell electronic products face risks associated with recycling and/or disposal of end-of-life electronic products. Companies with strong programs and track records of reducing emissions and waste, and/or that proactively address electronic waste concerns by establishing comprehensive and well-managed product recovery and recycling programs, score higher. Companies that create large volumes of toxic and carcinogenic emissions or waste, yet lack programs or policies to reduce or control these substances and have experienced recent incidents of contamination, or electronic product companies with a strictly compliance-driven approach, score lower.

Packaging Materials & Waste

This indicator evaluates companies are that at risk of losing access to markets or at risk of facing added costs to come into compliance with new regulations related to product packaging content and end-of-life recycling or disposal of packaging materials. Companies that proactively reduce the environmental impact of their packaging, including use of recycled content material and establishment of take-back and recycling programs, score higher. Companies that have done little to address packaging impacts or have implemented a packaging strategy that is strictly compliance-driven score lower.

Climate Change

This indicator measures a firm's policies, programs, and initiatives regarding climate change. Factors affecting this evaluation include, but are not limited to, the following:

- Companies that invest in renewable power generation and related services.
- Companies that invest in efforts to reduce carbon exposure through comprehensive carbon policies and implementation mechanisms, including carbon reduction objectives, production process improvements, installation of emissions capture equipment, and/or switch to cleaner energy sources.
- Companies that take proactive steps to manage and improve the energy efficiency of their operations.
- Companies that measure and reduce the carbon emissions of their products throughout the value chain and implement programs with their suppliers to reduce carbon footprint.
- Insurance companies that have integrated climate change effects into their actuarial models while developing products to help customers manage climate change related risks.

Environmental Management Systems

This indicator measures whether a firm has an environmental management system (EMS) in place, and whether it is certified to a third party standard, such as ISO 14001.

Water Stress

This indicator evaluates how well companies manage the risk of water shortages impacting their ability to operate, losing access to markets due to stakeholder opposition over water use, or being subject to higher water costs. Companies that proactively employ water efficient processes, water recycling and alternative water sources score higher.

Biodiversity & Land Use

This indicator evaluates how companies manage the risk of losing access to markets, and incurring litigation, liability, or reclamation costs due to operations that damage fragile ecosystems. Companies that have policies and programs designed to protect biodiversity and address community concerns on land use, score higher.

Raw Material Sourcing

This indicator evaluates how companies manage the risks of damaging their brand value by sourcing or utilizing raw materials with high environmental impact. Companies that have policies and procedures to source materials with lower environmental impact and participate in initiatives to reduce environmental impact of raw materials production score higher.

Other Strength

This indicator measures a firm's environmental management policies, programs and initiatives that are not covered by any other MSCI ESG Research environmental ratings metrics. Factors affecting this evaluation include, but are not limited to, companies are at risk of credit defaults resulting from poor due diligence processes related to environmental concerns. Companies that proactively address the environmental risks embedded in their financing decisions score higher.

CONCERNS

Regulatory Compliance

This indicator measures a firm's record of compliance with environmental regulations. Factors affecting this evaluation include, but are not limited to, fines/sanctions for causing environmental damage, and/or violations of operating permits.

Toxic Spills & Releases

This indicator measures the severity of controversies related to a firm's hazardous waste spills and releases. Factors affecting this evaluation include, but are not limited to, a history of involvement in land or air emissions-related legal cases, widespread or egregious impacts due to hazardous emissions, resistance to improved practices, and criticism by NGOs and/or other third-party observers.

Climate Change

This indicator measures the severity of controversies related to a firm's climate change and energy-related policies and initiatives. Factors affecting this evaluation include, but are not limited to, a history of involvement in GHG-related legal cases, widespread or egregious impacts due to corporate GHG emissions, resistance to improved practices, and criticism by NGOs and/or other third-party observers.

