Walking the Walk: CSR Disclosures and Bank Practices

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Abstract

Socially responsible banks portray themselves as community pillars, particularly for low-to-middle income neighborhoods. We examine the truthfulness of this portrayal by studying the implications of banks' corporate social responsibility (CSR) disclosures for their product pricing and lending behavior. Using an instrumental variable approach that addresses selection bias, we find that high-CSR banks offer lower deposit rates, charge higher loan rates, and limit capital supply in poorer neighborhoods relative to their low-CSR peers. We also find high CSR banks attract more mortgage loan applications from females and disadvantaged minority groups. Collectively, our findings suggest that banks capitalize on CSR disclosures, obtaining product differentiation and pricing power.

Keywords: environmental and social responsibility, voluntary disclosure, Democratic vote share, political contributions

JEL codes: D4, G21, G28, K23, M4,

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1. Introduction

Voluntary reporting on corporate social responsibility (CSR) by firms has exploded over the past decade. Over 90% of the Global Fortune 250 firms published an annual CSR report in 2016 to inform their stakeholders. Money managers also attend more to CSR criteria when forming portfolios, with over $20 trillion of assets under management related to corporate sustainability. However, there is no consensus about the rationales behind or consequences of these choices. While CSR disclosures could result from firms formalizing their extant cultural values, they could also be a strategic tool for product differentiation, reputation building, or other forms of value enhancement (Baron 2001). Skeptics argue that firms provide little meaningful data about sustainability activities in their CSR reports, which serve as self-promotion gimmicks.

We evaluate the impact of banks' CSR disclosures on their core activities: deposit-taking and lending. We focus on banks for three reasons. First, banks promote CSR among business clients through their lending. For example, in March 2018, Citigroup instituted a policy prohibiting its business clients from selling firearms to those who fail background checks or are younger than 21, to try to curb gun violence. If banks can convince clients using lending policies to change their social and environmental activity, bank CSR disclosures can help reveal their imprint on society. Second, banks have two sets of customers (depositors and obligors) who may have different preferences for CSR, and on whom we have better data than for nonbank firms' customers. These data let us draw inferences about how bank CSR preferences shape consumer decisions. Finally, firm values are varied, but banks especially value one social responsibility tenet: community reinvestment. By comparing banks' CSR disclosures to their community reinvestment activity, we can learn how well banks "walk the walk rather than talk the walk."

A key empirical challenge is that firms' decisions to practice CSR are not random. If omitted variables influence both banks' CSR actions and their business operations, then standard OLS estimates will be biased. To address this issue, we estimate a two-stage least squares model, based on Democratic-leaning firms being more likely to practice CSR than Republican-leaning firms (Giuli and Kostovetsky 2014). We use the political ideology of a bank, as measured by the share of the bank's total donations going to the Democratic Party, as an instrumental variable for bank CSR, which we confirm is positively and significantly associated with CSR in our sample.

We first study the effect of bank CSR on deposit and loan yields using panel data for over 1,800 bank-quarters for 93 publicly listed US bank holding companies. We find that high-CSR banks offer lower deposit rates. A one-standard deviation increase in bank CSR decreases deposit interest rates by 37 basis points (bps), with the effect greater in time deposits (i.e., certificates of deposits) than demand deposits. We find that high-CSR banks charge higher interest rates for non-mortgage consumer loans and business loans, but not real estate loans. We find that high-CSR banks earn a higher yield spread between loans and deposits, consistent with CSR actions enhancing banks' reputations, which lets banks extract rents from some customers.

We next explore the relation between bank CSR disclosures and community reinvestment activities. Using two granular bank-loan datasets and a within-county-year specification, we find that high-CSR banks have a lower market share of small business loans and residential mortgage loans in poor counties than they do in rich counties. On average, a one standard deviation increase in bank CSR is associated with a 2.43 percentage point (pp) *decrease* in a bank's small business lending share and a 1.43 pp *reduction* in the bank's residential mortgage lending share in the poorest counties (poorest quintile). This evidence suggests that high-CSR banks reduce capital supply relative to their low-CSR peers in counties that may need bank capital the most.

However, customer segmentation along partisan lines might is an alternative explanation. Because rich counties tend to be liberal (Democratic-leaning) counties, high-CSR banks might match better with liberal customers who care more about CSR actions. Thus, if customer segmentation along partisan lines partly determines banks' community reinvestments, then we would expect high-CSR banks to reinvest more in richer, liberal counties. We probe this possibility by partitioning counties based on the Democratic share of the county's vote in a national election. We find that a county's political environment does not eliminate the effect of county wealth on the relation between CSR disclosure and market share. Even among counties with similar Democratic voting shares, we find that high-CSR banks tend to have higher market shares in wealthier counties. Thus, geographical variation in banks' community reinvestments is not explained solely by customer segmentation. Our interpretation is that high-CSR banks generate goodwill through their CSR disclosures and use this goodwill to operate in more favorable environments than their low-CSR peers.

In the final part of the paper, we examine what types of borrowers are attracted to, and are more likely to get loan approval from, high-CSR banks. Using detailed loan-level data on U.S. residential mortgage applications and originations, we document that compared to their low-CSR counterparts, high-CSR banks are more likely to lend to historically marginalized populations: lower income families, African Americans, Hispanics and Women. However, most of the higher loan incidence comes at the application stage rather than the acceptance stage. In other words, high-CSR banks are not more likely to accept an application from a minority applicant, but instead minority applicants are more likely to apply for a loan from high-CSR banks. We interpret this result as evidence that through CSR disclosures, banks are able to build reputations for prosocial behavior and thus market their services towards historically disadvantaged populations.

2. Corporate Social Responsibility

Investors and other stakeholders increasingly use corporate social responsibility (CSR) to evaluate firms. Broadly speaking, CSR refers to corporate strategies, practices, and policies that improve social and environmental well-being—management does not seek solely to optimize corporate profits. Companies create CSR reports so that analysts can easily categorize and analyze their actions. For example, City National Bank releases an annual CSR report. The 2016 report is broken down into 3 chapters, after a foreword from the CEO: Value for Community (Social), Valuing the Environment (Environment), and Creating Value in our Workplace and Enterprise (Governance). In this paper, we use the term "CSR" to capture any disclosures or practices that aim to generate positive social and environmental impact.

This tidy breakdown is common among all but the largest banks. Systemically Important Financial Institutions (SIFIs) frame their CSR activities explicitly as risk-reduction measures. While smaller banks describe at length how they benefit the surrounding community or even the world at large, SIFIs explain how their socially responsible practices directly benefit stakeholders by decreasing regulatory and/or operational risks. However, even SIFIs appear to prefer using CSR categories. Citigroup releases an annual "Global Citizenship Report," which includes sections such as "Citizenship and Sustainability Governance," "Environmental and Social Risk Management," and "Talent and Diversity."

Whether the benefits of CSR outweigh the costs has been debated for decades. Older theory suggested that CSR arose as a kind of agency cost: Firms only engaged in this behavior because it accomplished managers' goals at the expense of the firm. Early empirical work suggested that this was true (see e.g. Aupperle, Carroll, and Hatfield 1985). However, later work indicates that these costs are small compared to potential benefits, and Ferrell, Hao, and Renneboog (2015) shows that

CSR is negatively related to other forms of agency costs. Even earlier, Alexander and Buchholz (1978), showed that social performance and stock market performance are *positively* related. More recent work on this particular form of the question shows mixed results.

Many papers showed higher future returns as a result of current expenditures on social or environmental programs (e.g. Waddock and Graves, 1997; Luo and Bhattacharya, 2009). However, a review of socially responsible investment funds found that, on a risk-adjusted basis, they did not outperform their peers (Renneboog et al., 2008). Lins et al. (2017) find that high-CSR firms weathered the financial crisis better than low-CSR firms, indicating that social capital is valuable for enduring liquidity crises. Kruger (2015) analyzed market reactions and found that investors respond negatively to *both* positive and negative CSR announcements. One interesting theory is that firms may engage in voluntary disclosure of nonfinancial information as a way to mitigate the effects of future involuntary disclosures. Grewal, Riedl, and Serafeim (2018) find that when new CSR disclosures are mandated, low-CSR firms tend to have negative excess returns while high-CSR firms have positive excess returns.

When looking at other performance metrics, there is more consensus. The accounting literature has shown that high-CSR firms have higher returns on investment, assets, and sales (Cochran and Wood, 1984; Nehrt, 1996; Porter and van der Linde, 1995). Marketing has demonstrated that CSR is associated with increased product differentiation and increased brand value (Menon and Kahn, 2003; Bloom et al., 2006). Employee productivity may also be positively correlated with social or environmental performance. Two channels could explain this: Employee screening (Brekke and Nyborg, 2004), or CSR as a non-pecuniary benefit (e.g. Roberts and Dowling, 2002, Cassar and Meier, 2017). However, employee productivity may be hampered by

CSR, as employees may feel more leeway to behave badly if they feel that they are positively contributing simply by working at a high-CSR firm (e. g. List and Momeni, 2017).

While there are many explanations with for how CSR and other firm metrics are related, they appear to be twists on three main stories: Signaling, Delegated Philanthropy, and the Halo Effect. The latter two mechanisms are most relevant to our work. These ideas are similar in effect though have different causes. *Delegated Philanthropy* (Bénabou and Tirole, 2009) refers to consumers and other stakeholders using firms as vehicles for their personal philanthropy to save the costs of scope or efficiency. That is, we can gain the same perceived benefit that is derived from direct giving simply through our economic activity. If this is true, then we should be willing to pay or work extra to achieve this. A corollary to this is that "bad" firm behavior may drive away stakeholders, and diminish rent extraction. This means that one potential use of CSR is to neutralize the effects of so-called Corporate Social Irresponsibility. CSR actions may be less costly than the losses that arise from harmful corporate practices (e.g. Kotchen and Moon, 2011). A related mechanism is psychological ownership (Pierce, Kostova, and Dirks, 2001). Customers and other stakeholders tend to emotionally invest in firms, building a sense of identity that can be tied to products. CSR may be a way for banks and other firms to promote this bonding. Similarly, if a firm takes actions that violate the stakeholders' other sources of identity, this dissonance can cause a backlash, and CSR can mitigate these negative effects. If people can rationalize their attachment through other means, they are more likely to overlook transgressions.

The halo effect is a behavioral explanation in which our beliefs about one area may influence our beliefs about another. For example, if customers believe that a bank is selflessly promoting businesses in local communities, they may be more likely to believe that the bank is offering them better deposit rates. This need not be irrational if acquiring beliefs about firms is

costly. It is very difficult to disentangle the halo effect from delegated philanthropy because, in either case, CSR allows shareholders to extract rents from other stakeholders and these rents are the primary evidence of the effects of CSR.

