

The Real Effects of Geographic Lending Disclosure on Banks

Yiwei Dou
New York University

Youli Zou
The George Washington University

August 2018

The Community Reinvestment Act requires banks to disclose the geographic distribution of small business lending, informing the public about their performance in meeting credit needs of local communities. We investigate whether such disclosures increase public pressure and thus have real effects on reporting banks. We exploit the 2005 reform that exempted the geographic disclosure requirement and thus allowed banks perceiving high costs of disclosure to stop doing so. Using a large sample of exempt banks, we find that after the exemption, non-disclosing banks, relative to those that continue to disclose lending locations, experience a decrease in non-performing loans for commercial lending but not for other lending. The decrease is stronger for banks under more scrutiny of community activists prior to the exemption. Together, the findings suggest an improvement in loan underwriting quality of non-disclosing banks due to reduced public pressure.

Contact: Dou is at the Stern School of Business, 44 W 4th Street, New York, NY 10012, ydou@stern.nyu.edu. Zou is at the GW School of Business, 2201 G Street NW Washington, DC 20052, yzou@email.gwu.edu. We appreciate the helpful comments from Gauri Bhat (discussant), Mary Billings, Jacquelyn Gillette (discussant), Umit Gurun, Leslie Hodder, Michael Iselin, Mozaffar Khan, Allison Nicoletti, Suresh Radhakrishnan, Stephen Ryan, Peter Schork (discussant; President and CEO of Ann Arbor State Bank), Andrew Sutherland, Rahul Vashishtha, Tim Yeager, Teri Yohn, Jieying Zhang, Yibin Zhou, and participants at the 2018 CAPANA conference, the 2018 Yale Summer Accounting Conference, the 2018 Colorado Accounting Research Conference, the 2017 Federal Reserve System/Conference of State Bank Supervisors Community Banking in the 21st Century Research and Policy Conference, the NYU Stern accounting brown bag seminar, the University of Texas at Dallas seminar, and the 2017 Virginia Accounting Research Conference.

1. Introduction

Understanding how disclosure policies influence reporting firms' real decisions is of first-order importance in accounting research (Bushman and Smith, 2001; Kanodia and Sapat, 2016; Leuz and Wysocki, 2016). Much of existing work focuses on disclosures used by capital providers, showing that better disclosure and financial reporting give rise to more efficient corporate decisions by reducing frictions in raising external capital and improving investors' monitoring.¹ Relatively less attention has been devoted to understanding the potential influence of disclosure on firms' behavior through public pressure.

In this paper, we investigate how banks' geographic lending disclosures facilitate public scrutiny and consequently affect their loan underwriting. The Community Reinvestment Act of 1977 (CRA) provides that deposit-taking institutions ("banks") have an affirmative and continuing obligation to serve the credit needs of local communities in which they collect deposits. In addition to periodic CRA examinations, regulators compel banks to disclose in annual CRA reports locations as well as sizes of lending to small businesses. The purpose is to arm the public and communities with data so that they can target banks with poor CRA records and press for more loans to neighborhoods with limited access to credit (Fishbein, 1992; Zinman, 2002; Apgar and Duda, 2003).

Community organizations pressure banks by threatening to intervene in their current or future application for mergers and acquisitions, changes in deposit insurance, branch openings or relocations, or national bank charters. These organizations can protest and call for public hearings on the ground of inadequate CRA compliance of the applicants. Research shows that

¹ See Bens and Monahan (2004), Biddle and Hilary (2006), Hope and Thomas (2008), Biddle et al. (2009), Beatty et al. (2010), Chen et al. (2011), Cheng et al. (2013), Balakrishnan et al. (2014), Cho (2015), and Dou et al. (2018). See also Gigler et al. (2014) and Kraft et al. (2018) on the relation between reporting frequency in the capital market and managerial myopia.

these challenges impose substantial costs on applicants by delaying or jeopardizing approvals (Johnson and Sarkar, 1996; Gramm, 2003). Besides the threat to applications, community activists can also wage campaigns that cause banks reputational damage, create negative publicity, and provoke customer boycotts (California Reinvestment Committee, 2001; Squires, 2003). Fearing those costs, banks often sign agreements with community organizations, committing to increasing lending with generous terms to certain geographies, usually low- and moderate-income neighborhoods. Banks may also voluntarily issue pledges as an “insurance” against the potential threat (Bostic and Robinson, 2003). The National Community Reinvestment Coalition estimates \$4.5 trillion of reinvestment dollars committed during 1992-2007 (NCRC, 2007).

It is unclear *a priori* whether geographic lending disclosures deteriorate or improve banks’ loan underwriting. The CRA reports expose banks’ lending distribution to community activists who may act on this information for their rent-seeking purposes at the expense of banks’ shareholders (Macey and Miller, 1993; White, 1993; Gramm, 2003). As such, loans granted under the pressure of informed community activists may entail more default given charged interest rates.³ However, advocates contend that geographic lending disclosures can be used by communities or other outside parties in helping banks identify and seize profitable lending opportunities. These opportunities could have been missed due to banks’ lack of local knowledge, institutional inertia, and economic prejudice (Richardson, 2001; Squires, 2003; Barr, 2005; Bhutta, 2011). Consequently, the geographic disclosure may improve banks’ loan underwriting

³ Banks may not be able to charge higher interest rates to compensate for the increased risk for three reasons. First, credit rationing theory demonstrates that in markets with imperfect information, raising interest rates could increase the riskiness of the bank’s loan portfolio, by either discouraging safer borrowers or inducing borrowers to invest in riskier projects (Stiglitz and Weiss, 1981). Second, community groups specifically demand for lower interest loans in CRA agreements with banks, which typically contain provisions to make the terms of loans “more affordable” (NCRC, 2007). Third, extending high interest loans could be viewed as predatory lending that deteriorates a bank’s CRA record (Engel and McCoy, 2002).

practices. Depending on which force dominates, the geographic lending disclosure can be costly to some reporting banks and beneficial to others.

We exploit a reform to the mandatory geographic lending disclosure in 2005. Prior to the reform, banks that have more than \$250 million in assets or are affiliated with a holding company with more than \$1 billion in assets (then “large banks”) were required to disclose the amount of small business lending by geographic area (see Figure 1 for example).⁴ The disclosure is designed specifically for the public to assess how well banks serve the local credit needs. It does not contain disaggregated profits and thus involves few competitive and agency concerns (Berger and Hann, 2007; Hope and Thomas, 2008).

In 2005, bank regulators raised the threshold for large banks to assets of \$1 billion without regard to holding company affiliation. Banks with assets between \$250 million and \$1 billion are referred to as intermediate small banks, and are exempt from the requirement of CRA reports (hereafter “exempt banks”). While banks must still disclose total small business loans outstanding via Call Reports, lack of information on lending at a disaggregated geographic level potentially hinders the ability of community groups to analyze and criticize banks’ lending. Naturally, this reform incurred huge objection from communities. For example, in the comment letter to the proposed exemption, Pittsburgh Community Reinvestment Group (PCRG) states:

PCRG’s success at driving neighborhood investment has been a direct result of our ability to understand institutional investment through publicly available data. This data ensures transparency on bank lending and investment practices and allows us to work with those institutions to target investment to those neighborhoods that have the greatest need. The loss of mandated reporting would be a crippling blow to our ability

⁴ In Figure 1, Amalgamated Bank of Chicago discloses that in 2002, in Kendall County (with a population less than 500,000), IL, it granted \$0, \$0, \$123,000, and \$0 small business loans in low-, moderate-, middle-, and upper-income areas, respectively. Low-income (moderate-income) areas are the census tracts with median family income less than 50% (at least 50% and less than 80%) of the state median family level, whereas middle-income (upper-income) areas are the census tracts with median family income at least 80% and less than 120% (at least 120 percent) of the state median family level. The U.S. Department of Housing and Urban Development publishes classifications of each census tract annually. This bank’s small business lending in Cook County (with a population more than 500,000) is also reported with more granularity.

to understand and encourage the flow of capital into our neighborhoods. We ask that you not bow to industry pressure to reduce reporting requirements for mid-sized institutions.

We observe that among exempt banks, slightly more than half stopped filing the CRA reports after 2005. The revealed preferences suggest that non-disclosing banks likely perceived high costs of collecting and releasing lending locations in comparison to those that continue to report and likely perceived low costs or even benefits from such disclosure as discussed above. Consequently, the exemption represents a shock to non-disclosing banks' disclosure policy while leaving disclosing ones unaffected. Because of the weakened ability of community organizations to watch and press banks after the exemption, we should observe a decrease in non-performing loans for non-disclosing banks ("*public pressure hypothesis*"). This prediction is not obvious, however. Community activists may rely on alternative information sources to watch local banks (e.g., surveys or hotlines; Squires, 2003). To the extent that these alternatives effectively substitute for banks' geographic lending disclosures, we do not expect a discernible reduction in non-performing loans for non-disclosing banks, which may stop disclosing merely to save compliance costs.

Examining this reform is particularly advantageous in three aspects. First, the reform provides an opportunity to conduct a "changes-over-time" analysis, and we can compare the change in loan performance for non-disclosers versus disclosers. This approach removes any permanent difference between non-disclosing and disclosing banks and any common trend of both groups.⁵ Second, as the exemption applies only to small business lending, we expect non-disclosure of lending locations to have an impact only on commercial lending, of which the

⁵ We do not need to measure changes in disclosure quality as the dichotomy nature of reporting versus non-reporting provides a clear indication. See Leuz and Wysocki (2016) for the challenges in measuring disclosure quality.

majority are small business loans, but not on other lending of the same bank.⁶ The ability to contrast the impacts of disclosure on commercial loans with other loans within the same set of banks allows us to rule out potential confounding effects associated with unobservable bank-level characteristics. Third, the reform results from fulfillment of a pre-scheduled commitment in 2002 as opposed to a response to crisis or scandals, after which bank performance tends to improve as part of a mean-reverting process absent any regulatory effect (Leuz and Wysocki 2016). Thus our analysis is less prone to pick up consequences of preceding events that might have given rise to the reform in the first place.

The empirical analysis employs a difference-in-differences approach to a constant sample of commercial banks with assets between \$250 million and \$1 billion in a six-year window around the reform (2002-2007). The non-disclosing group consists of banks that file CRA reports before the exemption but stop doing so afterward. The disclosing group consists of banks that file CRA reports both before and after the exemption. We observe that in comparison to disclosing banks, non-disclosing banks exhibit greater commercial lending, shareholders' equity, and non-performing loans, consistent with the notion that the cost of releasing locations and sizes of small business lending is greater for these banks.

In the primary analysis, we find that holding interest income as well as other bank characteristics constant, after the exemption non-disclosing banks exhibit a decrease in non-performing commercial loans by 18% relative to the mean level, in comparison to disclosers. This result supports the public pressure hypothesis that as the ability of community groups to scrutinize banks diminishes because of non-disclosure of lending locations, these banks have more flexibility in underwriting loans that benefit shareholders. In contrast, we do not find a

⁶ The disclosure requirement applies also to small farm loans. We do not focus on this type of loans due to their small magnitude in aggregate. For example, in 2004, \$18 billion of small farm loans were originated in contrast to \$288 billion origination of small business loans.

similar pattern for other loans, suggesting that the improvements occur only for commercial loan underwriting. This result increases our confidence that non-disclosure of small business lending locations rather than bank-level changes is the driving force.

We assess to what extent our finding is attributable to economic forces other than disclosure. First, we examine the dynamic effects of the reform by tracing the timing of changes in non-performing commercial loans. We find no decline in non-performing commercial loans in the year prior to the exemption, suggesting no influence of changes in commercial loan performance on subsequent disclosure decisions (i.e., reverse causality). The decline manifests itself in the second and third years after the exemption, consistent with the notion that revelation of loan quality takes time. Second, we conduct a falsification test of the sample banks during 2001-2004, assuming 2002 as a pseudo effective year of the reform. We do not observe significant different changes in commercial loan performance between the two groups of banks. Thus, preexisting divergent trends in loan performance unlikely explain our results. Third, we include state-year fixed effects to capture local shocks that could affect a bank's disclosure and loan underwriting. We continue to find robust results, suggesting that state-level legislative or market changes do not drive the findings. Fourth, in 2006, bank regulators issued guidance calling for heightened risk management practices for banks with a concentration in commercial real estate loans. To rule out this event as an alternative explanation, we create an indicator equal to one for bank-years with such a concentration as defined by the guidance during 2006-2007, and zero otherwise. Controlling for this indicator does not alter our inference. Fifth, we find that non-disclosing banks do not receive more CRA examinations than do disclosing banks after the exemption, suggesting the effect of geographic lending disclosure is distinct from that of direct regulatory oversight (Agarwal et al., 2012). Finally, we find that total small business lending

does not change around the exemption for non-disclosing banks compared with disclosing ones. The result suggests that improved loan performance stems from the better allocation of credit (i.e., higher underwriting quality) as opposed to a mere rise in credit standards, which would reduce total small business lending.