(*continued on next page*)

Table 1A (*continued*)

Impact of Products & Services
This indicator measures the severity of controversies related to the environmental impact of a firm's products and services. Factors affecting this evaluation include, but are not limited to, a history of involvement in environmental impact-related legal cases, widespread or egregious impacts due to direct or indirect use of the firm's products or services, resistance to improved practices, and criticism by NGOs and/or other third-party observers.
Biodiversity& Land Use
This indicator measures the severity of controversies related to a firm's use or management of natural resources. Factors affecting this evaluation include, but are not limited to, a history of involvement in natural resource-related legal cases, widespread or egregious impacts due to the firm's use of natural resources, resistance to improved practices, and criticism by NGOs and/or other third-party observers.
Operational Waste
This indicator measures the severity of controversies related to the impact of a firm's non-hazardous operational waste. Factors affecting this evaluation include, but are not limited to, a history of involvement in environmental impact-related legal cases, widespread or egregious impacts of the firm's non-hazardous waste streams, resistance to improved practices, and criticism by NGOs and/or other third-party observers.
Supply Chain Management
This indicator measures *the severity of* controversies related to the environmental impact of a company's supply chain and the sourcing of natural resources. Factors affecting this evaluation include, but are not limited to, a history of widespread or egregious environmental impacts in a firm's supply chain, legal cases, resistance to improved practices, and criticism by NGOs and/or other third-party observers.
Water Management
This indicator measures the severity of controversies related to a firm's water management practices. Factors affecting this evaluation include, but are not limited to, a history of involvement in water use-related legal cases, widespread or egregious impacts due to emissions, resistance to improved practices, and criticism by NGOs and/or other third-party observers.
Other Concern
This indicator measures the severity of controversies related to a firm's environmental impact. Factors affecting this evaluation include, but are not limited to widespread or egregious environmental impacts, resistance to improved practices, criticism by NGOs and/or other third-party observers, and any other environmental controversies not covered by other MSCI ESG Research's environmental ratings.

DIVERSITY:
STRENGTHS
Board of Directors – Gender
This indicator captures companies with strong gender diversity on their board of directors.
Women & Minority Contracting
This indicator captures companies with a demonstrably strong record on purchasing or contracting, with women- and/or minority-owned businesses.
Employment of Underrepresented Groups
This indicator measures a firm's efforts to promote diversity in its workforce. Factors affecting this evaluation include, but are not limited to, its recruitment efforts to women and minority communities, and its participation in multi-stakeholder diversity initiatives.

CONCERNS
Workforce Diversity
This indicator measures the severity of controversies related to a firm's workforce diversity. Factors affecting this evaluation include, but are not limited to, a history of involvement in discrimination-related legal cases, widespread or egregious instances of discrimination on the basis of sex, race, or ethnicity, resistance to improved practices, and criticism by NGOs and/or other third-party observers.
Board of Directors – Gender
This indicator captures companies with no women on their board of directors.
Board of Directors – Minorities
This indicator captures companies with no minorities on their board of directors.

EMPLOYEE RELATIONS:
STRENGTHS
Union Relations
This indicator captures companies with high union density.
Cash Profit Sharing
This indicator captures companies that have a cash profit-sharing program through which it has recently made distributions to a significant proportion of its workforce.
Employee Involvement
This indicator captures companies that encourage worker involvement via generous employee stock ownership plans (ESOPs) or employee stock purchase plans (ESPPs).
Employee Health & Safety
This indicator captures companies that have strong employee health and safety programs. Initiatives include efforts to reduce exposure through comprehensive H&S policies and implementation mechanisms across the supply chain, identification and elimination of sources of H&S risk, training, operations and contractors performance auditing, certification under OHSAS 18001, setting up improvement targets, and assessment of historical performance tracking and reporting.
Supply Chain Labor Standards
This indicator evaluates how well companies manage risks of production disruptions and brand value damage due to sub-standard treatment of workers in the company's supply chain. Companies that establish labor management policies meeting stringent international norms, implement programs to verify compliance with the policies, and introduce incentives for compliance among suppliers score higher.
Compensation & Benefits
This indicator captures companies that provide noteworthy employee compensation and benefit programs.
Employee Relations
This indicator captures companies that provide employee engagement opportunities through collective bargaining or other employee involvement programs, and actively measure employee satisfaction.
Professional Development
This indicator captures companies that provide excellent employee training and development programs.
Human Capital Management
This indicator evaluates companies' ability to attract, retain, and develop human capital based on their provision of benefits, training and development programs, and employee engagement; and avoid labor unrest or reduced productivity due to poor job satisfaction. Companies that proactively manage human capital development through offering competitive benefit packages and performance incentives, implementing formalized training programs, offer employee engagement and professional development programs and actively measuring employee satisfaction score highest.