We show that CSR measures are positively related to measures of operational success in banks – namely deposit and loan rates, and lending in richer counties. We suggest that firms are taking advantage of CSR to either offset or enable these behaviors.

3. Data and Empirical Approach

Data

Corporate social responsibility. CSR data are from the Thomson Reuters Environmental, Social, and Corporate Governance (ESG) Database which provides standardized CSR data for public companies going back to 2002. The database rates CSR activities across three dimensions ("pillars"): environmental, social, and governance, based on a broad range of information sources such as firms' annual reports, corporate social responsibility reports, news media and nongovernment organizations' (NGOs) websites. Each pillar comprises several subcategories, each of which is assigned a numerical score by Thomson Reuters based on a broad swath of "indicators" that make up the subcategories.[1] The scoring is benchmarked against peer firms in the same country and industry sector, which is a critical feature that allows comparison of corporate social responsibility performance across firms.

Since a large body of literature has examined the effect of banks' corporate governance (G) and our focus is mainly on banks' environment and social responsibility (E & S), we construct a composite CSR index using the weighted average of the subcomponents of the E and S pillars. Following Thomson Reuters' weighting scheme, the weight on the subcomponent is determined

[1] For example, the Governance pillar has three subcategories: Management, Shareholders, and CSR strategy, which have 34, 12, and 8 indicators respectively.

by the number of indicators that make up each category as a proportion of the total number of indicators used in the Thomson Reuters CSR framework. The final score ranges from 0 to 100, with 100 indicating the best performer in corporate social responsibility. We obtain CSR data for bank holding companies from 2002 through 2016.

Bank financials. Financial data for bank holding companies are from the Federal Reserve FR Y-9C reports, which provide detailed quarterly information on the income statements and balance sheets for US bank holding companies.

Political Contribution. We gather information on corporate political contributions from the OpenSecrets website (www.opensecrets.org) of the Center for Responsive Politics. The website provides the dollar amounts of a firm's contributions, through both political action committee (PAC) and individual donors, to Democrat and Republican candidates during each election cycle beginning 1990. A key identification strategy in our study is that we use a firm's political contribution to Democrats relative to Republicans as an instrumental variable for ES, as prior research has shown that Democratic-leaning firms place more emphasis on ES-related issues than Republican-leaning firms (Giuli & Kostovesky 2014).

Small business lending. Small business lending data for commercial banks come from the Community and Reinvestment Act (CRA) small business loans database provided by the Federal Financial Institutions Examination Council (FFIEC).

Residential mortgage. Residential mortgage information comes from the Home Mortgage Disclosure Act (HMDA) data set, which reports characteristics of individual residential mortgage applications and originations such as the identity of the lender, loan amount, property location and loan approval/rejection decision by the lender.

County data. We collect information on county-level poverty rates from the U.S. Census Bureau's Small Area Income and Poverty Estimates (SAIPE) program, which produces annual estimates of income and poverty for all U.S. counties. We collected voting data at the county level using official results from each state's Secretary of State.

Empirical Approach

A key identification challenge is that banks' CSR activities are unlikely to be random. Some latent factors can be correlated with both a bank's decision and capacity to undertake CSR-related activities and the bank's business model or pricing strategies. For example, banks that are doing well financially have more resources to spend on CSR activities and pay lower deposit interest rates, driving up profits. If we were to simply run a standard OLS regression of deposit interest rates on bank CSR, we could obtain biased and inconsistent coefficients estimates due to the endogenous relation between CSR and deposit interest rates. To account for the endogeneity problem, we employ a two-stage least squares (2SLS) model that isolates plausibly exogenous variation in bank CSR using banks' political ideology as an instrumental variable (IV).

Our IV approach is motivated by a growing body of literature that explores the influence of corporate political ideology on social and environment activities. The broad consensus from the literature is that Democratic-leaning firms place more emphasis on corporate social responsibility than Republican-leaning firms (e.g., Giuli and Kostovetsky 2014). Our instrumental variable *PC* is defined as the bank's political contribution to Democratic parties scaled by its total contributions, ranging from 0 (extreme right) to 1 (extreme left). Econometrically, a good instrument must meet two conditions: relevance and exclusion. The relevance condition requires the instrument to be correlated with the endogenous variable CSR. Figure (1) plots average *PC* for each decile of banks sorted on CSR rating and shows a positive raw correlation between CSR and

the extent to which banks lean towards Democrats. Later we present formal multivariate analysis to test whether political ideology can predict CSR after controlling for other covariates. The exclusion condition is that political ideology does not directly affect the second-stage outcome variables, such as deposit interest rates, except through its effect on CSR. In other words, differences in the extent to which banks donate to Democrats versus Republicans should be uncorrelated with differences in unobservables (i.e., the error term in the second stage). While the exclusion condition is fundamentally untestable, both economic theory and industry practice suggest that a bank's business model and its operations are unlikely to be directly influenced by its political ideology. We are also not aware of any prior research that shows otherwise. We fit the following 2SLS model:

$$CSR_{it} = \alpha + \gamma PC_{it} + \phi Control_{it} + Quarter\ FE + v_{it} \quad (1)$$

$$Outcome\ Variable_{it} = \beta + \lambda \widehat{CSR_{it}} + \phi \chi_{it} + Quarter\ FE + \epsilon_{it} \quad (2)$$

where subscript *i* denotes each bank and t denotes the quarter. In the first stage, we predict bank CSR using political contrition (*PC*), a proxy for political ideology, as an instrument. *PC* is defined as the bank's contribution to Democratic candidates over the previous four election cycles relative to its total contributions. A higher value of *PC* indicates a more Democratic-leaning bank. In the second stage, we regress the outcomes of interest (e.g., deposit interest rates and loan interest rates) on the predicted value of CSR derived from the first stage. Except for the instrument, we use the same set of controls in both the first stage and the second stage models. The coefficient of interest is λ on $\widehat{CSR}$, which represents the effect of corporate social responsibility on banks' business operations. η_t is a set of quarter fixed effects that absorb time-varying shocks to bank operations. Because the quarter fixed effects difference out changes in the federal funds rate, we do not adjust deposit/loan interest rates by the federal funds rate. To allow for arbitrary correlations of the error

terms both within a bank and across banks that operate in similar geographic markets, we cluster standard errors by bank and Federal Reserve districts, using the two-way clustering procedure of Cameron, Gelbach, and Miller (2011).[2]

The vector χ contains a rich set of bank controls that might independently affect the outcome variables. We control for bank size because larger banks have more resources to invest in socially responsible activities and they also enjoy greater reputational capital and pricing power. At the same time, larger banks are subject to more regulatory scrutiny, such as the Comprehensive Capital Analysis and Review (CCAR), and additional financial reporting requirements, so their business strategies are likely to differ from smaller peers. We include *BANKSIZE*, which is an ordinal variable that divides banks into four asset size bins based on thresholds used by regulators for differential regulatory requirements; *BANKSIZE* equals 1 for assets (in 2016 dollars) <= $10 billion, 2 for $10 - $50 billion, 3 for $50 - $250 billion, 4 > $250 billion. We include the ratio of nonperforming loans to total loans (*NPL*) to control for banks' loan quality. Tier1 capital ratio (*TIER1RAT*) is included because shortfalls in capital adequacy can trigger regulatory interventions, which in turn affects bank business operations. *LOANGROWTH* is quarter-over-quarter growth in loan portfolios for the two prior years. We also control for deposits-to-loan ratio (*DEPTOLOAN*), large time deposits-to-deposits ratio (*LARGETIMEDEP*) and commercial loans-to-loan ratio (*COMMERCIALLOAN*) to control for the impact of banks' liability and asset structures.

[2] We cluster at the Federal Reserve District level because the Federal Reserve Board is the primary regulator of bank holding companies that constitute our sample and, in a highly regulated industry like the banking sector, regulatory oversight and enforcement have significant implications for bank activities (Acharya and Ryan 2016), thus inducing within-district correlation of the regression residuals. The twelve Federal Reserve Banks are in Boston, New York, Philadelphia, Cleveland, Richmond, Atlanta, Chicago, St. Louis, Minneapolis, Kansas City, Dallas, and San Francisco.

Summary Statistics

Table 1 reports summary statistics for the variables used in our main analysis. The sample consists of 1,821 bank-quarter observations associated with 93 bank holding companies between 2002 and 2016. The average CSR score for banks is 43.5 with a standard deviation of 17.6. Figure 2 plots a histogram of the CSR distribution among the sample banks. While there is considerable variation in bank CSR, the scores tend to cluster between the upper 20s and lower 40s. Banks generally are more Republican-leaning, as the average contributions to Democrats represent only about 33% of a bank's total contributions. Interest rates charged on all interest-bearing deposits, small (insured) time deposits, large (partly uninsured) time deposits, and core deposits average 92 bps, 184 bps, 182 bps, and 54 bps respectively. Interest rates paid on loans, real estate loans, residential real estate loans, commercial and industrial loans, and non-mortgage consumer loans average 518 bps, 503 bps, 464 bps, 504 bps, and 686 bps. Bank assets are highly right skewed with a mean of $242 billion and a median of $34.6 billion. Table 2 reports correlations among the variables in Table 1.

4. Results

Banks have two main product markets in which they operate – they offer savings vehicles to depositors and loans to obligors. An open question in the literature is whether and by how much product prices are affected by a firm's CSR activity. If customers care about their suppliers' CSR activities, then we would expect that banks with high CSR rating can extract larger rents than can banks with low CSR rating. If consumers share the values purported in disclosures, then they may ascribe value to the products the bank offers, increasing the price they are willing to pay. In the case of a depositor, this means receiving less interest. As such, we should expect deposit rates to be lower for high-CSR banks than for low-CSR banks. That is, the socially responsible banks should have to pay less for deposits.

Bank CSR and Deposit Interest Rates

Figure 3, Panel A shows the average deposit interest rates for each decile of banks sorted annually on their CSR rating. Deposit rate is negatively correlated with bank CSR, before controlling for other determinants of deposit rates and the potential endogeneity associated with CSR. In Table 2, we formally estimate the effect of CSR on bank deposit interest rates. We begin by running an OLS specification in Panel A. Column (1) uses overall deposit interest rates as the dependent variable, and shows that CSR is negatively related to deposit interest rates. Given that CSR rating has a standard deviation of 17.6, the point estimate of 0.00003 indicates that a one standard deviation increase in the CSR rating decreases deposit interest rate by 5 (0.00003 × 17.6) bps. The effect seems to be concentrated in small time deposits, with a coefficient (in column 2) that is about twice as large as that of the overall deposit rate.