For implications to shareholder value, we find that overall bank performance measured as returns on equity of non-disclosing banks is significantly improved relative to that of disclosing banks after the exemption. The finding is in line with the public pressure hypothesis that non-disclosure of lending locations lowers costs for non-disclosing banks by relieving pressure from community activists. The results do not appear to reflect mere savings on compliance costs as using returns on equity before noninterest expense does not alter our inference.

There are two limitations arising from the non-random assignment of disclosure policies that are common to the real effects of disclosure literature. One limitation is that omitted variables not included in our models drive both the non-disclosure decision and subsequent changes in loan performance. We provide three additional pieces of evidence to address this issue. First, we document a greater reduction in non-performing commercial loans for banks that were under more community scrutiny prior to the exemption. Second, given the differences between the two groups of banks before the exemption, they may experience different mean-reversion processes in loan performance absent the reform. We show that the results are robust to a sample of matched banks, in which non-disclosing and disclosing banks are indistinguishable in their observable characteristics over the pre-event years (2002-2004). Finally, we adopt a regression-discontinuity design that potentially affords tighter identification within banks around the threshold of \$1 billion assets. Non-disclosing banks with assets between \$750 million and \$1 billion and banks in the assets range of \$1 billion to \$1.25 billion (hence mandatory disclosers)

should experience similar economic forces other than the exemption for geographic lending disclosure. We continue to find robust results in this design.

The second limitation relates to anticipation. Banks anticipating future improvements in performance of commercial lending may choose to stop disclosing to protect the anticipated gains from being extracted by community activists. However, even if such anticipation drives our results, it would still imply that non-disclosure of lending locations was a key element in alleviating community activists' pressure, supporting the public pressure hypothesis. In this case, the magnitude of the difference-in-differences effect on loan performance cannot be interpreted as the causal impacts of non-disclosure.

This study contributes to the literature in three ways. First, we add to the real effects of disclosure literature by showing that disclosures, in addition to informing capital providers, facilitate public scrutiny that alters reporting firms' real decisions. The findings improve our understanding of the role of nontraditional information users in overseeing business activities (Miller, 2006; Dyck et al., 2008; 2010). Chakravarthy et al. (2014) find that after a serious restatement firms target local communities as part of their public reputation repair strategies. Dyreng et al. (2016) demonstrate that noncompliance with disclosure requirements for subsidiary locations attracts public shaming campaign of an activist group and thus affects subsequent disclosure and tax avoidance. Our evidence, taken together with their findings, extends the generalizability of the public pressure argument in the disclosure literature.⁸

Second, the proprietary cost literature argues that concerns about releasing proprietary information impede disclosure, as such information can be exploited by rivals such as product

⁸ Glaeser and Guay (2017) advocate: "Because the perfectly identified and generalizable research design is rare, if not unattainable, identifying causal relationships for important accounting research questions is most likely to come from a mosaic of studies that collectively update our priors. We refer to this mosaic as a 'Bayesian approach to causal inference,' in the sense that each well-executed study on a particular topic offers evidence that researchers use to update their priors on the applicability and generalizability of the theory being tested."

market competitors and labor unions to the disadvantage of reporting firms. (Harris, 1998; Bamber and Cheon, 1998; Berger and Hann, 2003, 2007; Leuz, 2004; Botosan and Stanford, 2005; Li, 2010; Bens et al., 2011; Cho, 2015; Bova et al., 2015; Bernard, 2016). We demonstrate that revealing lending locations increases pressure from community activists and thus identify another important stakeholder exploiting proprietary information.⁹

Finally, our research answers the call of Leuz and Wysocki (2016) for more research on the consequences of broad disclosure regulation: “The widespread use of disclosure regulation in many different areas underscores the importance of disclosure and transparency as a research topic that goes beyond corporate reporting. Thus, in our view, understanding the economic effects of disclosure regulation is of first-order importance, not just for accounting and finance.” We inform the cost-benefit analysis of the disclosure mandate of CRA by demonstrating costs of disclosing lending locations borne by banks. While the costs need to be weighed against possible social gains, we view quantifying the costs to banks as a critical first step towards a comprehensive evaluation. The recent Section 1071 of the Dodd-Frank Wall Street Reform and Consumer Protection Act of 2010, has the purpose similar to CRA’s of directing lending to meet the credit needs of traditionally underserved neighborhoods. Specifically, it requires the Consumer Financial Protection Bureau to improve the publicly available small business loan data by including the race and gender of the small business loan applicants and other details. Our evidence suggests that such disclosure regulation may deteriorate some banks’ loan underwriting quality.

⁹ Relatedly, this paper also contributes to the corporate social responsibility (CSR) disclosure literature. Disclosing CSR activities has been shown to either benefit or cost shareholders (Dhaliwal et al., 2011, 2012; Christensen et al., 2017; Ioannou and Serafeim, 2017; Grewal et al., 2018). We provide evidence that releasing geographic lending information pertaining to CSR reduces shareholder value, corresponding to the cost side of CSR disclosure.

2. Background and Hypothesis

2.1 Community Reinvestment Act

Congress passed the Community Reinvestment Act of 1977 in response to critiques that federally insured banking institutions were not making sufficient credit available (e.g., “redlining”) to local areas in which they acquire deposits. This congressional action imposes a continuing affirmative obligation on banks to meet the credit needs (primarily home mortgages and small business loans) of these communities, in particular low-income neighborhoods, in a manner consistent with safety and soundness concerns.¹³ Congress directed the appropriate regulatory agency with supervisory responsibility for each type of depository institution (a) to assess its compliance with meeting the credit needs of its community and (b) to consider the compliance as well as objections from any interested parties when acting on an application by such an institution (for mergers and acquisitions, changes in deposit insurance, branch openings or relocations, and national bank charters).

To meet the first directive, the agencies regularly examine each institution, write up an evaluation of the institution’s compliance, and assign a rating among four categories (outstanding, satisfactory, needs to improve, and substantial noncompliance).¹⁴ Specifically, during the lending test, regulators review loan-to-deposit ratios, the percentage of loans in an assessment area, lending to borrowers of different revenues, geographical distribution of loans across different income levels, and actions on complaints. Since CRA does not impose specific

¹³ Research demonstrates that a greater focus on lending in low-income neighborhoods helps CRA records but hurts safety and soundness ratings (Gunther, 2002).

¹⁴ Apgar and Duda (2003) summarize: “Examiners are directed to apply the relevant test in the context of the particular institution and the market in which it operates. This ‘performance context’ is defined to include information about the economic and demographic characteristics of the institution’s assessment area; lending , investment, and service opportunities in that area; the institution’s product offerings and business strategy; its capacity and constraints; its past performance and the performance of similarly situated lenders; information and public commentary contained in the institution’s public CRA file; and any other information the regulator deems relevant.”

lending quotas or benchmarks, the examination remains largely subjective and has been criticized on the basis of inflated ratings (Belsky et al., 2000; Thomas, 1998, 2000). In a report issued by the National Community Reinvestment Coalition, Taylor and Silver (2009) show that over 98% of banks receive a satisfactory CRA rating or better during 1997-2007. While Agarwal et al. (2012) find evidence that banks underwrite more bad loans to CRA-eligible areas (i.e., low-income areas) around examination dates than those underwritten during other periods, this evidence is challenged by Reid et al. (2013). Overall, CRA examinations appear to have limited enforcement power.

In contrast, the second directive is recognized by banks, regulators, and community advocates as a potent enforcement tool (Belsky et al., 2000). When applications are pending, community groups can submit written protests and call for public hearings that could influence regulators to rule against applicant banks.¹⁵ The protests delay or preclude approval, or create adverse publicity harms to banks' reputation and customer base. Using a sample of public banks, Johnson and Sarkar (1996) estimate a significantly negative excess return of -1.79% on the initiation day of CRA protests and no reversal when the protests are resolved.

Besides the two directives, community activists can wage campaigns that create negative publicity and provoke customer boycotts (California Reinvestment Committee, 2001; Squires,

¹⁵ The protests occur even when the bank in question has received a high CRA rating in recent examinations. For example, in March 1991, Manufacturers Hanover Trust Co. of New York received an "outstanding" CRA rating. Less than three weeks later, its attempt to acquire thirteen branch offices of another bank was challenged by community activists on the ground that the bank failed to live up to its community reinvestment responsibility (Corman, 1991). The challenges are against not only mergers and acquisitions but other applications. For example, when Ameritrust sought approval to restructure several branch offices in Cleveland in order to cut costs, its application was resisted by community activists and members of the city council despite the bank's the second-highest CRA rating received from the Office of Comptroller of the Currency (Braitman, 1991).

2003).¹⁶ They can also push for local “responsible banking” ordinance that requires banks seeking to do business with the city or hold city deposits engage in more CRA-related lending.¹⁷

Anticipating the sizable costs associated with those challenges, banks commit to increasing lending to certain areas, typically poor neighborhoods, by either voluntarily adopting CRA programs or negotiating agreements with community organizations or local governments. For instance, in 1999, Old Kent Bank signed an agreement with Chicago CRA Coalition to commit that the bank’s share of the market in low- and moderate-income areas will equal or exceed its share of the market in middle- and upper-income areas (Squires, 2003). The public pressure also influences banks’ lending decisions in the ordinary course of business as Bates and Robb (2015) show that community activists’ agenda predominantly affects banks’ loan-application approvals.

2.2. Geographic Lending Disclosure

Bank regulators issued the regulation of 1995 to better implement CRA, following the rationale for the Home Mortgage Disclosure Act (HMDA) of 1975 that providing the public lending information can discourage certain behaviors via public scrutiny (“regulation from below”). The regulation of 1995 compelled large banks to file the CRA reports annually for small business lending, defined as loans under \$1 million including both commercial and industrial loans and commercial real estate loans. The CRA reports are available from a bank’s main office or branch, the Federal Financial Institutions Examination Council (FFIEC), or public

¹⁶ Squires (2003) gives an example: “Two Chicago groups, the Organization for a Better Austin and the Northwest Community Organization, asked local banks to permit community input in the review of loan applications. They were rebuffed, so more aggressive tactics were employed. For example, organizers assembled area residents to open and close \$1 checking accounts on Saturday afternoons, flooded bank floors with pennies, and arranged boycotts, effectively prohibiting the banks from conducting normal business on those days.”

¹⁷ See “Keeping Banks Accountable to Our Communities: Report from a National Convening on Local Responsible Banking Ordinances,” available at <https://www.anhd.org/wp-content/uploads/2011/07/Keeping-Banks-Accountable-final1.pdf>

data libraries.¹⁹ Large banks were banks with more than \$250 million in assets as of both the prior two-year ends or are affiliated with a holding company with more than \$1 billion in assets as of both the prior two-year ends. Specifically, large banks are required to break out the number of loans and total amount into: (a) origination amount smaller than \$100,000, (b) between \$100,000 and \$250,000, (c) between \$250,000 and \$1 million, and (d) loans to businesses with gross annual revenues of \$1 million or less. Large banks must report the four categories by geography defined as a group of census tracts within a county based on the tract median family income relative to the area median income.²⁰ Figure 1 provides an excerpt from Amalgamated Bank of Chicago's CRA reports in 2002.

CRA data complement the small business loan data reported by banks in Schedule RC-C Part II of Call Reports in two important ways. First, Call Reports provide the total number and amount of all small business loans outstanding (a stock variable), whereas CRA data report the total number and amount of small business loans originated in that year (a flow variable). Second and more importantly, in contrast to aggregate numbers at the bank level in Call Reports, CRA data give insight on the small business lending disaggregated by size and geographical location.

The detailed information provided by CRA reports enables the public, in particular, community groups, to analyze CRA performance of local banks better. For example, California Reinvestment Coalition (CRC) states:

CRC members have found small business [lending] data very useful in dialog with banks regarding unmet community needs. Public available CRA data is an important tool communities use to hold banks accountable for providing credit to small businesses, small farms and affordable housing. Without this important data the public...will have no way to systematically measure the responsiveness of banks to critical credit needs of low- and moderate-income communities.

¹⁹ See the FFIEC website <https://www.ffiec.gov/cra> and an online data library <https://www.policymap.com>.

²⁰ The area median income is calculated as the median family income for the metropolitan statistical area (MSA) if a census tract is located in an MSA, or the statewide nonmetropolitan median family income if a census tract is located outside an MSA. See <http://www.ffiec.gov/cra/guide.htm> for more details.