CONCERNS
Union Relations
This indicator measures the severity of controversies related to a firm's union relations practices. Factors affecting this evaluation include, but are not limited to, the firm's response to union organizing efforts and its bargaining practices with existing unionized workers, resistance to improved practices, and criticism by NGOs and/or other third-party observers.

Table 1A (*continued*)

Employee Health & Safety
This indicator measures the severity of controversies related to the safety of a firm's employees. Factors affecting this evaluation include, but are not limited to, a history of involvement in workplace safety-related legal cases, widespread or egregious fines for unsafe workplace practices, resistance to improved practices, and criticism by NGOs and/or other third-party observers.
Supply Chain
This indicator measures the severity of controversies related to a firm's supply chain. Factors affecting this evaluation include, but are not limited to, a history of involvement in supply chain-related legal cases, widespread or egregious instances of abuses of supply chain employee labor rights, supply chain employee safety, resistance to improved practices, and criticism by NGOs and/or other third-party observers.
Child Labor
This indicator measures the severity of child labor controversies in a firm's supply chain. Factors affecting this evaluation include, but are not limited to, a history of involvement in child labor-related legal cases, widespread or egregious instances of child labor in the firm's supply chain, resistance to improved practices, and criticism by NGOs and/or other third-party observers.
Labor-Management Relations
This indicator captures companies that are involved in employee relations controversy that are not covered by other MSCI ESG Research ratings.

HUMAN RIGHTS:
STRENGTHS
Indigenous Peoples Relations Strength
The company has established relations with indigenous peoples near its proposed or current operations (either in or outside the U.S.) that respect the sovereignty, land, culture, human rights, and intellectual property of indigenous peoples.
Human Rights Policies & Initiatives
The company has undertaken exceptional human rights initiatives, including outstanding transparency or disclosure on human rights issues, or has otherwise shown industry leadership on human rights issues not covered by other MSCI human rights ratings.

CONCERNS
Support for Controversial Regimes
This indicator measures the severity of controversies related to a firm's operations in countries with poor human rights records. Factors affecting this evaluation include, but are not limited to, links to the controversial regime, a history of controversial operations in the countries, allegations of complicity in violence towards the citizenry as a result of the company's operations, and criticism by NGOs and/or other third-party observers.
Freedom of Expression & Censorship
This indicator measures the severity of controversies related to the impact of a firm's operations on freedom of expression and free speech. Factors affecting this evaluation include, but are not limited to, cooperating with repressive governments seeking internet user data or requiring censorship, resistance to improved practices, and criticism by NGOs and/or other third-party observers.
Human Rights Violations
This indicator measures the severity of controversies related to the impact of a firm's operations on human rights. Factors affecting this evaluation include, but are not limited to, a history of involvement in human rights-related legal cases, widespread or egregious complicity in killings, physical abuse, or violation of other rights, resistance to improved practices, and criticism by NGOs and/or other third-party observers.
Other Concern
This indicator measures the severity of controversies related to human rights controversies that are not covered by other MSCI ESG Research human rights ratings.

PRODUCT:
STRENGTHS
Quality
This indicator measures a firm's efforts to improve the safety and health effects of its products/services. Factors reviewed include, but are not limited to, the following:
- How companies manage the risk of major product recalls or losing customer trust through major product quality concerns. Companies that proactively manage product quality by achieving certification to widely acceptable standards, undertaking extensive product testing and building processes to track raw materials or components score higher.
- How companies manage the risk of losing access to markets or at risk of facing costs related to reformulating their products due to the presence of chemicals of concern. Companies that proactively eliminate chemicals of concern from their products ahead of regulatory changes score higher on this key issue.
- How companies manage the risk of incurring reputational damage from a data security breach or controversial use of personal data, or having their business model undermined by evolving regulatory requirements on privacy and data protection. Companies with comprehensive privacy policies and data security management systems and companies that do not have business models reliant on trafficking in personal data score well.
- For the real estate sector, the companies that develop properties in urban areas with access to transportation, and offer tenant incentives to reduce maintenance and utility costs score higher.
- Companies that mitigate ESG risks in their investments by integrating ESG risk analysis into their due diligence process across all investment portfolios and asset classes score higher.
- How companies mitigate exposure to emerging insurance risks associated with public health trends and demographic change. Companies that have systems in place to identify and model emerging risks associated with health and demographic changes score higher.
- How companies manage the risk of incurring costs associated with unanticipated credit losses, litigation, and regulatory changes through offering financial products that lack transparency or are highly likely to be financially unsustainable to the end-user. Companies that offer transparent financial products based on a borrower's ability to repay score higher.