Panel B reports 2SLS estimates that model the endogenous determination of bank CSR disclosures through an instrumental variable. The first-stage regression results, reported in column (1), indicate that our instrument, banks' political ideology, predicts CSR significantly positively; Democratic-leaning banks on average score higher on CSR. Standard post-estimation diagnostics, including Kleibergen-Raap LM statistic and Kleibergen-Raap F statistic, reject the under-identification and weak instrument hypotheses. Hence, we conclude that our instrument is relevant.

Columns (2) through (5) report the second-stage regression estimates of the effect of bank CSR on deposit interest rates across deposit types. As column (2) shows, CSR has a negative, statistically significant, and economically meaningful impact on deposit interest rates. The coefficient estimate for CSR indicates that a one standard deviation increase in bank CSR decreases deposit interest rates by 40 bps (-0.00023 × 17.6), a 43% reduction relative to the sample mean of deposit interest rates. The IV estimate is almost eight times larger than the OLS estimate,

suggesting that endogeneity biased the OLS estimate towards zero. Put differently, banks that perform better on ES tend to offer *higher* deposit rates. However, the effect of CSR disclosures seems to more than counterbalance this fact. Columns (3) through (5) break up deposits into different types and show that the effect of CSR on deposit interest rates derives mainly from time deposits (CDs), while interest rates on core deposit products (savings deposits and interest-bearing checking accounts) have no significant associations with CSR statistically and economically. Taken together, the results indicate that, after controlling for the endogenous choice of CSR, high-CSR banks enjoy significant deposit pricing power over low-CSR peers, particularly in the time deposit segment which constitutes the higher end of a bank's deposit funding cost.

Bank CSR and Loan Interest Rates

If banks can exert the same price pressure on their obligors as they do on their depositors, then one would expect loan interest rates to be higher among high-CSR banks. Figure 3 Panel B displays the average loan interest rates across deciles of banks sorted annually on CSR. The figure reveals a weak negative relation between CSR and loan interest rates. Again, these univariate correlations do not account for the endogenous nature of bank CSR practices and disclosures.

Table 3 presents the formal tests for the effect of bank CSR on loan interest rates. Panel A displays the OLS results. Across all loan types, we do not find any significant relation between bank CSR and loan interest rates. The insignificant results, however, could be driven by endogeneity related to banks' CSR activities, which could bias OLS estimates toward zero. We focus on Panel B, which reports the IV results. Column (1) shows that a bank's CSR rating is positively and significantly associated with the bank's aggregate loan interest rates. The coefficient of 0.00035 (p = 0.067) indicates that a one standard deviation increase in bank CSR corresponds to a 62 bps (=0.00035 * 17.6) increase in interest rates, or a 12% increase from the sample mean.

Breaking down loan interest rates by loan type, we find considerable heterogeneity in the effect of bank CSR on loan interest rates. Bank CSR is positively associated with interest rates for C&I loans and consumer loans - a one standard deviation increase in CSR translates to 97 bps and 2.2 percent increase in interest rates for the two respective loan types - but has no detectable impact on real estate loan interest rates. In summary, the evidence suggests that as with deposit interest rates, banks seem to capitalize on their high CSR scores and extract rents from borrowers by charging higher interest rates.

Bank CSR and Small Business Lending

In the second part of our analysis, we look beyond interest rates and examine the direct impact of bank CSR on lending activities. The Community Reinvestment Act (CRA) requires all insured depository institutions above a certain asset threshold to make public data about their small business loans.[3] The requirement aims to encourage banks to meet the credit needs of local communities, including low- and moderate-income neighborhoods. From the CRA data we can observe how much high-CSR banks lend to small businesses compared to low-CSR banks. In particular, we are interested in whether high-CSR banks' propensity to lend varies with the demographics of local communities. If high-CSR banks truly engage in the kind of activities that are socially responsible, then we would expect those banks to provide more credit to small businesses than their lower-CSR peers, especially so in poorer communities that could otherwise be excluded from the market for small business lending.

[3] Per CRA data collection and reporting guideline issued by Federal Financial Institutions Examination Council (FFIEC), the asset size threshold that triggers data collection and reporting is adjusted annually with CPI, and for 2016, was $1.216 billion as of December 31 of each of the prior two calendar years. Current and historical asset size thresholds are available on FFIEC/CRA website https://www.ffiec.gov/cra/reporter.htm. All banks in our sample meet the asset size threshold and therefore are required to provide small business lending data in accordance with CRA.

Figure 4 plots the average value of banks' small business lending share in a county across deciles of bank CSR, partitioned on county poverty rates. When looking only at counties with relatively low poverty, there is no apparent relation between the CSR-level of a bank and their small business share. However, in poorer counties, particularly in the poorest quintile, it appears that the higher the level of CSR disclosure of a bank, the *smaller* their share of small business lending. In other words, as a county's poverty rate rises, the increased prevalence of small business lending among high-CSR banks begins to disappear.

Figure 5, Panel A shows the geographical distribution of small business lending as a function of bank CSR. To construct this figure, for each county we take the weighted average CSR ratings of banks that provide small business loans in the county over the sample period. The weight assigned is the bank's market share of loans issued to businesses with less than $1 million in annual revenue in the county. Counties with a larger share of small business lending done by higher-CSR banks, by construction, will have a higher weighted average CSR score. Figure 5, Panel B plots the average poverty rate over the 2000-2017 sample period across counties in the US. Comparing the two figures, a distant pattern emerges: poor counties have more small business lending done by banks in the lower end of the CSR distribution while banks in the high end of the distribution have a larger footprint in richer counties.

Table 4 presents the multivariate regression results of the small business lending effect of bank CSR. We estimate a modified version of the 2SLS model used in the preceding analysis. The unit of observation here is the bank-county-year. The regression further includes county × year fixed effects, which forces comparison of small business lending between higher-ES banks and lower-ES banks within the same county in the same year. To account for the fact that banks' small business lending share in a county is directly related to their geographical penetration in the county,

we control for a bank's deposit share in the county using branch-level deposit data from the FDIC Summary of Deposits. This allows us to identify the impact of bank CSR on small business lending share, holding fixed banks' deposit network in the country. To conserve space, we report only the second-stage results. The variable of interest is the interaction between CSR and a decile rank variable of county poverty rate (*POVERTY*). The outcome of interest is a bank's small business lending share in a county, defined both in terms of the number of loans made (column [1]) and the dollar volume of loans made (column [2]). Results show that the *ES* × *POVERTY* interaction term is negative and statistically significant, indicating that high-CSR banks grant fewer small business loans in poorer counties relative to their low-CSR peers.

This result is surprising as one of the primary claims of banks being socially conscious is reinvestment into struggling communities. At a minimum, one would expect there to be a correlation between claimed social responsibility and poor country reinvestment.

One concern in this analysis is whether county wealth is tied to other omitted variables that could affect decision-making in the small-business lending market. The most obvious concern is that wealthy counties tend to be urban, and consequently more liberal-leaning. It's possible then that what is actually occurring is customer segmentation: Democratic-leaning banks tend to focus on Democratic-leaning counties while Republican-leaning banks focus on Republican-leaning counties. If this is true, then our results might arise from this split. Liberal banks tend to simultaneously have high CSR activity and high engagement in Democratic counties. If the reason that liberal customers are drawn to liberal banks is this CSR activity, then this can reasonably be described as a benefit arising from the bank's CSR decision, but if it is due to any other reason (i.e. other liberal values, coincidental geography, etc.) then we might falsely be ascribing this county sorting to the bank's CSR decision, rather than other correlated factors.

To explicitly consider this possibility, we collected voting data in each county in the lower 48 states. Using this voting data, we construct a metric of each county's Democratic lean, based on the average share of the vote the Democratic candidate received in the elections over the sample period (*CTDEM*). We then consider two splits of the data: First, we partition the data in quintiles based on the county's poverty level. In each quintile, we run our main specification, including the interaction of CSR-rating and *CTDEM*. This interaction is the variable of interest, estimating the differential impact of CSR on market share between Democratic and Republican counties. We then reverse the sorting order: We first partition the data into quintiles based on each county's *CTDEM*, and within each quintile we run the main regression specification including an interaction between CSR and the county's poverty level. This analysis is shown in Table 5.

The goal of this exercise is to roughly control for one variable while testing the impact of the other. If our result that high-CSR banks have more small business lending share in richer counties is being driven by the Democratic lean of these counties, then we should see the CSR-CTDEM interaction remaining significant in each of the poverty quintiles, while the CSR-poverty interaction should largely be eliminated by constraining the regression to similarly liberal counties.

However, we end up seeing just the opposite: The CSR-Poverty interaction remains strong in all five *CTDEM* quintiles, while the CSR-*CTDEM* interaction is insignificant in 3 of the 5 poverty quintiles. While there is a statistically and economically meaningful effect in quintiles 2 and 4, in the expected direction, the inconsistency does not let us draw any strong conclusions about whether there is an additional segmentation effect. This could be a fruitful area for future research.

Bank CSR and Residential Mortgage Lending

We also analyze the impact of CSR on bank residential mortgage lending and how such an impact varies with local communities' demographics and economic conditions. Figure 6 presents the geographical distribution of residential mortgage lending as it relates to bank CSR, similar to Figure 5. In line with the kind of segmentation observed in small business lending, the graph illustrates that, in poorer counties where mortgage loans to residents are likely to be the most helpful in boosting local wealth, banks with "high" CSR actually take a smaller market share than banks with "low" CSR. Table 5 reports the regression results of estimating the effect of CSR on bank's residential mortgage share (in dollar volume) in the county. The estimated coefficient on the interaction term *CSR* × *POVERTY* is negative and significant, indicating that banks decrease residential mortgage lending in poor counties. Overall, both small business lending data and residential mortgage lending data provide some support for some CSR skeptics' view that CSR disclosures are more of a strategic and marketing tool than being reflective of a firm's true undertaking of socially responsible activities; banks with higher CSR ratings decrease their geographical footprint in communities that are in most in need of bank investments.

Subcomponents of Bank CSR

We next decompose bank CSR rating into Environmental and Social subcomponents and examine their respective influences on small business lending and residential mortgage lending. While the interaction terms for both are significant, it is intriguing that the social component has a larger effect. However, the estimates are not statistically distinguishable from each other. There are many reasons to think that the results would break down in the subcomponents, or that the results were driven by the environmental component. Our dependent variable is attempting to proxy for how socially conscious the bank is – how much do they reinvest into poorer

communities. If the result were driven by the environmental subcomponent, it would be very plausible that the alternatively explanation listed above – that this is a story of political sorting and geography – is the main driver. However, even when we focus down onto the exact component we care about, social responsibility, we *still* see that more socially conscious banks tend to invest less in poorer counties. We must also keep in mind that bank management is not a random sample of political ideology – it tends to skew to the right even in the most urban areas. Further, the banks in our sample are all publicly traded, so the bank headquarters in nearly all cases are located in cities.