The organizations often benchmark disclosed lending activities against demographic data to identify areas with limited credit access *irrespective* of potential underlying economic reasons (Sawicki and Craig, 1996; Craig and Elwood, 1998; Cowan, 2014). Figure 2 provides an example in which the National Community Reinvestment Coalition charts a map using a simple ratio of the number of small business loans to the number of small businesses obtained from Dun and Bradstreet to identify small business lending “deserts and oases,” regardless of the credit demand and risk of those businesses.²¹

A timeline of key events leading up to the reform of 2005 is presented in Figure 3. When issuing regulation of 1995, regulators agreed to conduct a full review of the rule in 2002 to determine whether the rule would be effective in achieving their goals. As such, in 2001, the four regulatory agencies invited comments on a number of issues including whether the data collection and reporting are burdensome (Federal Reserve Board, 2001). The Agencies received a large number of comment letters from banking institutions asserting that data collection and reporting are disproportionately onerous for small institutions due to the need for new personnel and other fixed costs. They also pointed out that the substantial asset growth and consolidation in the banking industry since 1995 had rendered the threshold out-of-date. The four regulators issued a proposal of raising the threshold to \$500 million in early 2004 and then split on the revised threshold. Office of Thrift Supervision (OTS) and Federal Deposit Insurance Corporation (FDIC) pulled out of the joint rulemaking process by proposing to move the threshold to \$1 billion on July 16 and August 20, respectively, whereas Federal Reserve Board (FRB) and Office

²¹ As a recent example, during the Federal Reserve hearing regarding the merger of OneWest Bank and CIT Group, Robert Villarreal, Senior Vice President of Community Development for CDC Small Business Finance expressed concerns about OneWest’s dismal small business lending record in his testimony: “In 2013 OneWest made zero loans; that is zero loans for under \$100,000 in California (FFIEC website), in that same year here in Los Angeles, only 8 loans were made under \$250,000 and less than half the dollars funded were made to businesses located in LMI neighborhoods.”

of the Comptroller of the Currency (OCC) withdrew the early proposal. On August 2, 2005, FRB, OCC, and FDIC issued the joint final rule of raising the threshold to \$1 billion without regard to holding company affiliation, with a subsequent adjustment for the Consumer Price Index (Federal Reserve Board, 2005a,b; Federal Financial Institutions Examination Council, 2013).²²

The new rule referred to banks between \$250 million and \$1 billion in assets as intermediate small banks and exempted them from the requirement of CRA reports. The exemption potentially reduced the ability of community organizations to analyze and protest against these banks' CRA records and thus incurred objections from these organizations. For example, Woodstock Institute in the letter to FDIC contends:

Small business lending data must continue to be reported for institutions between \$250 million and \$1 billion in assets. These institutions are significant small business lenders, and the loss of this data would be a critical blow to analysis of community reinvestment activity...The Agency ignored the consequences of withdrawing the mandate on these banks to publicly report small business lending data. Smaller institutions in many markets have a much larger share of small business lending than their size would predict. The loss of public data on that activity will seriously reduce the pressure on those institutions to maintain their current level of small business lending activity to the detriment of the critical small business community in lower-income neighborhoods.

2.2. Hypotheses

There are two competing views on how geographic lending reports affect bank performance. On the one hand, the public pressure hypothesis posits that availability of geographic lending data and public participation in reviewing banks' CRA records empower community groups. These groups hold banks hostage to maximize the transfer of resources from banks to local communities or themselves (Macey and Miller, 1993; White, 1993). Gramm (2003) uses a sample of bank applications for mergers and acquisitions submitted to bank regulators and shows that protests of community groups significantly prolong the application process and

²² We do not examine thrifts as their lending in commercial loans is restricted by law.

reduce the probability of approval. Moreover, he finds that community groups are more likely to protest an application for banks with deep pockets regardless of an applicant's CRA performance, consistent with the rent-seeking behavior of community activists. As such, banks, motivated by the desire to satisfy these groups, underwrite loans that are of low credit quality given the interest charged and thus do not maximize shareholder value.

On the other hand, advocates of CRA claim that geographic lending disclosure enables community groups or other potential users of CRA reports, while pursuing their agendas, help banks identify and seize profitable lending opportunities. These opportunities, without the pressure from informed community activists, could have been missed due to banks' lack of local knowledge, institutional inertia, and economic prejudice (Squires, 2003; Barr, 2005). Consequently, geographic lending disclosure helps bridge the information gap between banks and local communities and improves banks' loan underwriting quality.

Under the exemption of disclosure requirements, the revealed preferences of eligible banks provide prima facie evidence for both arguments. Specifically, banks that stop CRA reports are likely to perceive geographic lending disclosure as costly due to public pressure, whereas the ones that continue to file CRA reports are likely to undertake negligible costs or even benefit from such disclosures. The former experiences a shock to geographic lending disclosure, and the latter are unaffected by the exemption.²⁴

As the lack of information on locations and sizes of small business lending reduces the ability of community groups to watch non-disclosing banks, we expect that these banks face fewer constraints and thus can make better commercial lending decisions that increase

²⁴ Extant evidence on the performance of CRA-related versus non-CRA-related loans is mixed (Meeker and Myers, 1996; Avery et al., 2000, 2001, 2005; Heller, 2000). The mixed findings are likely due to the difficulty in separating the two competing economic forces. We rely on the revealed preferences to separate banks that perceive high costs of geographic lending disclosure from those that do not, and compare changes in loan performance between them.

shareholder value. Thus, after the exemption, non-disclosers relative to disclosers exhibit a greater decrease in non-performing loans for commercial lending. However, this expectation may not be borne out because community activists may rely on alternative information sources to watch local banks (e.g., surveys or hotlines; Squires, 2003). To the extent that these alternatives effectively substitute for geographic lending disclosures, we do not expect a discernible reduction in non-performing loans for non-disclosing banks.

The exemption does not apply to geographic disclosure of loans other than small business loans. For example, banks have to continue to disclose locations of residential loans under HMDA. Thus, we do not expect any change to the performance of other loans. We state the following hypothesis:

Hypothesis a: Non-disclosure of locations and sizes of small business lending is associated with a decrease in non-performing loans for commercial lending around the reform.

Hypothesis b: Non-disclosure of locations and sizes of small business lending locations is unrelated to a change in non-performing loans for other lending around the reform.

3. Data

We compile a constant sample of exempt commercial banks that reported geographic small business lending via FFIEC during 2002-2004 and have all necessary data three years prior to and three years after the reform (2002-2007) for empirical tests.²⁵ These banks account for 24% of all commercial banks and 26.6% of total small business lending in 2005, according to our estimation. The sample ends in 2007 to avoid the financial crisis of 2008-2009, which may affect disclosing and non-disclosing banks differently, confounding our inferences (Ryan, 2017). In the primary analysis, we exclude banks that have assets greater than \$1 billion in 2005 and thus

²⁵ We focus on a constant sample to ensure that subsequent findings are not driven by changes in the sample of banks around the exemption. No inference is affected by using all exempt banks during 2002-2007 (N = 8,425).

are not eligible for the exemption, yielding 573 non-disclosers (3,428 bank-years) and 472 disclosers (2,832 bank-years). Banks with assets in 2005 that range from \$1 billion to \$1.25 billion are used as an alternative disclosing group in the regression-discontinuity design in Section 4.6. All the bank variables are obtained from Call Reports. Unemployment rates, the proportion of persons working for community and social services, and the distribution of deposits for each bank are collected from the Bureau of Labor Statistics, the American Community Survey, and the Summary of Deposits, respectively.

Table 1 shows loan composition for the 6,270 bank-year observations in the sample. The mean of *Bank loan assets / Bank total assets* is 67.17%. Among loan assets, commercial loans, including both commercial and industrial loans and commercial real estate loans, take the largest portion of bank total assets (28.41%), and the next two largest types of loans on the balance sheet are residential loans (19.89%) and consumer loans (4.6%).²⁶ The majority of commercial loans (60.92%) are small business loans, which make up 16.49% of bank total assets.

Loan performance measure. Since banks' loan underwriting quality is not directly observable, we use loan performance, controlling for interest income, to capture the quality of bank lending.²⁷ We measure loan performance using non-performing loan assets, which includes the entire book value of loans more than 90 days past due or not accruing interest. Non-performing loan assets are a relatively non-discretionary and timely source of information about loan default (Ryan, 2007; Beck and Narayanamoorthy, 2013). An advantage of using this measure is that banks have been required to break out non-performing loan assets by loan type since 2001. Thus, we can separate performance of commercial loans from that of non-

²⁶ We do not include residential or consumer loans that are securitized or sold, since they are typically off balance sheet (Dou et al., 2018; Dou, 2018).

²⁷ We cannot precisely identify interest income from commercial loans because the Call Reports aggregate the interest income on commercial real estate loans with that on residential loans (i.e., interest income on loans secured by real estate).

commercial loans within a bank. Specifically, we sum up non-performing commercial loans divided by lagged total commercial loans (*Nonperf commercial*) and sum up non-performing non-commercial loans divided by lagged total non-commercial loans (*Nonperf other*).²⁸ We do not use loan loss provisions as the primary measure since banks were not required to break out provisions by loan type until 2010 (Bhat et al., 2016). Nevertheless, the results are robust to using loan loss provisions as a noisy measure of commercial loan performance, although the provisions capture the performance of a bank's entire loan portfolio.

Bank performance measure. To capture overall bank performance from shareholders' perspective, we choose returns on equity (*ROE*), calculated as net income divided by total equity. Using return on assets does not alter our inferences. We also compute returns on equity before noninterest expense to better attribute changes in bank performance around the disclosure exemption to lending decisions rather than savings on compliance costs.

Table 2 shows descriptive statistics for variables in subsequent regression analysis. We present the statistics for the full sample across the six years (2002-2007), and also separately for the non-disclosing (*NoDisc* = 1) and disclosing (*NoDisc* = 0) banks prior to the reform (2002-2004). In the full sample, the mean of *Nonperf commercial* is 0.009, representing that 0.9% of lagged commercial loans are non-performing. The mean of *Nonperf other* is 0.008, mean *ROE* is 0.128, and an average bank has total assets of \$413 million (= $e^{6.023}$). The mean *Equity* is 9.8% of total assets; mean *Deposit* is 80.4% of total assets. An average bank faces unemployment rates (*Unemp rate*) of 5.175 percent, calculated as average unemployment rates across a bank's branch counties, weighted by deposits collected in each county. Variable definitions are presented in Appendix.

²⁸ As shown in Table 1, residential loans constitute about 51% (= $19.89\% / (67.17\% - 28.41\%)$) of non-commercial loans. If we use non-performing residential loans as an alternative measure for the quality of non-commercial lending, no inference is affected.

Before 2005, non-disclosing banks have an average *Nonperf commercial* of 0.011, which is significantly higher than disclosing banks' average *Nonperf commercial* of 0.009 (t-stats = -1.761). It suggests that non-disclosing banks' reluctance to continue reporting after the exemption may be related to higher costs of disclosure arising from public pressure, as reflected in higher non-performing commercial loans before the reform. Compared with banks that continue to disclose lending locations, non-disclosing banks exhibit more non-performing other loans. It suggests that other lending (e.g., residential loans) also suffers from greater public pressure, which however cannot be alleviated by stopping releasing the distribution of small business lending. Non-disclosing banks are relatively smaller, bearing disproportionately higher compliance costs. They also have greater shareholders' equity, higher interest income, and more commercial loans, in comparison to disclosing banks. The external business environment, as proxied by local unemployment rates is indistinguishable between these two types of banks. Thus, differences in loan performance are likely explained by their underwriting quality as opposed to local economic conditions.

4. Empirical Tests and Results

We begin by examining bank characteristics of the two groups of banks around the reform in order to shed light on whether differences in the underlying economic factors, rather than disclosure policies, affect the outcome of interest. Table 3 shows means of bank characteristics before and after the exemption (2002-2004 and 2005-2007, respectively) for non-disclosing and disclosing banks, along with a test of differences. The last column of Table 3 shows a test of difference-in-differences across the two groups of banks before and after the exemption. As that column shows, non-disclosing banks experience a significant decline in non-

performing commercial loans but not in non-performing other loans and a significant increase in returns on equity, in comparison to disclosing banks. Further, non-disclosing and disclosing banks do not differ in the change to bank conditions before and after the exemption, suggesting that underlying economic factors other than disclosure are unlikely to explain differences in examined outcomes across the two groups of banks.

The regression specification takes the form:

$$DepVar_{i,t} = \theta_1 + \theta_2 NoDisc_i \times Post_t + \sum \theta_j Control_{j,i,t} + i + t + v_{i,t} \quad (1)$$

where *DepVar* is the dependent variable that equals any one of the three performance measures described earlier; *i* indexes the bank, *t* indexes the year, and *j* indexes the *j*th control for *j* > 2. *NoDisc* is an indicator equal to 1 for non-disclosing banks, and zero otherwise, while *Post* is an indicator equal to 1 in the years (2005-2007) following the exemption, and zero otherwise. The main independent variable of interest is *NoDisc* × *Post*. The panel regressions include bank- and year- fixed effects, and standard errors are clustered by bank (Petersen, 2009). The inclusion of bank- and year- fixed effects represents a generalization of the difference-in-differences design in a regression setting (Bertrand and Mullainathan, 2003; Angrist and Pischke, 2009; Armstrong et al., 2012). The controls include bank assets, the equity ratio, interest income, noninterest income, loan loss allowance, the proportion of commercial loans, deposits, bank ages, and unemployment rates, which are likely to be associated with the dependent variables.