Social Opportunities
This indicator evaluates company efforts that benefit the disadvantaged. Factors reviewed include, but are not limited to, the following:
- How companies are taking advantage of opportunities for longer term growth and protecting license to operate through efforts to improve access to healthcare in developing countries and for under-served populations in developed marketsIn developing countries, companies that adapt their business models to reflect the specific needs of individuals in these markets through areas such as R&D, pricing, and licensing strategies will score higher. In developed markets, companies that take advantage of opportunities driven by regulatory changes to capture the uninsured market will score higher.
- How information technology and telecommunication companies are taking advantage of opportunities for growth in historically underserved markets, including developing countries and underserved populations in developed countries (such as rural areas and the elderly). Companies with considerable operations in developing countries score well on this key issue, as do those with substantial activities focused on expanding access through relevant initiatives and philanthropic efforts.
- How companies are taking advantage of the growth opportunities in the market for healthier products. Companies that offer products with an improved nutritional or healthier profile and have sought credible verification for its healthier status score higher on this key issue, while companies that do not offer such products to respond to new consumer demand in this area score lower on this key issue.

Access to Finance
This indicator evaluates the extent to which a company is taking advantage of opportunities for growth and strengthening reputation through providing lending, financing, or products to underrepresented or underbanked communities. Top performing companies will offer products and services to communities with limited or no access to financial products.

(*continued on next page*)

Table 1A (*continued*)

CONCERNS
Product Quality & Safety
This indicator measures the severity of controversies related to the quality and safety of a firm's products and services. Factors affecting this evaluation include, but are not limited to, a history of involvement in product safety-related legal cases, widespread or egregious instances of recalls or fines due to defective or unsafe products and services, resistance to improved practices, and criticism by NGOs and/or other third-party observers.
Marketing & Advertising
This indicator measures the severity of controversies related to a firm's marketing and advertising practices. Factors affecting this evaluation include, but are not limited to, widespread or egregious instances of false, discriminatory, or improper marketing/advertising, marketing targeted at disadvantaged groups, resistance to improved practices, and criticism by NGOs and/or other third party observers.
Anticompetitive Practices
This indicator measures the severity of controversies related to a firm's anti-competitive business practices. Factors affecting this evaluation include, but are not limited to, a history of involvement in anti-trust legal cases, widespread or egregious instances of price-fixing, collusion, or bid-rigging, resistance to improved practices, and evidence-based criticism by NGOs and/or other third-party observers.
Customer Relations
This indicator measures the severity of controversies related to a firm's customer relations. Factors affecting this evaluation include, but are not limited to, a history of involvement in customer-related legal cases, predatory lending, widespread or egregious instances of discrimination, fraud or unfair treatment, resistance to improved practices, and criticism by NGOs and/or other third-party observers.
Other Concerns
This indicator measures the severity of customer-related controversies not covered by any other MSCI ESG Research rating.
GOVERNANCE:
STRENGTHS
Reporting Quality
This indicator measures the quality of a firm's reporting on its corporate social responsibility (CSR)/sustainability efforts. Factors affecting this evaluation include, but are not limited to, the completeness and specificity of a firm's reporting, its setting of specific goals for its CSR efforts, and quantitative measurement of progress towards these goals.
Corruption & Political Instability
This indicator evaluates how companies manage the risk of suffering operational disruptions or loss of market access due to violence, property destruction or sabotage, political instability, demands for bribes, and costly litigation related to corrupt practices. Companies that have programs, guidelines, and clear policies to avoid corrupt business dealings, have strong partnerships with local communities, and have high level of disclosure and transparency score higher.
Financial System Instability
This indicator evaluates how a company manages its systemic risk in financial markets. Companies that institute strong governance structures and demonstrate a high level of transparency score well.
CONCERNS
Reporting Quality
This indicator measures the quality of a firm's reporting on its CSR/sustainability efforts. Factors affecting this evaluation include, but are not limited to, the completeness and specificity of a firm's reporting, its setting of specific goals for its CSR efforts, and quantitative measurement of progress towards these goals.
Governance Structures
This indicator measures the severity of controversies related to a firm's executive compensation and governance practices. Factors affecting this evaluation include, but are not limited to, a history of involvement in compensation-related legal cases, widespread or egregious instances of shareholder or board-level objections to pay practices and governance structures, resistance to improved practices, and criticism by NGOs and/or other third-party observers.
Controversial Investments
This indicator measures the severity of controversies related to the social and environmental impact of a firm's financing activities. Factors affecting this evaluation include, but are not limited to, a history of financing controversial projects, resistance to improved practices, and criticism by NGOs and/or other third-party observers.
Business Ethics
This indicator measures the severity of controversies related to a firm's business ethics practices. Factors affecting this evaluation include, but are not limited to, a history of involvement in widespread or egregious instances of bribery, tax evasion, insider trading, accounting irregularities, resistance to improved practices, and criticism by NGOs and/or other third-party observers.
Other Concerns
This indicator measures the severity of controversies related to a firm's governance practices not covered by any other MSCI ESG Research rating.