Bank CSR and Residential Mortgage Applicant Characteristics

The final question we investigate is whether banks with higher CSR disclosures engage in one key bank-social-responsibility area: reinvesting in historically marginalized communities. We answer this question by way of detailed mortgage application and acceptance data collected under HMDA. We regress banks' CSR rating on various applicant and loan characteristics, separately for all applications and for applications that are eventually are approved by the bank. We want to learn what types of borrowers do high-CSR banks attract.

We report the regression estimates in Table 8. The coefficient estimates in column (1) suggest that banks are more likely to receive loan applications from groups of people that have been historically discriminated against. All else equal, high-ES banks receive more loan applications with larger amounts from applicants with lower incomes. They also have higher lending prevalence among Blacks and Hispanics relative to Whites. Consistent with prior research which finds that female consumers are more attracted to socially responsible firms (Hainmueller and Hiscox 2015), we show that high CSR banks receive more loan applications from women than men. This result suggest that minority groups are more socially conscious and in turn apply for loans from banks deemed to be more socially responsible. In column (2), we find that high CSR-

banks are also more likely to accept loan applications from the same minorities, but given the results in column (1), this effect is mainly derived from the application stage; the reason high CSR-banks lend more to minorities is not necessarily that their lending policies favor minorities but rather that minority groups are more likely to be attracted to banks with a high-CSR focus.

5. Discussion

Taken together, these results indicate that banks' CSR disclosures are resulting in benefits to the bank. Banks that report more environmental and social actions pay customers lower deposit rates, charger higher loan rates, and invest less in poorer communities. While they do offer more loans to historically marginalized classes, this occurs at the application level, and not the acceptance level. In other words, high-CSR banks receive more applicants from women, minorities, and poor applicants, but issue acceptances at the same rates as low-CSR banks.

There are multiple ways to read this evidence. Perhaps the most obvious is that our measure of CSR is wrong. It is, after all, simply a proxy for a bank's actual CSR activity. If this is so, then what are we actually measuring that displays these same characteristics? The level of disclosed activity is certainly correlated with bank size, but this is controlled for, and there's no reason to believe that the nonlinear effect of size would generate these results. It could be that the level of disclosure is correlated with managerial skill – good managers might be able to generate positive brand image through CSR while simultaneously outperforming other banks in other metrics. But there's no reason to believe that this would have any interaction with the managers' ideologies, so this does not explain why the instrument amplifies the effect. The most uninteresting explanation – that the measure of CSR isn't accurately reflecting what is disclosed – runs into this same problem: There's no reason to believe that errors in the measure are related to bank ideology.

An alternative explanation arising from endogeneity or another similar factor would need to suggest that banks that engage in more CSR activity are, independently of this decision, able to secure lower deposit rates and better loan environments, *and* that liberal bank managers are also able to do this independent from their innate desire to engage in CSR.

If we accept that the measure is accurate and take the results at their face value, then the possibilities narrow. The straightforward reading is that banks that are highly environmentally and socially responsible are viewed favorably by their communities. This allows them to be more selective both in their depositor base and the location of their loan base. This allows them to issue low-rate deposits and loans in richer, and therefore safer, counties, while issuing loans with similar rates. This is perfectly consistent with the data and the prior literature.

One could reverse the causality somewhat and say that banks are engaging in "bad" behavior, such as offering low deposit rates or disproportionately favoring wealthy communities in their loan portfolio, and mitigating the effects of this behavior through CSR. While there are interesting divergences between this story and the one above, these decisions are for all intents and purposes simultaneous, and our study does not attempt to disentangle these two ideas. To do so, one would need to identify an asymmetry in the reaction of shareholders to positive and negative CSR-like activity.

One thing to consider is that we have not explicitly analyzed the cost of these policies. It is impossible to say from the benefits shown above whether or not these are greater or less than the cost of the CSR. In fact, these results are consistent with a world in which banks choose different levels of CSR but use cost-plus pricing. A careful cost-benefit analysis would be an interesting direction for future work. However, what can be said here is that the type of CSR most associated with banks, CRA, does not appear to be correlated with measured CSR. Community

reinvestment was designed to encourage lending to lower-to-middle-income areas, and this goal is a staple of bank CSR. However, it appears that banks who score highly on Social responsibility actually lend *less* to poorer communities. To our knowledge, this is the first paper to identify this discrepancy.

6. Conclusion

Corporate responsibility has recently become a staple in well-governed firms, as companies have discovered that thoughtful CSR can be value-enhancing – or at least is beneficial on some important performance benchmarks. The banking sector is no different, and has itself seen an explosion of CSR activity in recent years. As in other industries, it appears that this CSR pays off: banks with higher levels of Environmental and Social responsibility tend to offer lower deposit rates, particularly on expensive time deposits, and charge higher loan rates, particularly on consumer loans. and business loans. High-CSR banks also have a disproportionate share of small-business lending in richer counties compared to low-CSR peers. In aggregate, these benefits are substantial. More importantly, the prevalence of high-CSR-bank lending in richer counties seems to contradict the community reinvestment commonly perceived and regulatorily enforced. The analysis here brings to light some important questions for future research. First, what are the relative scales of the costs and benefits associated with bank CSR? Second, how do CSR metrics align with CRA funds? Finally, is the Community Reinvestment Act skewing the apparent effect of bank CSR levels by eliminating the variance of CSR in poor communities?

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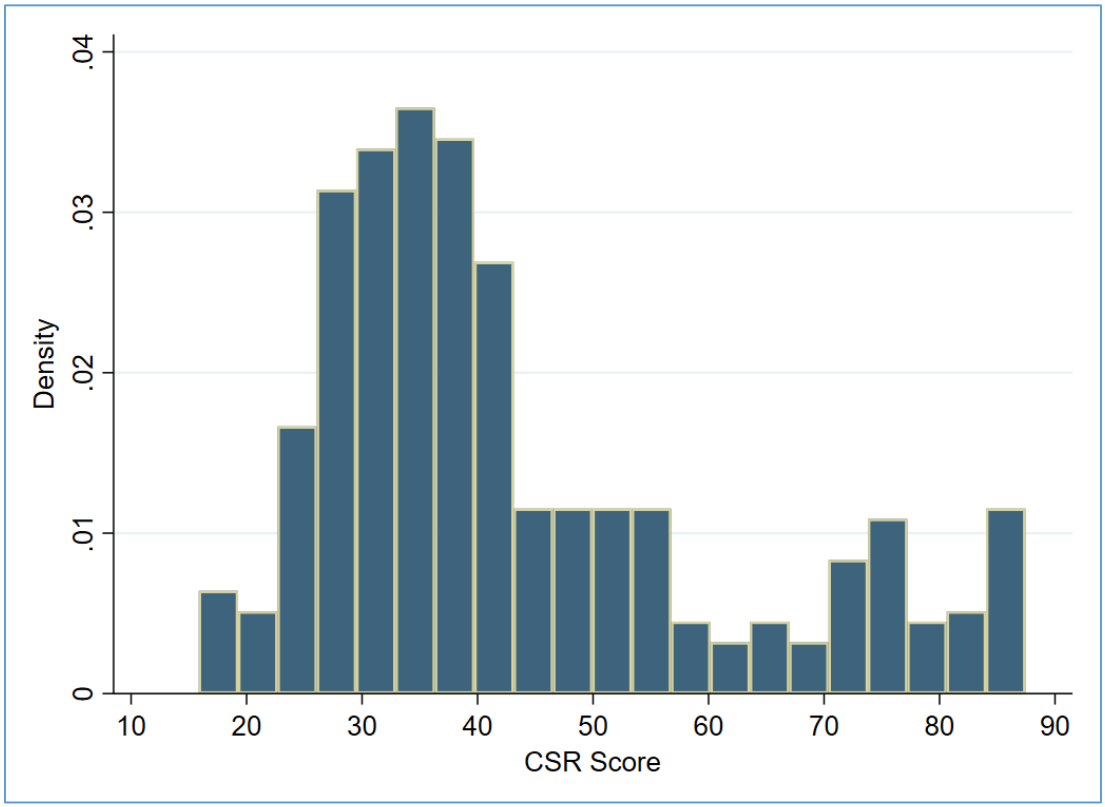
Appendix A
Variable Definitions

Variable	Definition
CSR	Corporate social responsibility score, on a 0-100 scale, provided by Thomson Reuters Asset4 Database.
PC (instrument)	Political contributions made by the bank to democratic candidates divided by total political contributions made by the bank over the past 4 election cycles. Political contributions data are from OpenSecrets.Org.
DEPRATE	Quarterly deposit interest expenses divided by average interest-bearing deposits, then annualized (multiplied by 4).
SMALLTIMEDEPRATE	Quarterly deposit interest expense on time deposits of less than $100,000 divided by average time deposits of less than $100,000, then annualized (multiplied by 4).
LARGETIMEDEPRATE	Quarterly deposit interest expense on time deposits of $100,000 or more divided by average time deposits of $100,000 or more, then annualized (multiplied by 4).
COREDEPRATE	Quarterly deposit interest expense on core deposits (savings deposits, interest-bearing checking accounts and other demand deposits) divided by average core deposits, then annualized (multiplied by 4)
LOANRATE	Quarterly loan interest income divided by average loans, then annualized (multiplied by 4).
RELOANRATE	Quarterly interest income on real estate loans divided by average real estate loans, then annualized (multiplied by 4)
RRELOANRATE	Quarterly interest income on residential real estate loans divided by average residential real estate loans, then annualized (multiplied by 4). Interest income on residential real estate loans are available as of 2008 Q1.
CILOANRATE	Quarterly interest income on commercial and industrial loans divided by average commercial and industrial loans, then annualized (multiplied by 4)
CSLOANRATE	Quarterly interest income on personal loans (credit cards, auto loans, etc.) divided by average personal loans, then annualized (multiplied by 4)
ASSET	An ordinal variable equal to 1 for assets (in 2016 dollars) <= $10 billion, 2 for $10 - $50 billion, 3 for $50 - $250 billion, 4 > $250 billion. The asset thresholds are consistent with the guidelines in Federal Reserve Stress Testing requirements.
NPL	Nonperforming loans divided by total loans.
TIER1RAT	Tier1 Risk-based capital ratio.
NIM	Net interest margin defined as net interest income divided by average earnings assets.
LOANGROWTH	Change in loan balance divided by beginning loan balance, averaged over the trailing two years.
DEPTOLOAN	Total deposits divided by total loans.
LARGETIMEDEP	Time deposits of $100,000 or more divided by total deposits.