4.1. Non-performing Loans

Panel A of Table 4 shows coefficients, and *t*-statistics in parentheses, from pooled regression estimation of equation (1). The dependent variable in each specification is *Nonperf commercial*, as indicated in the column header. Column 1 presents results when a traditional

difference-in-differences specification is estimated without any fixed effects. Year-fixed effects are included in column 2, and both bank- and year-fixed effects are included in column 3. The main independent variable of interest is $NoDisc \times Post$, and it loads significantly negatively in all specifications (two-tailed p-value < 0.05), consistent with Hypothesis a that non-disclosers experience a greater decrease in non-performing commercial loans than do banks that continue to disclose locations and sizes of small business lending. Regarding economic magnitude, non-performing commercial loans decrease by 0.002, or 18% of the pre-event mean level (0.011) for non-disclosers. We observe significant positive coefficients on *Interest income*, *Loan loss allowance*, *Logage*, and *Unemp rate*, suggesting that banks charging higher interest, setting more loan loss allowance, being older, and exposed to counties with higher unemployment rates, exhibit more non-performing commercial loans.²⁹ *Noninterest income* loads significantly negatively, consistent with the notion that the information collected from banking services (e.g., fiduciary activities, deposit accounts, investment advisory and management services) facilitate monitoring of borrowing firms and thus are associated with fewer non-performing commercial loans (Mester et al., 2007; Norden and Weber, 2010).

Geographic lending disclosure does not pertain to non-commercial loans, and therefore these loans are not expected to be affected by disclosure policies of small business lending. Thus, tests of loan performance of non-commercial lending provide a useful within-bank analysis of whether results for commercial loans are attributable to non-disclosure or they are spuriously correlated with omitted bank characteristics. Panel B of Table 4 shows results from pooled regression estimation of equation (1), where the dependent variable is *Nonperf other*. We do not observe significant coefficients on $NoDisc \times Post$ in any specification (two-tailed p-value > 0.1),

²⁹ If we add log of the average number of small businesses (< 500 employees) and the average house price index across a bank's branch counties, weighted by deposits collected in each county, neither variable loads significantly and $NoDisc \times Post$ continues to load (two-tailed p-value < 0.05).

in line with our Hypothesis b that there is no difference in non-performing loan changes between disclosing and non-disclosing banks around the exemption. Therefore, the results reinforce the notion that the greater decrease in non-performing commercial loans cannot be attributed to overall bank-level changes that separate banks into disclosing and non-disclosing ones. We observe significant positive coefficients on *Equity*, *Interest income*, *Loan loss allowance*, *Logage*, and *Unemp rate*, suggesting that banks with more equity, charging higher interest, setting more loan loss allowance, being older, and exposed to counties with higher unemployment rates, exhibit more non-performing other loans.

Since the specification in column 3 represents a generalization of the difference-in-differences design, we focus on this model in following analyses.

4.2. Further Tests

In this section, we describe a number of tests intended to enhance identification and examine robustness. Given the insignificant results for non-performing other loans, we conduct further tests using *Nonperf commercial* as the dependent variable.

The timing of the effect. We trace out the timing of the reduction in non-performing commercial loans to better understand how the real effects of disclosure play out and to evaluate the plausibility of our main finding. We create four indicators for years around the reform (*Pre*, *Post⁰*, *Post¹*, and *Post²*), and interact each of them with *NoDisc*. *Pre* equals one for one year before the reform (i.e., the year of 2004). *Post⁰*, *Post¹*, and *Post²* are indicators that equal one for the reform year (i.e., 2005), 2006, and 2007, respectively. The first column of Table 5 shows that $NoDisc \times Pre$ and $NoDisc \times Post^0$ do not load (two-tailed p-value > 0.1), indicating that changes

in non-performing commercial loans before and during the exemption unlikely explain disclosure decisions. Thus, there is no evidence for reverse causality.

The new threshold of \$1 billion in the final rule issued in August 2005 does not come as a surprise since the OTS adopted and the FDIC proposed the same threshold in August 2004. While loans granted in 2005 are likely to be affected, we do not expect a significant reduction in non-performing commercial loans in that year since it takes time for newly granted loans under the exemption regime to default. We observe that $NoDisc \times Post^1$ and $NoDisc \times Post^2$ load negatively (two-tailed p-value < 0.05 and 0.1 , respectively), suggesting better lending decisions materialize in the second and third years. The result is consistent with prior evidence that revelation of loan quality on average takes about six quarters (Glennon and Nigro, 2005).³⁰

Local shocks. Nearly all banks in our sample operate in a single state. To rule out the possibility that local legislative or market changes affect both the disclosure and loan underwriting decisions, we add state-year fixed effects to the regression. This allows us to compare loan performance between disclosing and non-disclosing banks within the same state-year. As shown in the second column of Table 5, we continue to observe a significant coefficient on $NoDisc \times Post$ (two-tailed p-value < 0.1).

Regulatory concerns of CRE concentrations. In 2006, bank regulators issued guidance to reinforce sound risk management practices for banks with high and increasing concentrations of commercial real estate loans. According to the guidance, these banks have (1) total construction loans exceeding 100% of their total capital, or (2) commercial real estate loans exceeding 300% of their total capital and more than 50% growth of these loans during the prior

³⁰ As Ryan (2008) points out, the credit crunch arising from the subprime crisis was initially confined to the subprime sector (i.e., subprime mortgages or securitizations of those mortgages) and only moved beyond subprime positions after late-January/March 2008. Thus, our findings (at least the reduction in non-performing commercial loans in 2006) are unlikely to be explained by different impacts of the subprime crisis on the non-disclosing and disclosing banks.

36 months. We add an indicator equal to one for these banks during 2006-2007, and zero otherwise. As shown in the third column of Table 5, we continue to observe a significant coefficient on $NoDisc \times Post$ (two-tailed p-value < 0.05).

Parallel trends. Since our difference-in-differences estimates may pick up preexisting divergent trends, we validate the parallel trend assumption by conducting a placebo test of the sample banks during 2001-2004. The year 2001 serves as a benchmark year and year 2002 is assumed as a pseudo effective year of the reform. In this test, $Post$ equals one for years 2002-2004 and zero otherwise. As shown in the fourth column of Table 5, we do not observe a significant coefficient on $NoDisc \times Post$, suggesting no evidence for preexisting trends in commercial loan performance between non-disclosing and disclosing banks.

CRA examinations. Despite the limited effectiveness of CRA examinations as discussed in Section 2.1, we test the robustness of the results to account for such regulatory oversight. Agarwal et al. (2012) find that banks extend more loans to CRA-eligible areas around examination dates, and these loans are more likely to be delinquent than those originated during other periods. We create an indicator, as a new dependent variable, equal to one if a bank received a CRA examination in the current or previous year, and zero otherwise. The two-year window is adopted since it takes time for loans granted near examinations to default. As shown in the fifth column of Table 5, $NoDisc \times Post$ does not load significantly (two-tailed p-value > 0.1). Using an indicator for a CRA examination in the current or previous two years does not change our inference. The results suggest that formal regulatory oversight is unlikely to confound our inferences on the effect of geographic lending disclosure.

Tightened credit standards. Lower non-performing commercial loans may result from a mere rise in credit standards for all borrowers by non-disclosing banks. The tightened credit

standards should also reduce total small business lending as fewer borrowers can pass minimum thresholds of creditworthiness. Since non-disclosing banks stop reporting the distribution of small business lending, we cannot aggregate it to calculate total small business lending. Instead, we use the change in total small business loans outstanding in Call Reports as an alternative dependent variable. We find insignificant changes in small business loans for non-disclosing banks, in comparison to disclosers in the sixth column of Table 5. Therefore, improved loan performance likely stems from non-disclosing banks' better allocation of credit (i.e., higher underwriting quality) rather than tightened credit standards.

4.3. Bank Performance

Table 8 shows coefficients, and *t*-statistics in parentheses, from pooled regression estimation of equation (1), where the dependent variable in each specification is bank performance, as indicated in the column header. As the first column of Table 6 shows, *NoDisc* × *Post* loads positively (two-tailed *p*-value < 0.05), suggesting that the exemption of geographic lending disclosure increases shareholders' return for non-disclosing banks relative to disclosers. The increase represents a 7% (= 0.009/0.125) improvement relative to the pre-event mean level (0.125) for non-disclosers. Since non-disclosure may also reduce compliance costs for collecting and reporting lending data, to isolate the beneficial effect of more flexible lending decisions, we add back salaries and employee benefits and expenses of premises and fixed assets to net income, divided by total equity (*ROE before noninterest expense*). We continue to find a significant positive coefficient on *NoDisc* × *Post* (two-tailed *p*-value < 0.05). The findings in both columns are robust to excluding *Interest income* and *Nointerest income* from the regressions.

Collectively the results in Tables 4-8 are consistent with the public pressure hypothesis that geographic lending disclosure imposes costs on some reporting banks by facilitating public scrutiny from community activists and thus distorting their loan underwriting. The distortion is reduced for banks that perceive high costs of disclosing lending locations and stop doing so after the exemption.

Although the results, in general, are consistent with the hypothesis, the interpretation can be criticized on the grounds of correlated omitted variables. We make a serious effort to address this issue in the following three subsections. First, we test whether the reduction in non-performing commercial loans varies with the strength of community scrutiny, a factor underlying our Hypothesis a. The cross-sectional tests narrow the ways in which a conjectured omitted variable would explain our primary and interaction results simultaneously. Second, we test our hypotheses using a matched sample. This approach weakens the link between a bank's disclosure status and other covariates, effectively restricting attention to a select group of matched banks, with evidence of statistically insignificant differences in their characteristics. Third, we implement a regression-discontinuity design around the exemption cutoff of \$1 billion assets.

4.4. Cross-sectional Tests

We test two cross-sectional predictions that invoke variation in the strength of community scrutiny. Our main hypothesis is motivated by the idea that community groups use disclosed lending information to lean on banks and these banks stop disclosing such information after the exemption. As such, we expect greater improvements in commercial loan performance when banks were under greater community scrutiny before the exemption. First, we measure the strength of scrutiny from local communities by calculating the proportion of workers with

community and social services occupations (2000 Occupation Codes: 200-206) in a state. A bank-specific measure is the average of the proportion across a bank's branch states, weighted by deposits collected in each state (*Community workers*). As the first pair of columns of Table 7 shows, *NoDisc* \times *Post* loads significantly negatively for *Nonperf commercial* (two-tailed p-value < 0.05) for banks with a high (above median) community scrutiny but does not load for banks with low (below median) community scrutiny. The result suggests greater improvements in commercial lending after the exemption at non-disclosing banks subject to more pressure from community activists, as predicted.

The second cross-sectional variable we explore is the proportion of loans for which banks receive credit for their CRA compliance. Small business loans extended to low- or moderate-income neighborhoods or business with less than \$1 million revenue are eligible for consideration of CRA credit (CRA-loans). Therefore, for each bank, we calculate the average of CRA-loans divided by total loans, over 2002-2004 (*Proportion of CRA-loans*). More CRA-loans before the exemption likely result from more community scrutiny. As such, we expect greater improvements at banks with a high proportion of CRA loans after the reform. As the second pair of columns of Table 7 shows, *NoDisc* \times *Post* loads significantly negatively for *Nonperf commercial* (two-tailed p-value < 0.1) for banks with a high (above median) proportion of CRA-loans but does not load for banks with a low (below median) proportion of CRA-loans, consistent with our expectation.

4.5. A Matched Sample

To improve the comparability between non-disclosing and disclosing banks, we construct a sample using the propensity score matching method. We estimate the propensity score from a

logit regression with the *NoDisc* indicator as the dependent variable and the mean values of all bank characteristics in Table 2 over the period before the exemption (2002-2004) as independent variables. For each non-disclosing bank, we select a discloser with the closest propensity score, imposing a 0.01 caliper. We match without replacement, though the results are robust to matching with replacement. The resulting matched sample consists of 366 non-disclosing banks and an equal number of disclosing banks. Panel A of Table 6 presents summary statistics for the two groups of banks in the matched sample before 2005. After matching, bank characteristics are indistinguishable between the two groups of banks. As shown in Panel B of Table 6, $NoDisc \times Post$ continues to load negatively for non-performing commercial loans (two-tailed p-value < 0.1) but do not load for non-performing other loans (two-tailed p-value > 0.1). It suggests that our primary results in Table 4 are not driven by differences between non-disclosing and disclosing banks before the exemption. In other words, the concern that the two groups of banks experience different mean-reversion processes in non-performing commercial loans in the absence of shocks to disclosure policies unlikely explains our primary finding.