4. Conclusions

This paper analyzes banks' social performance and its relation to financial performance in a context of the recent financial crisis. We find that the largest banks consistently have higher CSR strengths and CSR concerns throughout the sample period. Further, this group sees a steep increase in CSR strengths and a steep drop in CSR concerns after 2009, as the worst of the financial crisis passed. We find that banks, in general, appear to be rewarded for being socially responsible as ROE is positively and significantly related to CSR scores. The biggest banks (that have been accused of putting their own interests ahead of their customers and the financial system as a whole) pursue socially responsible activities, such as lower deposit fees and increased services to low income communities, to a significantly greater extent than smaller banks. The results remain robust under various specifications, including alternative definitions of CSR engagement and financial performance, and size cutoffs.

Our research finds that banks, especially large banks, are now more socially responsible. Banks, and particularly larger banks that were at the center of criticism for their lack of social conscience prior to the financial crisis, did work to improve their CSR activities after the crisis. Despite the too-big-to-fail status of these banks, the crisis appears to have served as a wakeup call for the banks and their stakeholders to enhance their CSR records. The results show that this is associated with higher bank performance. As such another benefit of this increased CSR is that the likelihood of another crisis is lower. Given this relation between socially responsible behavior and bank performance, regulators might consider including CSR in the regulatory framework. Indeed, the Sustainability Accounting Standard Board has called for banks to disclose how ESG factors are integrated into the lending processes and the current level of portfolio risk associated with specific sustainability trends.[32]

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[32] *Commercial Banks: Research Brief*, Sustainable Accounting Standards Board, February 2014. www.sasb.org.

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Appendix A. Description of MSCI ESG STATS database

MSCI ESG STATS is one of the longest available ESG data time series. The time series consists of an annual data set of environmental, social, and governance (ESG) performance indicators applied to publicly traded companies. The MSCI ESG STATS data set was initiated in 1991 (by the KLD Research and Analytics). By 2013, over 2400 of the largest U.S. firms are tracked by MSCI. STATS data is published at the end of each calendar year. The data is a snapshot of a firm's social and environmental sssperformance at that point in time. MSCI ESG STATS 'strengths' and 'concerns' are designed to identify management best practices concerning ESG risks and opportunities. The assessments are derived from MSCI ESG Research's IVA ESG ratings product. Table 1A lists and describes the process used by MSCI to determine a firm's strengths and weaknesses.

According to numerous researchers, MSCI ESG ratings provide "an objective, uniform, and systematic assessment of the social behavior of firms" (Ceton and Liston-Heyes, 2009). Ruf et al. (1998) find that the consistency of the evaluations increases because the firm evaluations are performed at the same time every year. Furthermore, they find that the assessments are consistent among evaluators because evaluations are based on objective rules and MSCI employs a research staff for this task. Also, Sharfman (1996) points out that "the data are evaluations done by individuals outside the focal firms so they are ostensibly more objective than data gathered via surveys or the content analysis of corporate documents."

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