COMMERCIALTOLOAN	Commercial loans (commercial real estate loans, commercial and industrial loans, and commercial construction loans) divided by total loans.
COMPLEX	An indicator variable equal to one if the Federal Reserve's Bank Holding Company Complexity Indicator (RSSD9057) equals 1 or 3-8.
NO.BRANCH	Total number of branches held by the bank. Data are from FDIC summary of Deposits.
MARKETING_EXP	Advertising expenses divided by total noninterest expense.
SBL_NUMSHR	Number of loans originated to small businesses with gross annual revenue below $1 million by a bank in a county-year divided by total number of loans originated to small businesses with gross annual revenue below $1 million in the county-year. Data are from Community Reinvestment Act (CRA) Disclosure file.
SBL_AMTSHR	Amount of loans originated to small businesses with gross annual revenue below $1 million by a bank in a county-year divided by total amount of loans originated to small businesses with gross annual revenue below $1 million in the county-year. Data are from Community Reinvestment Act (CRA) Disclosure file.
DEPOSITSHR	Deposits held by a bank in a county-year divided by deposits held by all banks in the county-year. Data are from the FDIC Deposit Summary file.
POVERTY	The poverty rate in the county. Data are from Small Area Income and Poverty Estimates (SAIPE) of the Census Bureau.
MORTGAGE_SHARE	Amount of residential mortgages originated by a bank in a county-year divided by total amount of residential mortgages originated in the county-year. Residential mortgage information is from the Home Mortgage Disclosure Act (HMDA) data set.

FIGURE 1

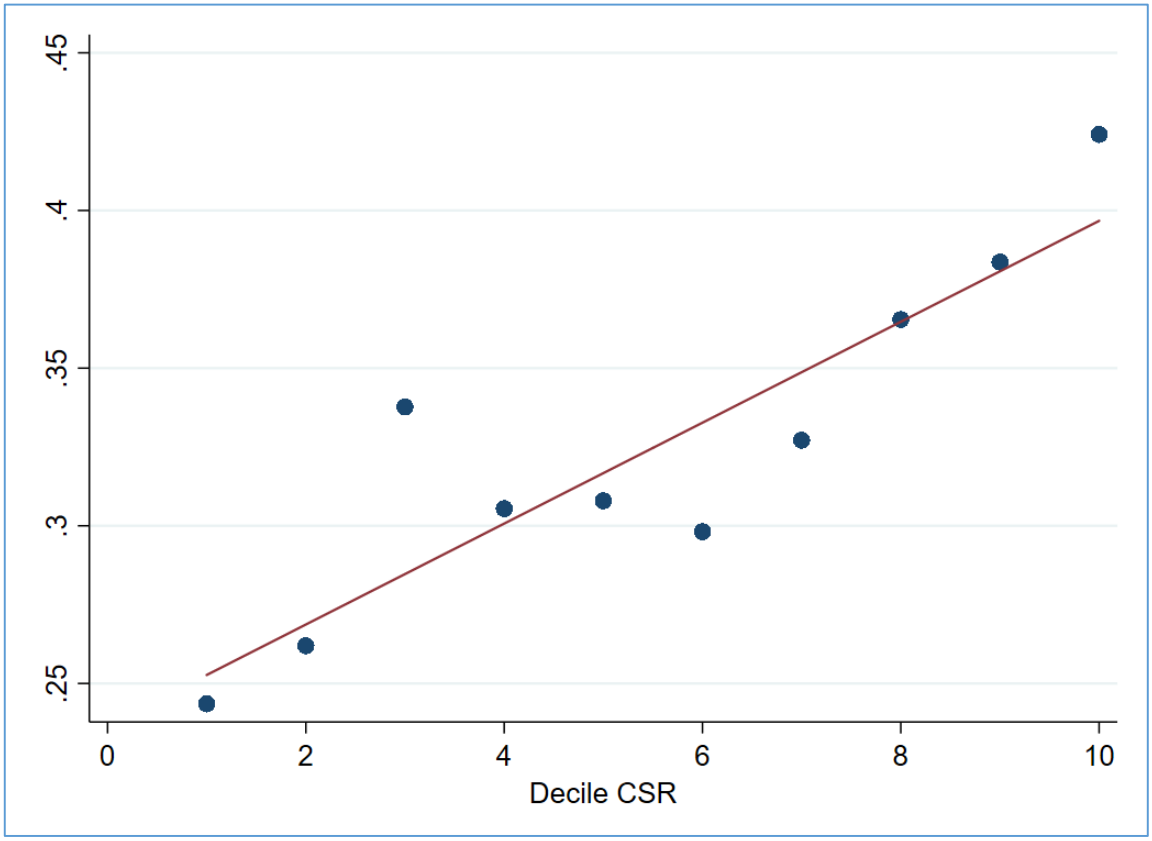
Distribution of CSR Score



This figure plots a histogram of the distribution of CSR score among sample bank holding companies.

FIGURE 2

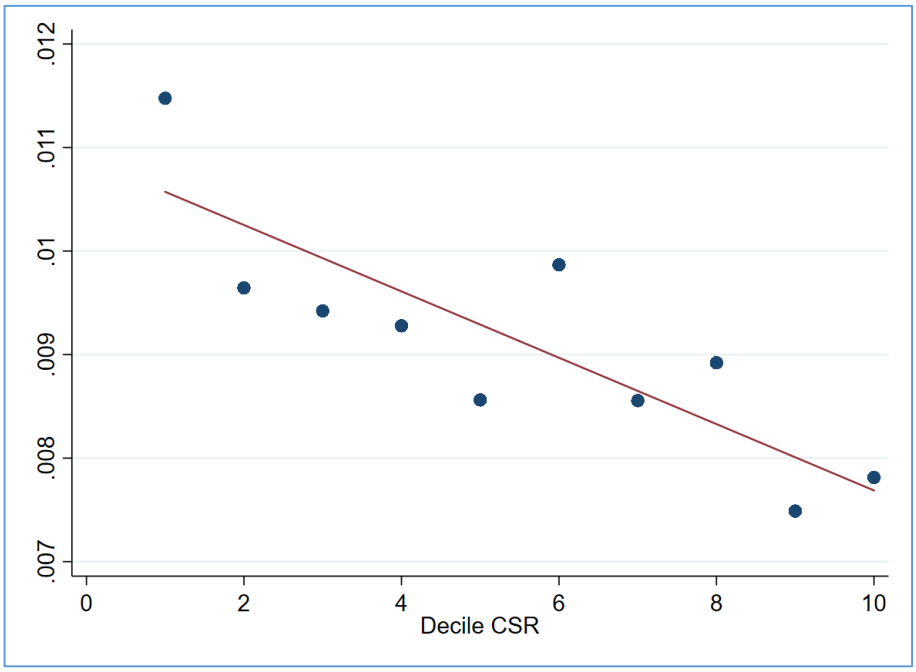
Bank CSR and Political Contribution to Democrats (PC)



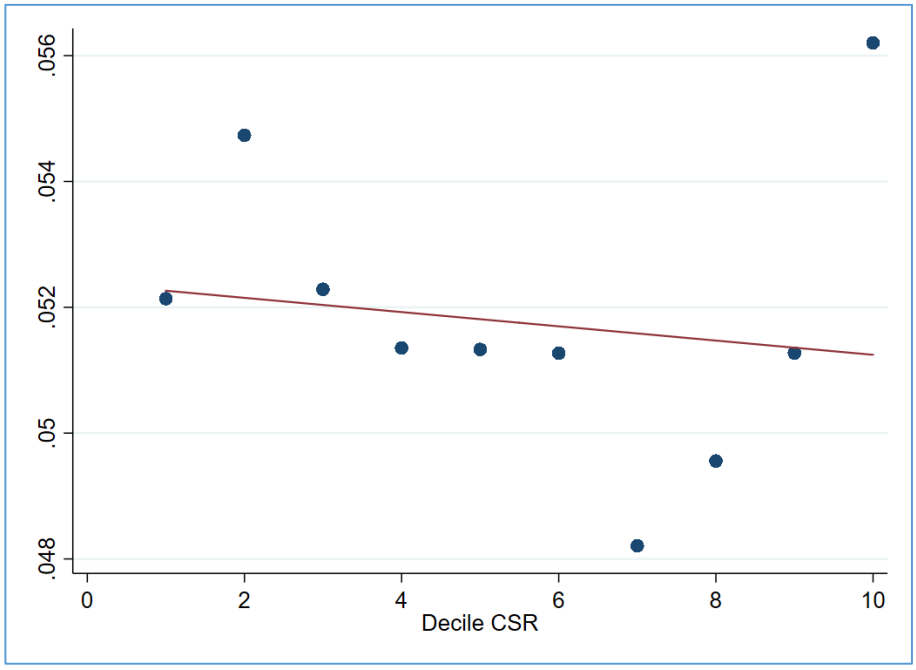
This figure plots the average political contributions political contributions made by the bank to democratic candidates divided by total political contributions made by the bank over the past 4 election cycles across deciles of bank CSR rating.