4.6. A Regression-discontinuity Design

Finally, to enhance our identification, we conduct a regression-discontinuity design around the new threshold of \$1 billion assets after the exemption. Specifically, we retain only non-disclosing banks with assets between \$750 million and \$1 billion in 2005, yielding 41 banks (246 bank-years). Sixty-two banks with assets between \$1 billion and \$1.25 billion in 2005 are then used as disclosing banks (372 bank-years). These banks should experience similar economic forces other than the exemption of geographic lending disclosure, allowing us to exploit variations in the test variable that are effectively locally randomized. We control for bank assets

(*Assets*) and its higher order polynomials, which together represent the smooth function of the assignment variable. To keep the model parsimonious, I choose to present the specification with *Assets* up to the fourth order polynomials. Results from using the third and fifth order are similar. By exploiting this cutoff point of \$1 billion, we can draw a stronger inference on the effect on banks of the exemption of geographic lending disclosure. As Table 8 shows, $NoDisc \times Post$ loads significantly negatively for *Nonperf commercial* (two-tailed p-value < 0.05), but does not load for *Nonperf other* (two-tailed p-value > 0.1). The results support our hypotheses and enhance our confidence to conclude that the geographic lending disclosure exerts real effects on banks' loan underwriting decisions by increasing public pressure from community activists. We also conduct a placebo test, in which disclosing banks with assets between \$750 million and \$1 billion in 2005 are pooled with the 62 banks with assets between \$1 billion and \$1.25 billion in 2005. We do not find significant differences between changes in *Nonperf commercial* or *Nonperf other* for these two groups of banks (untabulated). Thus, it is the actual non-disclosure, not just the exemption, that drives the results in Table 9.

5. Conclusion

We investigate the real effects of geographic lending disclosure on reporting banks. Banks with assets more than \$250 million in the U.S. were required to file Community Reinvestment Act reports detailing locations and sizes of small business lending. This information assists the public, particularly community activists, to target and press banks for loans that may not maximize shareholder value. We exploit the reform in 2005, after which banks between \$250 million and \$1 billion in assets are exempt from CRA reports. Slightly more

than half of the exempt banks stop disclosing locations of their small business lending, suggesting higher perceived costs of disclosure relative to other banks.

Using a sample of exempt banks with substantial small business lending, we find that after the exemption, non-disclosing banks, relative to ones that continue to disclose locations and sizes of small business lending, experience a decrease in non-performing loans for commercial lending but not for other lending. The results do not appear to be attributable to reverse causality, local shocks, regulatory concerns of CRE concentrations, preexisting trends, CRA examinations, or tightened credit standards. After the exemption, non-disclosing banks exhibit a greater increase in returns on equity, in comparison to disclosing banks. The improvement in loan underwriting quality is concentrated among banks subject to greater community scrutiny. Further analyses suggest that differences between disclosing and non-disclosing banks before the exemption cannot explain the finding. The findings are robust to using a regression-discontinuity design around the threshold of \$1 billion assets. Our evidence highlights a unique channel, public pressure, through which geographic lending disclosure of banks can influence their real decisions in underwriting small business loans.

Appendix: Variable Definitions

Variable	Definition	Source
<i>Nonperf commercial</i>	Non-performing commercial loans, calculated as commercial & industrial loans and commercial real estate loans that are nonaccrual or more than 90 days past due but still accruing (rcon3503+rcon3504+rcon1607+rcon1608), divided by lagged total commercial loans (rcfd1766+rcon1480).	Call Reports
<i>Nonperf other</i>	Non-performing non-commercial loans, calculated as total loans that are nonaccrual or more than 90 days past due but still accruing (rcfd1403+rcfd1407) minus non-performing commercial loans (rcon3503+rcon3504+rcon1607+rcon1608), divided by lagged total non-commercial loans (rcfd1400-rcfd176).	Call Reports
<i>ROE</i>	Net income (riad4300) divided by total equity (rcfd3210).	Call Reports
<i>ROE before noninterest expense</i>	Net income (riad4300) plus salaries and employee benefits (riad4217) and expenses of premises and fixed assets (riad4135) divided by total equity (rcfd3210).	Call Reports
<i>NoDisc</i>	An indicator set to one for non-disclosing banks, and zero otherwise.	CRA Reports
<i>Post</i>	An indicator set to one for observations in years of 2005-2007, and zero otherwise.	Call Reports
<i>Pre</i>	An indicator set to one for observations in 2004, and zero otherwise.	Call Reports
<i>Post⁰</i>	An indicator set to one for observations in 2005, and zero otherwise.	Call Reports
<i>Post¹</i>	An indicator set to one for observations in 2006, and zero otherwise.	Call Reports
<i>Post²</i>	An indicator set to one for observations in 2007, and zero otherwise.	Call Reports
<i>Assets</i>	Log of total assets in million dollars (rcfd 2170).	Call Reports
<i>Equity</i>	Total equity (rcfd3210) divided by total assets (rcfd2170).	Call Reports
<i>Interest income</i>	Interest income (riad4107) divided by total assets (rcfd2170).	Call Reports
<i>Noninterest income</i>	Non-interest income (riad4079) divided by total assets (rcfd2170).	Call Reports
<i>Loan loss allowance</i>	Allowance for loan losses (rcfd3123) divided by lagged total loans (RCFD1400).	Call Reports
<i>Commercial loans</i>	Total commercial loans divided by total assets (rcfd 2170). Commercial loans include both	Call Reports

<i>Deposit</i>	commercial and industrial loans (rcfd1600) and commercial mortgage loans (rcon1480). Total deposits (rcfd2200) divided by total assets (rcfd2170).	Call Reports
<i>Logage</i>	Log of the number of months since the date of opening (rssd9950).	Call Reports
<i>Unemp rate</i>	Average unemployment rates across a bank's branch counties, weighted by deposits collected in each county.	Bureau of Labor Statistics/ Summary of Deposits
<i>Community workers</i>	The average proportion of persons with community and social services occupations (2000 Occupation Codes: 200-206) across a bank's branch states, weighted by deposits collected in each state.	American Community Surveys/ Summary of Deposits
<i>Proportion of CRA-loans</i>	The average across 2002-2004 of total small business loans extended to low- or moderate-income geographies or to businesses with gross annual revenues of \$1 million or less, divided by total loans.	CRA Reports

References

- Agarwal, S., E. Benmelech, N. Bergman, and A. Seru. 2012. Did the Community Reinvestment Act (CRA) lead to risky lending? Working Paper. NBER.
- Angrist, J., and J. Pischke. 2009. *Mostly Harmless Econometrics: An empiricist's companion*. Princeton University Press, Princeton, N.J.
- Apgar, W., and M. Duda. 2003. The twenty-fifth anniversary of the community reinvestment act: Past accomplishments and future regulatory challenges. *Economic Policy Review* 9, 169-191.
- Armstrong, C., K. Balakrishnan, and D. Cohen. 2012. Corporate governance and the information environment: Evidence from state antitakeover laws. *Journal of Accounting and Economics* 53, 185-204.
- Avery, R., R. Bostic, and G. Canner. 2000. The performance and profitability of CRA-related lending. Federal Reserve Bank of Cleveland.
- Avery, R., R. Bostic, and G. Canner. 2001. Assessing the impact of the CRA on banking institutions. *Federal Reserve Bank of Chicago Proceedings* 770, 301-319
- Avery, R., R. Bostic, and G. Canner. 2005. Assessing the necessity and efficiency of the Community Reinvestment Act. *Housing Policy Debate* 16, 143-172.
- Balakrishnan, K., J. Core, and R. Verdi. 2014. The relation between reporting quality and financing and investment: Evidence from changes in financing capacity. *Journal of Accounting Research* 52, 1-36.
- Bamber, L. S., and Y. S. Cheon. 1998. Discretionary management earnings forecast disclosures: Antecedents and outcomes associated with forecast venue and forecast specificity choices. *Journal of Accounting Research* 36, 167-190.
- Barr, M. 2005. Credit where it counts: The Community Reinvestment Act and its critics. *New York University Law Review* 80, 513-652.
- Bates, T., and A. Robb. 2015. Has the Community Reinvestment Act increased loan availability among small businesses operating in minority neighborhoods? *Urban Studies* 52, 1702-1721.
- Beatty, A., S. Liao, and J. Weber. 2010. The effect of private information and monitoring on the role of accounting quality in investment decisions. *Contemporary Accounting Research* 27, 17-47.
- Beck, P., and G. Narayanamoorthy. 2013. Did the SEC impact banks' loan loss reserve policies and their informativeness? *Journal of Accounting and Economics* 56, 42-65.
- Belsky, E., M. Lambert, and A. von Hoffman. 2000. Insights into the practice of Community Reinvestment Act lending. Working Paper. Joint Center for Housing Studies.
- Bens, D., P. Berger, and S. Monahan. 2011. Discretionary disclosure in financial reporting: An examination comparing internal firm data to externally reported segment data. *The Accounting Review* 86, 417-449.
- Bens, D., and S. Monahan. 2004. Disclosure quality and the excess value of diversification. *Journal of Accounting Research* 42, 691-730.
- Berger, P., and R. Hann. 2003. The impact of SFAS No. 131 on information and monitoring. *Journal of Accounting Research* 41, 163-223.
- Berger, P., and R. Hann. 2007. Segment profitability and the proprietary and agency costs of disclosure. *The Accounting Review* 82, 869-906.
- Bernard, D. 2016. Is the risk of product market predation a cost of disclosure? *Journal of Accounting and Economics* 62, 305-325.

- Bertrand, M., and S. Mullainathan. 2003. Enjoying the quiet life? Corporate governance and managerial preferences. *Journal of Political Economy* 111, 1043-1075.
- Bhat, G., J. Lee, and S. G. Ryan. 2016. Using loan loss indicators by loan type to sharpen the evaluation of the determinants and implications of banks' loan loss accruals. Working Paper. Southern Methodist University.
- Bhutta, N. 2011. The Community Reinvestment Act and mortgage lending to lower income borrowers and neighborhoods. *The Journal of Law & Economics* 54, 953-983.
- Biddle, G., and G. Hilary. 2006. Accounting quality and firm-level capital investment. *The Accounting Review* 81, 963-982.
- Biddle, G., G. Hilary, and R. Verdi. 2009. How does financial reporting quality relate to investment efficiency? *Journal of Accounting and Economics* 48, 112-131.
- Bostic, R., and B. Robinson. 2003. Do CRA agreements influence lending patterns? *Real Estate Economics* 31, 23-51.
- Botosan, C., and M. Stanford. 2005. Managers' motives to withhold segment disclosures and the effect of SFAS No. 131 on analysts' information environment. *The Accounting Review* 80, 751-771.
- Bova, F., Y. Dou, and O.-K. Hope. 2015. Employee ownership and firm disclosure. *Contemporary Accounting Research* 32, 639-673.
- Braitman, E. 1991. Ameritrust's branch shutdowns delayed by charges of redlining. *American Banker*, August, 27.
- Bushman, R., and A. Smith. 2001. Financial accounting information and corporate governance. *Journal of Accounting and Economics* 32, 237-333.
- California Reinvestment Committee. 2001. Five Steps to Community Reinvestment Success: A How-To Manual for Community Reinvestment Campaigns. Available at <http://www.calreinvest.org/system/resources/W1siZiIsIjIwMTIvMDYvMTgvMTNfNDVfNDBfMjM0XzE4NC5wZGYiXV0/184.pdf>
- Chakravarthy, J., E. deHaan, and S. Rajgopal. 2014. Reputation repair after a serious restatement. *The Accounting Review* 89, 1329-1363.
- Chen, F., O.-K. Hope, Q. Li, and X. Wang. 2011b. Financial reporting quality and investment efficiency of private firms in emerging markets. *The Accounting Review* 86, 1255-1288.
- Cheng, M., D. Dhaliwal, and Y. Zhang. 2013. Does investment efficiency improve after the disclosure of material weaknesses in internal control over financial reporting? *Journal of Accounting and Economics* 56, 1-18.
- Cho, Y. 2015. Segment disclosure transparency and internal capital market efficiency: Evidence from SFAS No. 131. *Journal of Accounting Research* 53, 669-723.
- Christensen, H., E. Floyd, L. Liu, and M. Maffett. 2017. The real effects of mandated information on social responsibility in financial reports: Evidence from mine-safety records. *Journal of Accounting and Economics* 64, 284-304.
- Corman, L. 1991. CRA challenges jolt top-rated institutions. *American Banker*, March 28.
- Cowan, S. 2014. Dis-credited: Disparate access to credit for businesses in the Chicago six county region. Woodstock Institute.
- Craig, W., and S. Elwood. 1998. How and why community groups use maps and geographic information. *Cartography and Geographic Information Systems* 25, 95-104.
- Dhaliwal, D. S., O. Z Li, A. Tsang, and Y. G. Yang. 2011. Voluntary nonfinancial disclosure and the cost of equity capital: The initiation of corporate social responsibility reporting. *The Accounting Review* 86, 59-100.