FIGURE 3

Bank ES and Deposits/Loans Yields



Panel A: Deposit Rate

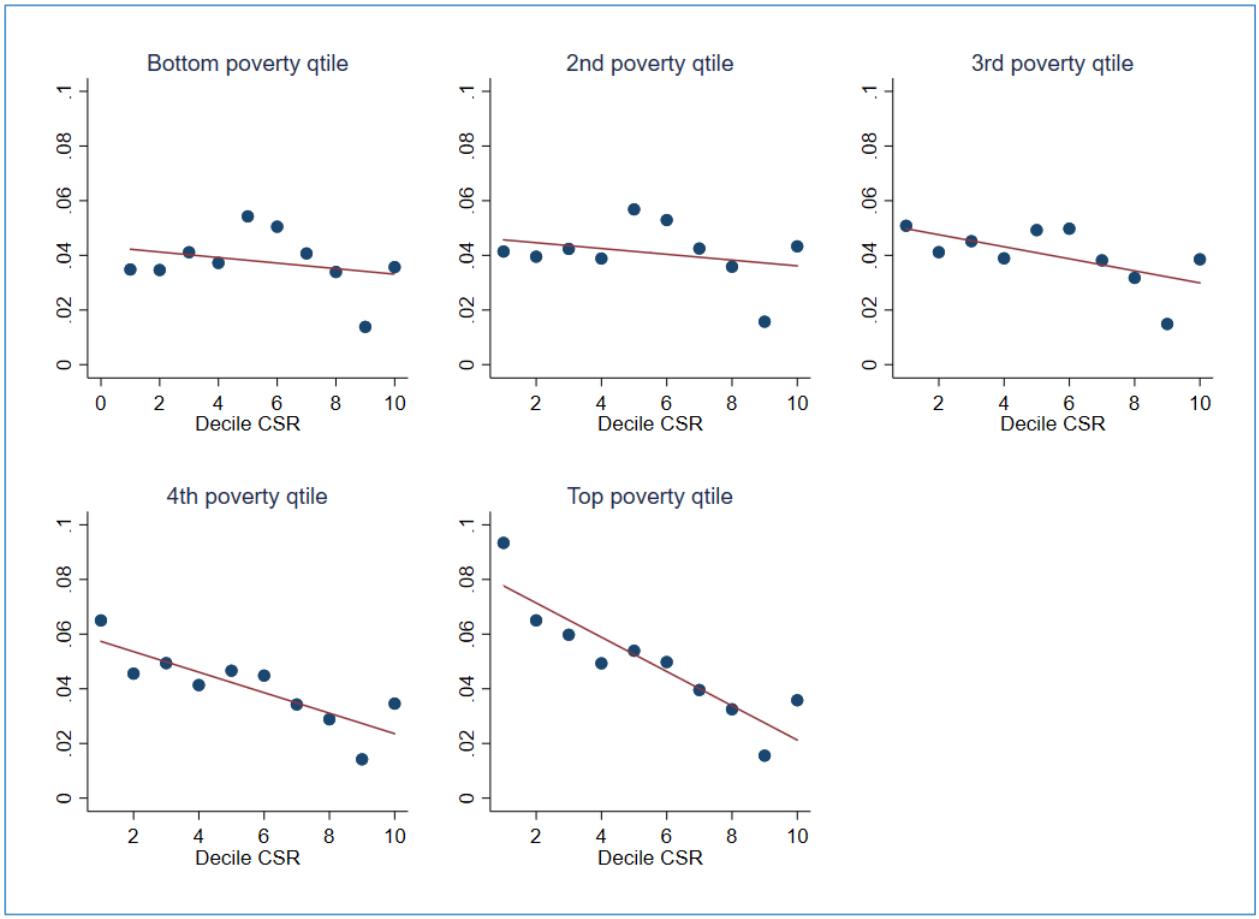


Panel B: Loan rate

Panel A plots the average annualized deposit interest rates for each decile of bank CSR, and Panel B plots the average annualized loan interest rates for each decile of bank CSR.

FIGURE 4

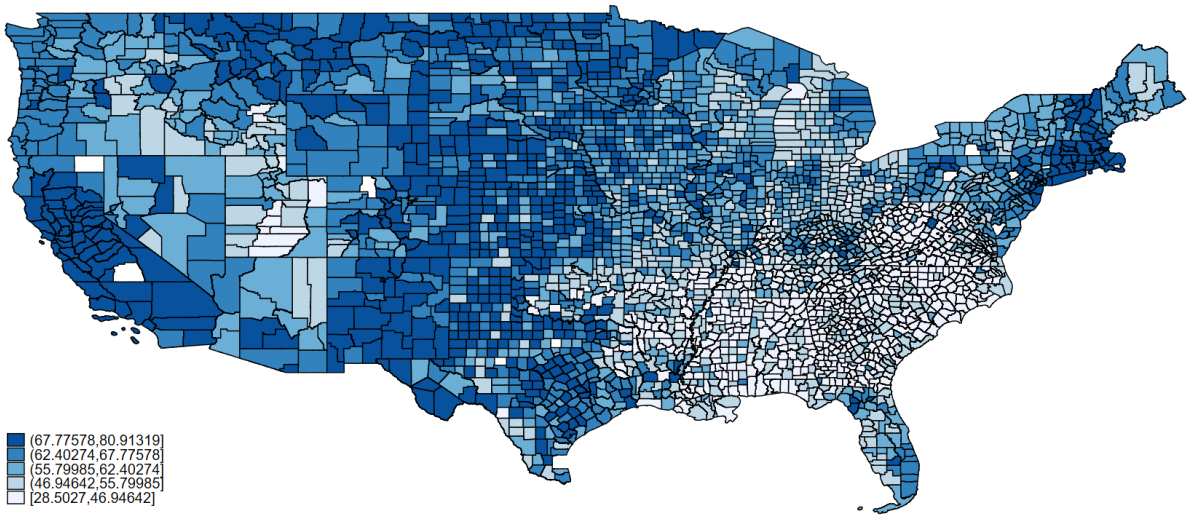
Bank CSR, Small Business Lending (SBL), and County Poverty Level



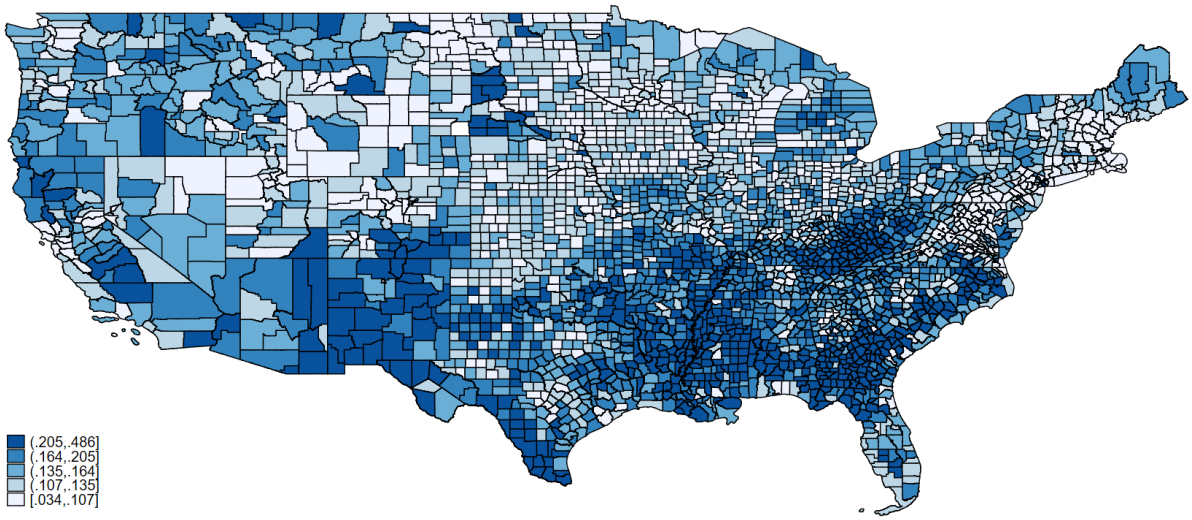
This figure plots average small business loan share (amount of loans originated by a bank to small businesses with gross annual revenues < $1M divided by total amount of loans originated by small business in the county) against CSR decile, for each quintile of county-level poverty rate.

FIGURE 5

Geographical Distribution of Small Business Lending and Bank CSR



Panel A: Small Business Loan (SBL)-weighted county-level Bank CSR (darker colors indicate higher CSR bank-lending counties)

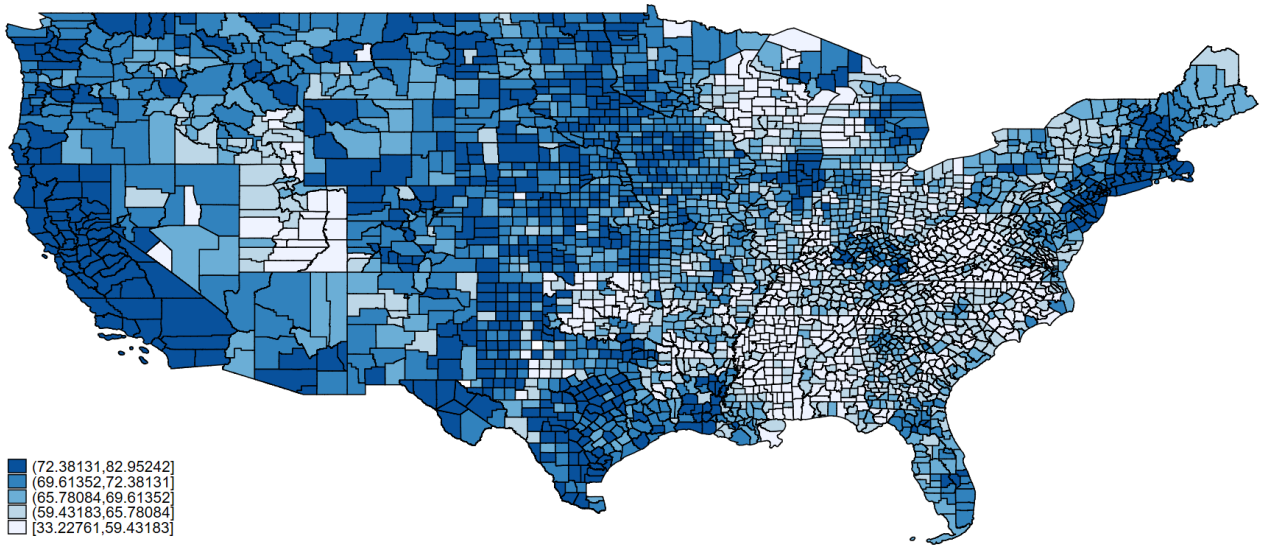


Panel B: County-level poverty rate (darker colors indicate higher poverty rate)

Panel A plots the geographical distribution of small business loan amount-weighted county-level Bank CSR. For each county, a weighted CSR score is computed by taking the sum of originating banks' CSR score multiplied by the total amount of small business loans originated in the county by the banks, divided by the total amount of loans originated in the county. Panel B plots the geographical distribution of poverty rates.

FIGURE 6

Geographical Distribution of Residential Mortgage Lending and Bank CSR



This graph plots the geographical distribution of residential mortgage amount-weighted county-level bank CSR. For each county, a weighted CSR score is computed by taking the sum of originating banks' CSR score multiplied by the total amount of loans originated in the county by the banks, divided by the total amount of loans originated in the county.