- Dhaliwal, D.S., S. Radhakrishnan, A. Tsang, and Y. G. Yang. 2012. Nonfinancial disclosure and analyst forecast accuracy: International evidence on corporate social responsibility disclosure. *The Accounting Review* 87, 723-759.
- Dou, Y. 2018. The spillover effect of consolidating securitization entities on small business lending. Working Paper. New York University.
- Dou, Y., S. G. Ryan, and B. Xie. 2018. The real effects of FAS 166/167 on banks' mortgage approval and sale decisions. *Journal of Accounting Research* 56, 843-882.
- Dou, Y., M.H. Wong, and B. Xin. 2018. The effect of financial reporting quality on corporate investment efficiency: Evidence from the adoption of SFAS No. 123R. *Management Science* Forthcoming.
- Dyck, A., A. Morese, and L. Zingales. 2010. Who blows the whistle on corporate fraud? *Journal of Finance* 65, 2213-2253.
- Dyck, A., N. Volchkova, and L. Zingales. 2008. The corporate governance role of the media: Evidence from Russia. *Journal of Finance* 63, 1093-1135.
- Dyregang, S., J. Hoopes, and J. Wilde. 2016. Public pressure and corporate tax behavior. *Journal of Accounting Research* 54, 147-186.
- Engel, K., and P. McCoy. 2002. The CRA implications of predatory lending. *Fordham Urban Law Journal* 29, 1571-1605.
- Federal Financial Institutions Examination Council. 2013. A guide to CRA data collection and reporting.
- Federal Reserve Board. 2001. Agencies approve advance notice of proposed rulemaking regarding the Community Reinvestment Act of 1977, July 19.
- Federal Reserve Board. 2005a. Federal banking agencies publish proposed revisions to Community Reinvestment Act Regulations, March 11.
- Federal Reserve Board. 2005b. Banking agencies issue final Community Reinvestment Act Rules, July 19.
- Fishbein, A. 1992. The ongoing experiment with "regulation from below": Expanded reporting requirements for HMDA and CRA. *Housing Policy Debate* 3, 601-636.
- Gigler, F., C. Kanodia, H. Sapatra, and R. Venugopalan. 2014. How frequent financial reporting can cause managerial short-termism: An analysis of the costs and benefits of increasing reporting frequency. *Journal of Accounting Research* 52, 357-387.
- Glaeser, S., and W. Guay. 2017. Identification and generalizability in accounting research: A discussion of Christensen, Floyd, Liu, and Maffett (2017). *Journal of Accounting and Economics* 64, 305-312.
- Glennon, D., and P. Nigro. 2005. An analysis of SBA loan defaults by maturity structure. *Journal of Financial Services Research* 28, 77-111.
- Gramm, M. 2003. The case for regulatory rent-seeking: CRA based protests of bank mergers and acquisitions. *Public Choice* 116, 367-379.
- Grewal, J., E. J. Riedl, and G. Serafeim. 2018. Market reaction to mandatory nonfinancial disclosure. *Management Science* Forthcoming.
- Gunther, J. 2002. Safety and soundness and the CRA: Is there a conflict? *Economic Inquiry* 40, 470-484.
- Harris, M. 1998. The association between competition and managers' business segment reporting decisions. *Journal of Accounting Research* 36, 111-128.
- Heller, M. 2000. Capitol Hill partisans spin lessons from CRA profit, delinquency report. *American Banker*, July 18.

- Hope, O.-K., and W. Thomas. 2008. Managerial empire building and firm disclosure. *Journal of Accounting Research* 46, 591-626.
- Harris, M. S. 1998. The association between competition and managers' business segment reporting decisions. *Journal of Accounting Research* 36, 111-128.
- Ioannou, I. and G. Serafeim. 2017. The consequences of mandatory corporate sustainability reporting. *Harvard Business School Research Working Paper* No. 11-100.
- Johnson, S. A., and S. K. Sarkar. 1996. The valuation effects of the 1977 Community Reinvestment Act and its enforcement. *Journal of Banking & Finance* 20, 783-803.
- Kanodia, C., and H. Sapat. 2016. A real effects perspective to accounting measurement and disclosure: Implications and insights for future research. *Journal of Accounting Research* 54, 623-676.
- Kraft, A., R. Vashishtha, and M. Venkatachalam. Frequent financial reporting and managerial myopia. *The Accounting Review* 93, 249-275.
- Leuz, C. 2004. Proprietary versus non-proprietary disclosures: Evidence from Germany. *The Economics and Politics of Accounting*. Oxford University Press.
- Leuz, C., and P. Wysocki. 2016. The economics of disclosure and financial reporting regulation: Evidence and suggestions for future research. *Journal of Accounting Research* 54, 525-622.
- Li, X. 2010. The impacts of product market competition on the quantity and quality of voluntary disclosures. *Review of Accounting Studies* 15, 663-711.
- Macey, J., and G. Miller. 1993. The Community Reinvestment Act: An economic analysis. *Virginia Law Review* 79, 291-348.
- Meeker, L., and F. Myers. 1996. Community Reinvestment Act lending: Is it profitable? Federal Reserve Board of Kansas City Financial Industry Perspectives, 13-35.
- Mester, L., L. Nakamura, and M. Renault. 2007. Transactions accounts and loan monitoring. *Review of Financial Studies* 20, 529-556.
- Miller, G. 2006. The press as a watchdog for accounting fraud. *Journal of Accounting Research* 44, 1001-1033.
- National Community Reinvestment Coalition. 2007. CRA Commitments. Available at <https://community-wealth.org/sites/clone.community-wealth.org/files/downloads/report-silver-brown.pdf>
- Norden, L., and M. Weber. 2010. Credit line usage, checking account activity, and default risk of bank borrowers. *Review of Financial Studies* 23, 3665-3699.
- Petersen, M. 2009. Estimating standard errors in finance panel data sets: comparing approaches. *Review of Financial Studies* 22, 435-480.
- Richardson, C. 2001. The Community Reinvestment Act and the economics of regulatory policy. *Fordham Urban Law Journal* 29, 1607-1632.
- Ried, C., E. Seidman, M. Willis, L. Ding, J. Silver, and J. Ratcliffe. 2013. Debunking the CRA myth—again. Research Report. UNC Center for Community Capital.
- Ryan, S. G. 2007. Financial instruments and institutions: Accounting and disclosure rules (Second Edition). New Jersey: John Wiley & Sons.
- Ryan, S. G. 2008. Accounting in and for the Subprime Crisis. *The Accounting Review* 83, 1605-1638.
- Ryan, S.G. 2017. Do the effects of accounting requirements on banks' regulatory capital adequacy undermine financial stability? *Annual Review of Financial Economics* 9, 1-20.

- Sawicki, D., and W. Craig. 1996. The democratization of data: Bridging the gap for community groups. *Journal of the American Planning Association* 62, 512-523.
- Squires, G. 2003. The rough road to reinvestment. *Organizing Access to Capital: Advocacy and the Democratization of Financial Institutions*. Edited by Gregory Squires. Temple University Press, Philadelphia.
- Stiglitz, J., and A. Weiss. 1981. Credit rationing in markets with imperfect information. *American Economic Review* 71, 393-410.
- Taylor, J., and J. Silver. 2009. The Community Reinvestment Act: 30 years of wealth building and what we must do to finish the job. *Community Development Investment Review* 4, 148-159.
- Thomas, K. 1998. *The CRA handbook*. New York: McGraw-Hill.
- Thomas, K. 2000. *CRA grade inflation*. Working Paper. The Wharton School.
- White, L. 1993. The Community Reinvestment Act: Good intentions headed in the wrong direction. *Fordham Urban Law Journal* 20, 281-292.
- Zinman, J. 2002. *The efficacy and efficiency of credit market interventions: Evidence from the Community Reinvestment Act*. Joint Center for Housing Studies of Harvard University.

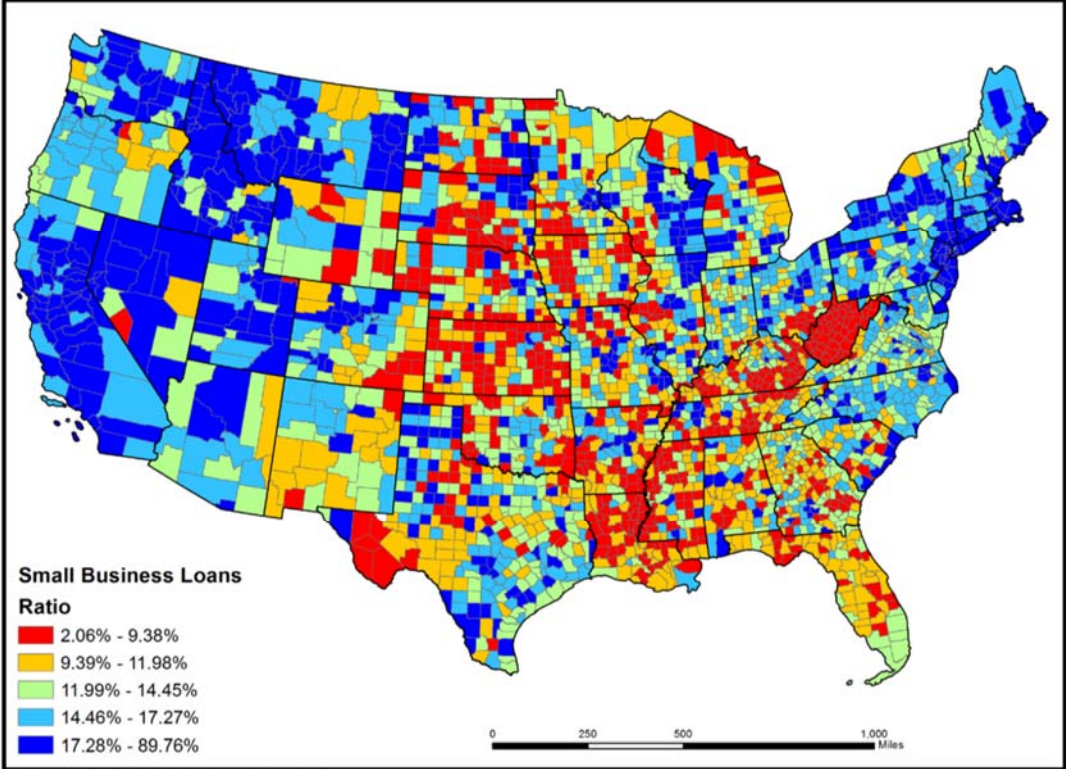
Figure 1: An Excerpt of Geographic Lending Disclosure by Amalgamated Bank of Chicago in 2002

County	Popu	Income Group	Loan Amount at Origination						Loan Granted to Small Businesses with Annul Revenue ≤ \$1,000,000	
			≤ \$100,000		\$100,000 to \$250,000		\$250,000 to \$1,000,000		# of loans	\$ amount
			# of loans	\$ amount	# of loans	\$ amount	# of loans	\$ amount		
Kendall	S	Low (< 50% of MFI)	0	0	0	0	0	0	0	0
Kendall	S	Moderate (50% to 80% of MFI)	0	0	0	0	0	0	0	0
Kendall	S	Middle (80% to 120% of MFI)	0	0	1	123	0	0	1	123
Kendall	S	Upper (> 120% of MFI)	0	0	0	0	0	0	0	0
Cook	L	< 10% of MFI	0	0	0	0	0	0	0	0
Cook	L	10% to 20% of MFI	0	0	0	0	1	700	0	0
Cook	L	20% to 30% of MFI	1	26	0	0	1	400	1	26
Cook	L	30% to 40% of MFI	1	60	2	380	2	1000	1	140
Cook	L	40% to 50% of MFI	5	410	1	150	3	1543	7	1704
Cook	L	50% to 60% of MFI	2	122	0	0	1	775	3	897
Cook	L	60% to 70% of MFI	7	302	4	711	1	300	6	662
Cook	L	70% to 80% of MFI	1	67	0	0	1	813	1	813
Cook	L	80% to 90% of MFI	1	40	2	350	0	0	0	0
Cook	L	90% to 100% of MFI	2	21	0	0	0	0	2	21
Cook	L	100% to 110% of MFI	2	200	2	220	0	0	0	0
Cook	L	110% to 120% of MFI	0	0	0	0	1	500	0	0
Cook	L	> 120% of MFI	22	895	6	994	7	3015	26	2529

The figure shows an excerpt of geographic lending disclosures by Amalgamated Bank of Chicago in 2002 from CRA reports.

Figure 2: Use of Geographic Lending Disclosure Data by National Community Reinvestment Coalition

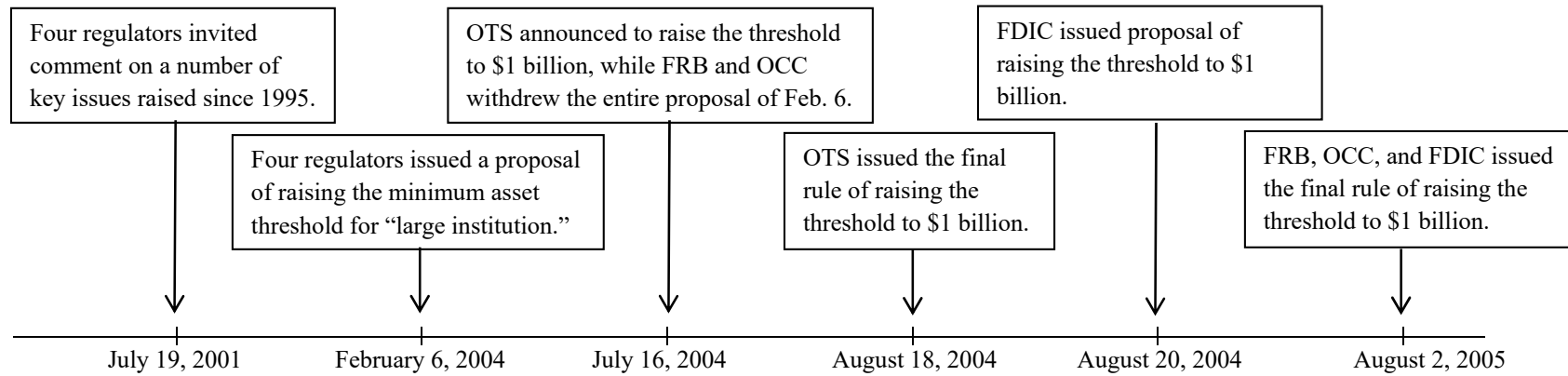
Map 1: Small Business Loans Ratio, 2012



Map Title: Small Business Loans Ratio, 2012
Data Source: CRA small business loan data and Dun and Bradstreet (D&B), 2010

The figure shows an example of community organizations using geographic lending disclosure data from CRA reports.