TABLE 1

Descriptive Statistics

	Mean	S.D.	p25	Median	p75
CSR	43.4966	17.6392	31.0777	38.1656	52.3488
PC	0.3225	0.2259	0.1512	0.2695	0.4463
DEPRATE	0.0092	0.0090	0.0025	0.0047	0.0143
SMALLTIMEDEPRATE	0.0184	0.0138	0.0070	0.0133	0.0291
LARGETIMEDEPRATE	0.0182	0.0142	0.0073	0.0121	0.0273
COREDEPRATE	0.0054	0.0058	0.0014	0.0027	0.0074
LOANRATE	0.0518	0.0121	0.0419	0.0495	0.0598
RELOANRATE	0.0503	0.0110	0.0413	0.0483	0.0575
RRELOANRATE	0.0464	0.0143	0.0399	0.0441	0.0525
CILOANRATE	0.0504	0.0156	0.0388	0.0471	0.0598
CSLOANRATE	0.0686	0.0261	0.0508	0.0672	0.0813
ASSET (in $billion)	242.0499	538.4724	16.9619	34.6105	122.7888
NPL	0.0191	0.0175	0.0073	0.0122	0.0246
TIER1RAT	0.1133	0.0253	0.0924	0.1114	0.1276
LOANGROWTH	0.0211	0.0311	0.0047	0.0161	0.0302
DEPTOLOAN	1.0750	0.2712	0.9260	1.0446	1.1632
LARGETIMEDEP	0.0977	0.0612	0.0518	0.0845	0.1310
COMMERCIALOAN	0.5190	0.1659	0.3979	0.4989	0.6423
COMPLEX	0.6936	0.4611	0.0000	1.0000	1.0000
NO.BRANCH	998.1763	1438.0910	179.0000	391.0000	1117.0000
ADV	0.0226	0.0128	0.0149	0.0227	0.0297

TABLE 2

Bank CSR and Deposit Rate

This table presents the results of estimating banks CSR's effect on deposit interest rates. Panel A estimates OLS regressions, and Panel B estimates IV regressions. The dependent variables are annualized deposit interests for all deposits, small time deposits, large time deposits, and core deposits (i.e., savings and demand deposits). Appendix A presents detailed variable definitions. *P*-values, reported in parentheses, are calculated using clustered standard errors at the bank and federal reserve district level. ***, **, * indicate significance at the 1%, 5%, and 10% level respectively.

Panel A: OLS

	Deposit Rate by Deposit Type			
	Overall	Small Time	Large Time	Savings & Demand
	(1)	(2)	(3)	(4)
CSR	-0.00003**	-0.00005**	-0.00002	-0.00001
	(0.045)	(0.023)	(0.676)	(0.589)
BANKSIZE	-0.00086***	-0.00082	0.00002	-0.00032
	(0.000)	(0.308)	(0.977)	(0.308)
NPL	0.04413***	0.01618	0.00864	0.03483***
	(0.003)	(0.540)	(0.789)	(0.000)
TIER1RAT	-0.01189	-0.02158	-0.01379	-0.00137
	(0.219)	(0.136)	(0.113)	(0.803)
LOANGROWTH	-0.01140**	-0.03195***	-0.02289***	0.00222
	(0.034)	(0.000)	(0.001)	(0.522)
DEPTOLOAN	-0.00202***	-0.00233	-0.00550***	-0.00146***
	(0.001)	(0.165)	(0.000)	(0.002)
LARGETIMEDEP	0.02219***	0.01915***	0.00310	0.00249
	(0.000)	(0.007)	(0.647)	(0.514)
COMMERCIALLOAN	-0.00057	-0.00815***	0.00028	0.00013
	(0.798)	(0.001)	(0.934)	(0.929)
COMPLEX	0.00104**	0.00111	0.00036	0.00051
	(0.031)	(0.266)	(0.684)	(0.324)
NO.BRANCH	-0.00000*	0.00000	0.00000	-0.00000**
	(0.084)	(0.731)	(0.952)	(0.011)
MARKETING_EXP	0.01267	-0.00244	-0.00644	0.00790
	(0.253)	(0.925)	(0.759)	(0.646)
Quarter FE	Yes	Yes	Yes	Yes
Observations	1821	1821	1821	1821
Adj. R-squared	0.93	0.9	0.859	0.889

Panel B: Instrumental Variable (IV) 2SLS

	First-stage	Second-stage			
		Deposit Rate by Deposit Type			
		Overall	Small Time	Large Time	Savings & Demand
	(1)	(2)	(3)	(4)	(5)
PC (Instrument)	11.04932***				
	(0.000)				
CSR		-0.00023**	-0.00028**	-0.00026***	-0.00007
		(0.014)	(0.029)	(0.008)	(0.345)
BANKSIZE	9.65002***	0.00129	0.00153	0.00253**	0.00029
	(0.000)	(0.275)	(0.366)	(0.022)	(0.724)
NPL	-57.01060	0.04098***	0.01259	0.00450	0.03393***
	(0.388)	(0.010)	(0.653)	(0.900)	(0.001)
TIER1RAT	11.12127	-0.01120	-0.02078	-0.01285	-0.00117
	(0.838)	(0.556)	(0.241)	(0.556)	(0.877)
LOANGROWTH	2.10425	-0.00972**	-0.03010***	-0.02087***	0.00270
	(0.892)	(0.013)	(0.000)	(0.000)	(0.388)
DEPTOLOAN	-5.58638	-0.00278***	-0.00317**	-0.00642***	-0.00167***
	(0.242)	(0.005)	(0.030)	(0.000)	(0.001)
LARGETIMEDEP	-23.33163**	0.01735***	0.01387**	-0.00254	0.00111
	(0.016)	(0.001)	(0.039)	(0.743)	(0.812)
COMMERCIAL	-11.28361*	-0.00321	-0.01104***	-0.00280	-0.00063
	(0.079)	(0.270)	(0.007)	(0.386)	(0.760)
COMPLEX	3.03884	0.00155**	0.00167	0.00096	0.00065
	(0.261)	(0.021)	(0.220)	(0.311)	(0.129)
NO.BRANCH	0.00310***	0.00000**	0.00000***	0.00000	-0.00000
	(0.000)	(0.031)	(0.000)	(0.175)	(0.358)
ADV	60.09805	0.02482	0.01091	0.00802	0.01138
	(0.341)	(0.402)	(0.756)	(0.813)	(0.611)
Quarter FE	Yes	Yes	Yes	Yes	Yes
Observations	1821	1821	1821	1821	1821
Kleibergen-Raap rk LM statistic			4.501		
(Underidentification test)			(0.034)		
Kleibergen-Raap rk Wald F statistic			21.94		
(Weak instrument test)					
Confidence region based on Conditional			[-.00028, -.00016]		
Likelihood Ratio (CLR)			(0.000)		
Adj. R-squared	0.634	0.865	0.867	0.823	0.876

TABLE 3

Bank CSR and Loan Interest Rates

This table presents the results of estimating banks CSR's effect on loan interest rates. Panel A estimates OLS regressions, and Panel B estimates IV regressions. The dependent variables are annualized loan interests for all loans, real estate loans, residential real estate loans, commercial & industrial loans, and consumer loans. Appendix A presents detailed variable definitions. *P*-values, reported in parentheses, are calculated using clustered standard errors at the bank and federal reserve district level. ***, **, * indicate significance at the 1%, 5%, and 10% level respectively.

Panel A: OLS

	Loan Rate by Loan Type				
	Overall	Real Estate	Residential Real Estate	C&I	Consumer
	(1)	(2)	(3)	(4)	(5)
CSR	0.00002	-0.00006*	-0.00007	0.00003	-0.00004
	(0.844)	(0.063)	(0.160)	(0.473)	(0.836)
BANKSIZE	0.00001	-0.00100	-0.00108	-0.00389**	0.00131
	(0.994)	(0.134)	(0.158)	(0.021)	(0.653)
NPL	0.08124	0.03066	-0.00871	0.19739	0.32897
	(0.227)	(0.518)	(0.878)	(0.117)	(0.150)
TIER1RAT	0.13486***	0.07607***	0.07846***	0.12579***	0.25152***
	(0.002)	(0.002)	(0.001)	(0.000)	(0.006)
LOANGROWTH	0.06583***	0.05056***	0.04779	0.10463***	-0.03289
	(0.000)	(0.000)	(0.179)	(0.000)	(0.311)
DEPTOLOAN	-0.00787**	-0.00175	-0.00140	-0.00248	-0.01923**
	(0.050)	(0.481)	(0.681)	(0.527)	(0.020)
LARGETIMEDEP	0.01156	0.00571	0.02564**	0.01893	0.03697
	(0.248)	(0.417)	(0.014)	(0.165)	(0.321)
COMMERCIALLOAN	-0.00168	0.00787**	0.01013*	0.00061	-0.00062
	(0.696)	(0.039)	(0.051)	(0.922)	(0.961)
COMPLEX	-0.00043	-0.00042	0.00035	0.00310**	-0.00429
	(0.753)	(0.736)	(0.834)	(0.031)	(0.207)
NO.BRANCH	-0.00000	0.00000	0.00000	-0.00000	0.00000
	(0.630)	(0.238)	(0.252)	(0.835)	(0.477)
MARKETING_EXP	0.03475	-0.01671	0.12217***	0.05622	0.03349
	(0.482)	(0.504)	(0.004)	(0.429)	(0.819)
Quarter FE	Yes	Yes	Yes	Yes	Yes
Observations	1821	1821	1363	1821	1821
Adj. R^2	0.820	0.803	0.269	0.623	0.29

Panel B: Instrumental Variable (IV) 2SLS

	Second Stage Loan Rate by Loan Type				
	Overall	Real Estate	Residential Real Estate	C&I	Consumer
	(1)	(2)	(3)	(4)	(5)
CSR	0.00035*	-0.00004	-0.00029	0.00055***	0.00127*
	(0.067)	(0.769)	(0.277)	(0.008)	(0.071)
BANKSIZE	-0.00346	-0.00123	0.00149	-0.00919**	-0.01207
	(0.142)	(0.324)	(0.656)	(0.015)	(0.129)
NPL	0.08634	0.03100	-0.01060	0.20561	0.34973
	(0.252)	(0.517)	(0.850)	(0.138)	(0.190)
TIER1RAT	0.13374***	0.07600***	0.07435***	0.12448***	0.24821**
	(0.000)	(0.002)	(0.003)	(0.005)	(0.014)
LOANGROWTH	0.06310***	0.05038***	0.05106	0.10057***	-0.04316
	(0.000)	(0.000)	(0.176)	(0.000)	(0.232)
DEPTOLOAN	-0.00664**	-0.00167	-0.00212	-0.00059	-0.01445*
	(0.047)	(0.526)	(0.540)	(0.895)	(0.065)
LARGETIMEDEP	0.01938*	0.00623	0.01741	0.03098*	0.06740
	(0.089)	(0.428)	(0.187)	(0.090)	(0.202)
COMMERCIALLOAN	0.00260	0.00815*	0.00653	0.00713	0.01582
	(0.660)	(0.084)	(0.409)	(0.414)	(0.282)
COMPLEX	-0.00126	-0.00047	0.00066	0.00187	-0.00739
	(0.554)	(0.744)	(0.725)	(0.438)	(0.190)
NO.BRANCH	-0.00000	0.00000	0.00000*	-0.00000	-0.00000
	(0.222)	(0.404)	(0.070)	(0.111)	(0.530)
MARKETING_EXP	0.01507	-0.01801	0.14664**	0.02619	-0.04234
	(0.779)	(0.467)	(0.011)	(0.699)	(0.813)
Quarter FE	Yes	Yes	Yes	Yes	Yes
Observations	1821	1821	1363	1821	1821
Adj. R^2	0.64	0.724	0.151	0.545	0.07

TABLE 4

Bank CSR and Small Business Lending

This table presents the results of estimating bank CSR's effect on small business lending. The dependent variables are a bank's small business lending share in a county-year in terms of both the number of loans originated (column 1) and the dollar amount of loans originated (column 2). The unit of observation in the regressions is a bank-county-year. Appendix A presents detailed variable definitions. *P*-values, reported in parentheses, are calculated using clustered standard errors at the bank and county level. ***, **, * indicate significance at the 1%, 5%, and 10% level respectively.

	IV 2SLS	
	(1) SBL_NUMSHR	*(2) SBL_AMTSHR*
CSR	0.00046	-0.00020
	(0.493)	(0.625)
CSR × POVERTY	-0.00022***	-0.00023***
	(0.000)	(0.000)
DEPOSITSHARE	0.36192***	0.46775***
	(0.000)	(0.000)
BANKSIZE	0.01396**	0.00964
	(0.015)	(0.114)
NPL	0.13821	-0.05596
	(0.762)	(0.863)
TIER1RAT	0.07785	0.18223
	(0.786)	(0.246)
LOANGROWTH	0.02734**	0.03436***
	(0.019)	(0.004)
DEPTOLOAN	-0.14254***	-0.03368
	(0.000)	(0.116)
LARGETIMEDEP	-0.08780	-0.08574*
	(0.273)	(0.089)
COMMERCIALTOLOAN	-0.00382	0.01482
	(0.894)	(0.572)
COMPLEX	-0.00895	-0.00653
	(0.571)	(0.567)
NO.BRANCH	-0.00000	0.00000
	(0.873)	(0.355)
MARKETING_EXP	-0.32059	-0.70799*
	(0.247)	(0.054)
County × year FE	Yes	Yes
Observations	436498	436499
Kleibergen-Raap rk LM statistic	10.298	10.298
(Underidentification test)	(0.0013)	(0.0013)
Kleibergen-Raap rk Wald F statistic	19.796	20.796
(Weak instrument test)		
Adj. R^2	0.191	0.134

TABLE 5

Bank CSR and Residential Mortgage Lending

This table presents the results of estimating bank CSR's effect on residential mortgage lending. The dependent variable is the amount of residential mortgages originated by a bank in a county-year divided by total amount of residential mortgages originated in the county-year. The unit of observation in the regressions is a bank-county-year. Appendix A presents detailed variable definitions. *P*-values, reported in parentheses, are calculated using clustered standard errors at the bank and county level. ***, **, * indicate significance at the 1%, 5%, and 10% level respectively.

	IV 2SLS
	MORTGAGE_SHR
CSR	0.00023
	(0.477)
CSR × POVERTY	-0.00011**
	(0.037)
DEPOSITSHARE	0.29783***
	(0.000)
BANKSIZE	-0.00464
	(0.269)
NPL	-0.00299
	(0.986)
TIER1RAT	-0.19607
	(0.143)
LOANGROWTH	0.03236**
	(0.016)
DEPTOLOAN	-0.01418
	(0.170)
LARGETIMEDEP	0.03089
	(0.512)
COMMERCIALLOAN	-0.03550*
	(0.064)
COMPLEX	-0.00438
	(0.340)
NO.BRANCH	0.00001***
	(0.001)
MARKETING_EXP	-0.51267**
	(0.032)
County × year FE	Yes
Observations	255317
Kleibergen-Raap rk LM statistic	7.058
(Underidentification test)	(0.0003)
Kleibergen-Raap rk Wald F statistic	9.154
(Weak instrument test)	
Adj. R^2	0.281

TABLE 6

Social and Environmental Disclosures

This table decomposes CSR rating into social and environmental sub-scores and examine their effects on small business lending share and mortgage lending share. The unit of observation in the regressions is a bank-county-year. Appendix A presents detailed variable definitions. *P*-values, reported in parentheses, are calculated using clustered standard errors at the bank and county level. ***, **, * indicate significance at the 1%, 5%, and 10% level respectively.

	SBL_SHR		*MORTGAGE_SHR*	
SOCIAL	-0.00054		0.00031	
	(0.442)		(0.513)	
SOCIAL × POVERTY	-0.00029***		-0.00014**	
	(0.000)		(0.046)	
ENVIRONMENT		-0.00006		0.00019
		(0.829)		(0.455)
ENVIRONMENT × POVERTY		-0.00020***		-0.00009**
		(0.000)		(0.035)
DEPOSITSHARE	0.46537***	0.46887***	0.29740***	0.29811***
	(0.000)	(0.000)	(0.000)	(0.000)
BANKSIZE	0.01055	0.00924	-0.00487	-0.00451
	(0.150)	(0.110)	(0.283)	(0.263)
NPL	0.11569	-0.13678	0.00424	-0.00801
	(0.708)	(0.692)	(0.981)	(0.963)
TIER1RAT	0.27211*	0.14084	-0.20168	-0.19227
	(0.084)	(0.401)	(0.126)	(0.155)
LOANGROWTH	0.05069***	0.02681*	0.03222**	0.03244**
	(0.000)	(0.060)	(0.016)	(0.016)
DEPTOLOAN	-0.02621	-0.03717	-0.01358	-0.01464
	(0.154)	(0.111)	(0.193)	(0.170)
LARGETIMEDEP	-0.06076	-0.09775*	0.03097	0.03078
	(0.256)	(0.063)	(0.507)	(0.515)
COMMERCIALLOAN	-0.00821	0.02572	-0.03692*	-0.03444*
	(0.803)	(0.301)	(0.094)	(0.059)
COMPLEX	0.00072	-0.01000	-0.00393	-0.00471
	(0.947)	(0.411)	(0.438)	(0.303)
NO.BRANCH	0.00000	0.00000	0.00001***	0.00001***
	(0.299)	(0.392)	(0.001)	(0.001)
MARKETING_EXP	-0.85046**	-0.64173*	-0.52407**	-0.50435**
	(0.034)	(0.070)	(0.025)	(0.039)
County × year FE	Yes	Yes	Yes	Yes
Observations	436498	436498	255317	255317
Kleibergen-Raap rk LM statistic	8.586	12.996	12.853	13.853
(Underidentification test)	(0.0034)	(0.0003)	(0.0003)	(0.0003)
Kleibergen-Raap rk Wald F statistic (Weak instrument test)	7.586	11.472	7.426	7.426
Adj. R^2	0.123	0.14	0.27	0.269

TABLE 7

Bank CSR, small business lending, and county political orientation

This table shows the differential effect of ES on small business market share based on county wealth and county voting patterns. Panel A sorts the data into quintiles based on the poverty level of the county. The fifth quintile is the poorest. Each column represents the second stage of a 2SLS regression within a poverty quintile. The instrument in the first stage is the percentage of bank donations that go to Democratic candidates. The dependent variable in the second-stage regression is the percent of the county's small-business loans is held by the bank. The variable of interest, *CTDEM*, is the average share of a county's votes that are given to the Democratic candidate in House elections over the sample period. Panel B is identical to Panel A, except that the data is first sorted into quintiles based on CTDEM, and county poverty levels are then used as an independent variable in the regression. Standard errors are in parentheses. *, **, and *** indicate significance at the 10%, 5%, and 1% signicance, respectively. Standard errors are… and are given in parentheses below the estimate

Panel A: Partition on Poverty

	(1)	(2)	(3)	(4)	(5)
CSR	-0.00091**	-0.00110*	-0.00096**	-0.00135***	-0.00145***
	(0.041)	(0.055)	(0.044)	(0.003)	(0.004)
CSR x CTDEM	0.00007	0.00016***	0.00010	0.00011***	-0.00001
	(0.121)	(0.010)	(0.110)	(0.031)	(0.857)

Panel B: Partition on CTDEM

	(1)	(2)	(3)	(4)	(5)
CSR	-0.00026	-0.00046	-0.00036	-0.00015	0.00016
	(0.614)	(0.240)	(0.372)	(0.766)	(0.681)
CSR x Poverty	-0.00017***	-0.00018***	-0.00018***	-0.00022***	-0.00033***
	(0.003)	(0.001)	(0.000)	(0.001)	(0.000)

TABLE 8

Bank CSR and Residential Mortgage Characteristics

This table presents the results of evaluating the relation between CSR and residential mortgage characteristics. The dependent variable is the bank's CSR rating. Independent variables are an array of applicant- and loan- characteristics. The unit of observation is a mortgage application. Column (1) includes all mortgage applications, and column (2) limits the sample to accepted loans. *P*-values, reported in parentheses, are calculated using clustered standard errors at the bank and county level. ***, **, * indicate significance at the 1%, 5%, and 10% level respectively.

	CSR	
	(1) All Loan Applications	(2) Accepted loans
INCOME	-0.66083**	-0.39995
	(0.013)	(0.260)
LOANAMT	1.32715***	0.74267***
	(0.003)	(0.009)
SUBPRIME		-1.21377
		(0.510)
RACE (Default Case = White)		
Native American	0.31370	0.93648**
	(0.583)	(0.047)
Asian	0.32781	0.50764
	(0.534)	(0.447)
Black	0.73803*	1.77717***
	(0.059)	(0.004)
Hawaiian	0.13522	0.48892
	(0.697)	(0.196)
ETHNICITY (Default Case = Non Hispanic)		
Hispanic	0.28477	0.95193*
	(0.479)	(0.062)
SEX (Default Case = Male)		
Female	0.44511**	0.61253***
	(0.010)	(0.005)
LOAN_PURPOSE (Default Case = Purchase)		
Home Improvement	-2.13273	-0.76252
	(0.142)	(0.566)
Refinance	1.62015*	2.18097**
	(0.068)	(0.029)
LOAN_PURCHASER (Default Case = Held by the bank)		
Fannie Mae		3.88254**
		(0.020)
Ginnie Mae		-1.59697
		(0.562)
Freddie Mac		2.36256

		(0.116)
Farmer Mac		-22.42381***
		(0.000)
Private Securitization		2.29808
		(0.623)
Other banks		-9.49762**
		(0.023)
Insurance or finance company		-16.60415***
		(0.000)
Affiliates		9.89729***
		(0.006)
Other		-5.66490
		(0.119)
LOAN_TYPE		
FHA	2.56600**	3.30682**
	(0.030)	(0.037)
VA	2.05299*	3.88152*
	(0.095)	(0.054)
FSA/RHS	9.70787**	5.67684
	(0.017)	(0.108)
County × year FE	Yes	Yes
Observations	33014246	16539427
Adj. R^2	0.312	0.354