Figure 3: Timeline for the CRA Reform of 2005



The figure shows key events leading up to the exemption of geographic lending disclosure in 2005.

Table 1: Loan Composition

Variable	N	Mean	Std	Q1	Median	Q3
<i>Bank loan assets / Bank total assets</i>	6270	67.17%	14.66%	59.28%	69.62%	77.18%
<i>Commercial loans / Bank total assets</i>	6270	28.41%	13.63%	19.16%	27.63%	36.50%
<i>Small business loans / Bank total assets</i>	6270	16.49%	8.80%	10.80%	15.57%	20.95%
<i>Small business loans / Commercial loans</i>	6270	60.92%	20.75%	48.00%	60.02%	73.02%
<i>Residential loans / Bank total assets</i>	6270	19.89%	12.55%	11.03%	17.63%	25.72%
<i>Consumer loans / Bank total assets</i>	6270	4.60%	6.80%	1.10%	2.81%	5.66%

The table presents loan composition for the sample including both non-disclosing and disclosing banks over 2002-2007. *Bank loan assets* is the dollar amount of total loan assets. *Bank total assets* is the dollar amount of total assets. *Commercial loans* is the dollar amount of commercial & industrial loans and commercial real estate loans. *Small business loans* is the dollar amount of total small business loans outstanding (loans under \$1 million). *Residential loans* is the dollar amount of total mortgages secured by 1-4 family residential properties. *Consumer loans* is the dollar amount of total consumer loans including credit cards, other revolving credit plans, and other consumer loans.

Table 2: Descriptive Statistics

	Full Sample 2002-2007 (N=6,270)					Non-disclosing Banks 2002-2004 (N=1,719)		Disclosing Banks 2002-2004 (N=1,416)		Differences	
	Mean	Std	Q1	Median	Q3	Mean	Median	Mean	Median	t-stats	z-stats
	<i>Nonperf commercial</i>	0.009	0.014	0.001	0.005	0.013	0.011	0.006	0.009	0.005	1.761
<i>Nonperf other</i>	0.008	0.017	0.002	0.004	0.009	0.008	0.005	0.006	0.004	3.378	4.131
<i>ROE</i>	0.125	0.093	0.085	0.119	0.155	0.125	0.119	0.130	0.122	-1.037	-1.275
<i>Assets</i>	6.023	0.561	5.756	6.060	6.382	5.796	5.853	6.035	6.068	-7.521	-7.915
<i>Equity</i>	0.098	0.030	0.080	0.091	0.107	0.099	0.091	0.094	0.088	3.197	2.874
<i>Interest income</i>	0.046	0.015	0.038	0.045	0.053	0.045	0.044	0.040	0.041	5.522	5.991
<i>Noninterest income</i>	0.010	0.014	0.006	0.008	0.011	0.011	0.008	0.010	0.008	0.808	0.030
<i>Loan loss allowance</i>	0.014	0.008	0.011	0.013	0.016	0.015	0.014	0.015	0.014	0.935	-0.064
<i>Commercial loan</i>	0.284	0.136	0.192	0.276	0.365	0.297	0.290	0.258	0.253	4.621	4.236
<i>Deposit</i>	0.804	0.085	0.763	0.820	0.864	0.811	0.826	0.804	0.821	1.444	0.875
<i>Logage</i>	6.467	0.910	5.903	6.815	7.140	6.388	6.760	6.460	6.829	-1.210	-1.363
<i>Unemp rate</i>	5.175	1.334	4.242	5.056	5.900	5.567	5.400	5.553	5.500	0.166	-0.467

The table presents descriptive statistics for the banks including both non-disclosing and disclosing banks. *Nonperf commercial* is non-performing commercial loans divided by lagged total commercial loans. *Nonperf other* is non-performing non-commercial loans divided by lagged total non-commercial loans. *ROE* is net income divided by total equity. *Assets* is log of total assets in million dollars. *Equity* is total equity divided by total assets. *Interest income* is interest income divided by total assets. *Noninterest income* is noninterest income divided by total assets. *Loan loss allowance* is loan loss allowance divided by lagged total loans. *Commercial loan* is commercial loans (i.e., commercial and industrial loans and commercial mortgage loans) divided by total assets. *Deposit* is total deposits divided by total assets. *Logage* is log of the number of months since the date of opening. *Unemp rate* is the average unemployment rates across a bank's branch counties, weighted by deposits collected in each county. Detailed variable definitions are presented in Appendix.

Table 3: Univariate Difference-in-Differences Analysis

	Non-disclosing Banks			Disclosing Banks			Diff in Diff [(2)-(1)] - [(4)-(3)]
	Before	After	Diff. (2)-(1)	Before	After	Diff. (4)-(3)	
	mean (1)	mean (2)		mean (3)	mean (4)		
<i>Nonperf commercial</i>	0.011	0.009	-0.002	0.009	0.009	-0.001	-0.001
t-stats.	.	.	-4.188	.	.	-0.970	-2.067
<i>Nonperf other</i>	0.008	0.010	0.002	0.006	0.009	0.002	0.000
t-stats.	.	.	3.365	.	.	4.238	-0.309
<i>ROE</i>	0.125	0.124	-0.001	0.130	0.121	-0.009	0.008
t-stats.	.	.	-0.407	.	.	-2.526	1.687
<i>Assets</i>	5.796	6.033	0.238	6.035	6.274	0.240	-0.002
t-stats.	.	.	12.353	.	.	12.801	-0.076
<i>Equity</i>	0.099	0.101	0.002	0.094	0.096	0.002	0.000
t-stats.	.	.	1.831	.	.	2.262	-0.088
<i>Interest income</i>	0.045	0.051	0.006	0.040	0.046	0.006	0.000
t-stats.	.	.	11.092	.	.	11.744	-0.227
<i>Noninterest income</i>	0.011	0.010	-0.001	0.010	0.010	-0.001	0.000
t-stats.	.	.	-1.977	.	.	-2.028	-0.453
<i>Loan loss allowance</i>	0.015	0.014	-0.001	0.015	0.014	-0.001	0.000
t-stats.	.	.	-3.866	.	.	-6.066	0.162
<i>Commercial loan</i>	0.297	0.307	0.010	0.258	0.266	0.008	0.002
t-stats.	.	.	2.086	.	.	1.651	0.268
<i>Deposit</i>	0.811	0.803	-0.008	0.804	0.798	-0.006	-0.002
t-stats.	.	.	-2.940	.	.	-1.608	-0.499
<i>Logage</i>	6.388	6.485	0.098	6.460	6.547	0.087	0.011
t-stats.	.	.	3.098	.	.	2.605	0.235
<i>Unemp rate</i>	5.567	4.839	-0.728	5.553	4.731	-0.822	0.094
t-stats.	.	.	-15.597	.	.	-18.915	1.449

The table presents means of bank characteristics of non-disclosing and disclosing banks before (2002-2004) and after (2005-2007) the reform. There are 3438 non-disclosing bank-years (537 unique banks) and 2832 disclosing bank-years (472 unique banks). *Nonperf commercial* is non-performing commercial loans divided by lagged total commercial loans. *Nonperf other* is non-performing non-commercial loans divided by lagged total non-commercial loans. *ROE* is net income divided by total equity. *Assets* is log of total assets in million dollars. *Equity* is total equity divided by total assets. *Interest income* is interest income divided by total assets. *Noninterest income* is noninterest income divided by total assets. *Loan loss allowance* is loan loss allowance divided by lagged total loans. *Commercial loan* is commercial loans (i.e., commercial and industrial loans and commercial mortgage loans) divided by total assets. *Deposit* is total deposits divided by total assets. *Logage* is log of the number of months since the date of opening. *Unemp rate* is the average unemployment rates across a bank's branch counties, weighted by deposits collected in each county. Detailed variable definitions are presented in Appendix.

Table 4: Non-disclosure and Loan Performance
Panel A: Performance of commercial loans

	<i>Nonperf commercial</i>		
	(1)	(2)	(3)
<i>NoDisc</i>	0.001 (1.07)	0.001 (1.13)	
<i>Post</i>	0.000 (0.44)		
<i>NoDisc</i> × <i>Post</i>	-0.002** (2.19)	-0.002** (2.19)	-0.002** (2.13)
<i>Assets</i>	-0.001 (1.12)	-0.001 (1.08)	0.001 (0.39)
<i>Equity</i>	0.000 (0.03)	0.000 (0.02)	-0.028 (1.08)
<i>Interest income</i>	0.062* (1.76)	0.050 (1.40)	-0.064 (1.16)
<i>Noninterest income</i>	-0.056* (1.86)	-0.055* (1.85)	-0.098* (1.66)
<i>Loan loss allowance</i>	0.267*** (3.92)	0.273*** (3.99)	0.329*** (3.09)
<i>Commercial loan</i>	0.000 (0.09)	0.001 (0.26)	0.006 (0.88)
<i>Deposit</i>	-0.004 (1.00)	-0.004 (1.03)	0.010 (1.11)
<i>Logage</i>	0.001** (2.49)	0.001** (2.49)	0.005* (1.73)
<i>Unemp rate</i>	0.001*** (4.68)	0.001*** (4.67)	0.001*** (3.01)
Constant	-0.001 (0.26)	-0.000 (0.01)	-0.041* (1.91)
Year FE	No	Yes	Yes
Bank FE	No	No	Yes
Observations	6270	6270	6270
Adj. R-squared	0.042	0.044	0.411

Panel B: Performance of non-commercial loans

	<i>Nonperf other</i>		
	(1)	(2)	(3)
<i>NoDisc</i>	0.001** (2.07)	0.001** (2.14)	
<i>Post</i>	0.002*** (3.50)		
<i>NoDisc</i> × <i>Post</i>	-0.000 (0.39)	-0.000 (0.41)	-0.001 (0.74)
<i>Assets</i>	0.001 (1.64)	0.001 (1.22)	-0.001 (0.35)
<i>Equity</i>	0.036* (1.85)	0.033* (1.68)	0.021 (0.39)
<i>Interest income</i>	0.146*** (3.20)	0.117*** (2.61)	-0.184 (0.82)
<i>Noninterest income</i>	-0.048 (0.71)	-0.048 (0.71)	0.085 (0.28)
<i>Loan loss allowance</i>	0.426*** (4.52)	0.450*** (4.76)	0.471** (2.21)
<i>Commercial loan</i>	-0.002 (0.57)	-0.001 (0.35)	-0.016 (1.30)
<i>Deposit</i>	0.003 (0.99)	0.005 (1.31)	0.018 (0.96)
<i>Logage</i>	-0.000 (0.57)	-0.000 (0.61)	0.018*** (2.71)
<i>Unemp rate</i>	0.001** (2.39)	0.001*** (2.91)	0.002*** (3.62)
Constant	-0.020*** (3.19)	-0.011* (1.72)	-0.118** (2.47)
Year FE	No	Yes	Yes
Bank FE	No	No	Yes
Observations	6270	6270	6270
Adj. R-squared	0.083	0.112	0.441

The table presents effects of non-disclosure on loan performance. Panel A (Panel B) presents coefficients and t-statistics in parentheses, from pooled regressions of *Nonperf commercial* (*Nonperf other*) on the independent variables listed. *Nonperf commercial* is non-performing commercial loans divided by lagged total commercial loans. *Nonperf other* is non-performing non-commercial loans divided by lagged total non-commercial loans. *NoDisc* is equal to one for banks that stop disclosing locations of small business lending, and zero otherwise. *Post* is equal to one for years of 2005-2007, and zero otherwise. *Assets* is log of total assets in million dollars. *Equity* is total equity divided by total assets. *Interest income* is interest income divided by total assets. *Noninterest income* is noninterest income divided by total assets. *Loan loss allowance* is loan loss allowance divided by lagged total loans. *Commercial loan* is commercial loans (i.e., commercial and industrial loans and commercial mortgage loans) divided by total assets. *Deposit* is total deposits divided by total assets. *Logage* is log of the number of months since the date of opening. *Unemp rate* is the average unemployment rates across a bank's branch counties, weighted by deposits collected in each county. Standard errors are clustered by bank. *, (**), and [***] denote two-tailed statistical significance at 10%, (5%), and [1%] levels, respectively. Variable definitions are presented in Appendix.

Table 5: Additional Tests

	<i>Trace the timing of the treatment effect</i>	<i>Control for state-year fixed effects</i>	<i>Control for the presence of CRE concentrations during 2006-2007</i>	<i>Placebo test: Assume 2002 as the reform year (2001-2004)</i>	<i>Dep=1 if received CRA examinations in the current or last year, 0 otherwise</i>	<i>Dep=total small business lending</i>
	(1)	(2)	(3)	(4)	(5)	(6)
<i>NoDisc</i> × <i>Post</i>		-0.001* (-1.79)	-0.002** (-2.13)	-0.000 (0.30)	-0.009 (0.36)	-0.040 (0.69)
<i>NoDisc</i> × <i>Pre</i>	-0.000 (0.20)					
<i>NoDisc</i> × <i>Post</i> ⁰	-0.001 (1.04)					
<i>NoDisc</i> × <i>Post</i> ¹	-0.002** (2.00)					
<i>NoDisc</i> × <i>Post</i> ²	-0.002* (1.74)					
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Year FE	Yes	No	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes	Yes	Yes
State-Year FE	No	Yes	No	No	No	No
Observations	6270	6270	6270	4185	6270	6270
Adj. R-squared	0.411	0.654	0.411	0.557	0.203	0.226

The table presents coefficients and t-statistics in parentheses, from pooled regressions of *Nonperf commercial*, an indicator for a CRA examination, or *Small business lending* on the independent variables listed and control variables in Table 4. *Nonperf commercial* is non-performing commercial loans divided by lagged total commercial loans. *NoDisc* is equal to one for banks that stop disclosing locations of small business lending, and zero otherwise. *Post* is equal to one for years of 2005-2007, and zero otherwise. In column 1, four year indicators are created and interacted with *NoDisc* to trace out the timing of the non-disclosing effects. *Pre* is an indicator equal to one for 2004. *Post*⁰ is an indicator equal to one for 2005. *Post*¹ is an indicator equal to one for 2006. *Post*² is an indicator equal to one for 2007. In column 2, state-year fixed effects are included in the regression. In column 3, we include an indicator equal to one for banks with CRE concentrations as defined by the regulatory guidance during 2006-2007, and zero otherwise. In column 4, a placebo test using the non-disclosing and disclosing banks during 2001-2004 is conducted, where 2002 is assumed as the reform year. In column 5, the dependent variable is set to one if a bank received a CRA examination in the current or previous year, and zero otherwise. In column 6, *total small business lending* is the change in the total amount of small business loans outstanding of a bank divided by lagged total assets. Standard errors are clustered by bank. *, (**), and [***] denote two-tailed statistical significance at 10%, (5%), and [1%] levels, respectively. Variable definitions are presented in Appendix.

Table 6: Non-disclosure and Bank Performance

	<i>ROE</i>	<i>ROE before noninterest expense</i>
	(1)	(2)
<i>NoDisc</i> × <i>Post</i>	0.009** (2.35)	0.011** (2.48)
<i>Assets</i>	-0.006 (0.60)	-0.043*** (3.10)
<i>Equity</i>	-0.333 (1.39)	-1.839*** (7.60)
<i>Interest income</i>	0.560* (1.95)	1.307*** (3.40)
<i>Noninterest income</i>	2.531*** (4.07)	4.225*** (3.99)
<i>Loan loss allowance</i>	-3.338** (2.29)	-3.967** (2.54)
<i>Commercial loan</i>	0.002 (0.03)	-0.023 (0.40)
<i>Deposit</i>	-0.156 (1.07)	-0.123 (0.89)
<i>Logage</i>	0.008 (0.40)	-0.001 (0.03)
<i>Unemp rate</i>	-0.008** (2.35)	-0.008*** (2.59)
Constant	0.270 (1.04)	0.848*** (3.31)
Year FE	Yes	Yes
Bank FE	Yes	Yes
Observations	6270	6270
Adj. R-squared	0.709	0.851

The table presents coefficients and t-statistics in parentheses, from pooled regressions of *ROE* or *ROE before noninterest expense* on the independent variables listed. *ROE* is net income divided by total equity. *ROE before noninterest expense* is net income plus salaries and employee benefits and expenses of premises and fixed assets divided by total equity. *NoDisc* is equal to one for banks that stop disclosing locations of small business lending, and zero otherwise. *Post* is equal to one for years of 2005-2007, and zero otherwise. *Assets* is log of total assets in million dollars. *Equity* is total equity divided by total assets. *Interest income* is interest income divided by total assets. *Noninterest income* is noninterest income divided by total assets. *Loan loss allowance* is loan loss allowance divided by lagged total loans. *Commercial loan* is commercial loans (i.e., commercial and industrial loans and commercial mortgage loans) divided by total assets. *Deposit* is total deposits divided by total assets. *Logage* is log of the number of months since the date of opening. *Unemp rate* is the average unemployment rates across a bank's branch counties, weighted by deposits collected in each county. Standard errors are clustered by bank. *, (**), and [***] denote two-tailed statistical significance at 10%, (5%), and [1%] levels, respectively. Variable definitions are presented in Appendix.

Table 7: Partition Analyses Based on the Intensity of Community Scrutiny

	<i>Nonperf commercial</i>			
	<i>Community workers</i>		<i>Proportion of CRA-loans</i>	
	<i>High</i>	<i>Low</i>	<i>High</i>	<i>Low</i>
	(1)	(2)	(3)	(4)
<i>NoDisc</i> × <i>Post</i>	-0.002** (2.00)	-0.001 (0.87)	-0.002* (1.93)	-0.001 (1.07)
Controls	Yes	Yes	Yes	Yes
Year FE	Yes	Yes	Yes	Yes
Bank FE	Yes	Yes	Yes	Yes
Observations	3264	3006	3132	3138
Adj. R-squared	0.412	0.419	0.464	0.392

The table presents coefficients and t-statistics in parentheses, from pooled regressions of *Nonperf commercial* on the independent variables listed and control variables in Table 4. *Nonperf commercial* is non-performing commercial loans divided by lagged total commercial loans. *NoDisc* is equal to one for banks that stop disclosing locations of small business lending, and zero otherwise. *Post* is equal to one for years of 2005-2007, and zero otherwise. Columns 1 and 2 present results for samples stratified on the median of *Community workers*, defined as average proportion of persons with community and social services occupations across a bank's branch states, weighted by deposits collected in each state. Columns 3 and 4 present results for samples stratified on the median of *Proportion of CRA-loans*, defined as total small business loans extended to low- or moderate- income geographies or to businesses with gross annual revenues of \$1 million or less, divided by total loans. Standard errors are clustered by bank. Standard errors are clustered by bank. *, (**), and [***] denote two-tailed statistical significance at 10%, (5%), and [1%] levels, respectively. Variable definitions are presented in Appendix.

Table 8: Matched Banks
Panel A: Descriptive statistics

	Non-disclosing Banks 2002-2004 (N=1098)		Disclosing Banks 2002-2004 (N=1098)		Differences	
	Mean	Median	Mean	Median	t-stats	z-stats
<i>Nonperf commercial</i>	0.010	0.006	0.010	0.005	0.126	0.158
<i>Nonperf other</i>	0.007	0.004	0.007	0.004	0.407	0.146
<i>ROE</i>	0.125	0.121	0.131	0.124	-1.422	-1.040
<i>Assets</i>	5.961	5.959	5.946	5.991	0.483	-0.587
<i>Equity</i>	0.094	0.089	0.095	0.089	-0.777	-0.403
<i>Interest income</i>	0.043	0.042	0.042	0.042	0.347	-0.051
<i>Noninterest income</i>	0.011	0.009	0.011	0.009	0.253	0.078
<i>Loan loss allowance</i>	0.015	0.014	0.015	0.014	0.504	-0.608
<i>Commercial loan</i>	0.276	0.266	0.275	0.270	0.093	-0.084
<i>Deposit</i>	0.806	0.822	0.806	0.821	0.036	-0.018
<i>Logage</i>	6.449	6.753	6.488	6.866	-0.568	-1.127
<i>Unemp rate</i>	5.575	5.362	5.562	5.550	0.132	-0.697

Panel B: Non-disclosure and loan performance

	<i>Nonperf commercial</i> (1)	<i>Nonperf other</i> (2)
<i>NoDisc</i> × <i>Post</i>	-0.002* (1.79)	-0.001 (0.79)
Controls	Yes	Yes
Year FE	Yes	Yes
Bank FE	Yes	Yes
Observations	4392	4392
Adj. R-squared	0.418	0.481

The table shows effects of non-disclosure on loan performance in a sample of propensity score matched banks based on the averages of bank characteristics before the reform (2002-2004), with a caliper of 0.01. Panel A presents means of bank characteristics of non-disclosing and disclosing banks before the reform (2002-2004). There are 366 unique non-disclosing banks and an equal number of disclosing banks, representing 4392 bank-year observations in total. Panel B presents coefficients and t-statistics in parentheses, from pooled regressions of *Nonperf commercial* or *Nonperf other* on the independent variables listed and control variables in Table 4. *Nonperf commercial* is non-performing commercial loans divided by lagged total commercial loans. *Nonperf other* is non-performing non-commercial loans divided by lagged total non-commercial loans. *ROE* is net income divided by total equity. *Assets* is log of total assets in million dollars. *Equity* is total equity divided by total assets. *Interest income* is interest income divided by total assets. *Noninterest income* is noninterest income divided by total assets. *Loan loss allowance* is loan loss allowance divided by lagged total loans. *Commercial loan* is commercial loans (i.e., commercial and industrial loans and commercial mortgage loans) divided by total assets. *Deposit* is total deposits divided by total assets. *Logage* is log of the number of months since the date of opening. *Unemp rate* is the average unemployment rates across a bank's branch counties, weighted by deposits collected in each county. *NoDisc* is equal to one for banks that stop disclosing locations of small business lending, and zero otherwise. *Post* is equal to one for years of 2005-2007, and zero otherwise. Standard errors are clustered by bank. *, (**), and [***] denote two-tailed statistical significance at 10%, (5%), and [1%] levels, respectively. Variable definitions are presented in Appendix.

Table 9: Regression Discontinuity around the Threshold of \$1 Billion Assets

	<i>Nonperf commercial</i>	<i>Nonperf other</i>
	(1)	(2)
<i>NoDisc</i> × <i>Post</i>	-0.004** (2.26)	-0.002 (0.96)
<i>Assets</i>	0.205 (0.21)	0.272 (0.29)
<i>Assets</i> ²	-0.044 (0.18)	-0.073 (0.32)
<i>Assets</i> ³	0.004 (0.15)	0.009 (0.35)
<i>Assets</i> ⁴	-0.000 (0.12)	-0.000 (0.38)
<i>Equity</i>	-0.021 (0.43)	0.022 (0.60)
<i>Interest income</i>	0.006 (0.06)	0.112 (1.62)
<i>Noninterest income</i>	0.290* (1.78)	-0.185* (1.67)
<i>Loan loss allowance</i>	1.035*** (7.51)	0.251*** (5.65)
<i>Commercial loan</i>	0.022* (1.73)	-0.005 (0.25)
<i>Deposit</i>	-0.006 (0.54)	-0.019 (1.43)
<i>Logage</i>	0.004 (0.53)	0.015 (1.51)
<i>Unemp rate</i>	-0.001 (0.25)	0.002*** (2.83)
Constant	-0.379 (0.26)	-0.461 (0.34)
Year FE	Yes	Yes
Bank FE	Yes	Yes
Observations	618	618
Adj. R-squared	0.690	0.494

The table presents coefficients and t-statistics in parentheses, from pooled regressions of *Nonperf commercial* or *Nonperf other* on the independent variables listed, using a sample of non-disclosing banks with assets between \$750 million and \$1000 million and disclosing banks with assets between \$1000 million and \$1250 million. *Nonperf commercial* is non-performing commercial loans divided by lagged total loans. *Nonperf other* is non-performing non-commercial loans divided by lagged total loans. *NoDisc* is equal to one for banks that stop disclosing locations of small business lending, and zero otherwise. *Post* is equal to one for years of 2005-2007, and zero otherwise. *Assets* is log of total assets in million dollars. *Equity* is total equity divided by total assets. *Interest income* is interest income divided by total assets. *Noninterest income* is noninterest income divided by total assets. *Loan loss allowance* is loan loss allowance divided by lagged total loans. *Commercial loan* is commercial loans (i.e., commercial and industrial loans and commercial mortgage loans) divided by total assets. *Deposit* is total deposits divided by total assets. *Logage* is log of the number of months since the date of opening. *Unemp rate* is the average unemployment rates across a bank's branch counties, weighted by deposits collected in each county. Standard errors are clustered by bank. *, (**), and [***] denote two-tailed statistical significance at 10%, (5%), and [1%] levels, respectively. Variable definitions are presented in Appendix.