Community Reinvestment Act and Local Governance Contexts: Advancing the Future of Community Reinvestment?

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Abstract

One main goal of the Community Reinvestment Act (CRA) of 1977 is to stimulate reinvestment by increasing CRA-regulated lending activity in low-income and minority communities. CRA has been applauded for democratizing credit (Barr, 2005) however, its regulatory shortcomings, namely the need to strengthen and expand federal enforcement, have also been acknowledged (Fishbein, 1992; Immergluck, 2004). The design of CRA actively encourages community-based groups and coalitions to participate in regulation and oversight. In many cities across the country, organized nonprofit networks and community-based groups have played pivotal roles in making the goals of community reinvestment a reality. Community mobilization can be a positive externality, as it allows for the public and the local community to provide input and participate in CRA governance. However, reliance on mobilization at the local level can also produce negative externalities, particularly in places that lack the capacity to mobilize around CRA or as this capacity changes over time.

This article suggests that a changed governance context at the local level may be associated with the achievement of community reinvestment goals. We conducted a longitudinal analysis (from 2007 to 2014) of the case of St. Louis, Missouri, a city that experienced a change in community governance around CRA in 2009. Historically, St. Louis could be characterized as a city in which CRA mobilization was lacking; however, in 2009, a reinvestment coalition formed and took actions such as negotiating agreements with

Abstract (continued)

lenders, providing public comments to regulators, and building partnerships and relationships with lenders. The results of the analysis suggest that community mobilization around CRA is associated with some positive outcomes—such as increases in the likelihood of loan approvals in the post-CRA governance context and by lenders with CRA agreements. However, we also find that the post-CRA governance context is associated with differential effects in terms of which racial and ethnic groups benefit from the CRA agreements. Community mobilization around CRA appears to be associated with a stimulation of community reinvestment activity and may be a positive part of CRA design; however, alone, it may not be enough to achieve the broader ideals of community reinvestment. We conclude with a discussion of future policy implications.

Introduction

The Community Reinvestment Act[1] (CRA) of 1977 is designed to stimulate reinvestment by increasing lending and investment activity in low-income and minority communities. Previous studies have recognized CRA as democratizing credit (Barr, 2005), but others have acknowledged its regulatory shortcomings (Fishbein, 1992; Immergluck, 2004). Organized community-based groups have been identified as a driving force behind CRA regulation, and in this article we provide empirical evidence that mobilization around CRA continues to be a critical factor in community reinvestment. We utilize a quantitative case study research design to analyze how lender and applicant behavior changes when community mobilization around CRA is present. We find that community mobilization around CRA changes the behavior of lenders and applicants; however, these changes are not confined to areas or lenders covered by a CRA agreement. Rather, these changes expand to minority applicants throughout the city. We also find differential effects in terms of which racial and ethnic groups benefit from CRA mobilization. Mobilization around CRA appears to stimulate community reinvestment activity; however, not all applicants benefit equally. We conclude that mobilization around CRA can stimulate reinvestment activity and can be a positive part of CRA design; however, alone it may not be enough to achieve the broader ideals of community reinvestment.

Our analysis is framed from a governance perspective, which assumes that formal governmental agencies rarely administer policies in a neutral state (Salamon and Elliott, 2002). Rather, policies and resulting outcomes are embedded in dynamic social and political contexts at the local level. As such, we argue that recommendations on regulation or the design of public policies must take into consideration the broader, institutional context in which policies and regulations are enacted, the different institutional arrangements through which policy objectives are pursued, and the influence of the actors included in governance.

[1] Pub. L. 95–128, 91 Stat. 1147, Title VIII.

It can be argued that the response at the local level is the result of a lack of regulatory enforcement or attributable to the vague nature of the CRA, which provides lenders with many ways to meet regulatory requirements. The purpose of this article is not to debate what has prompted organizing around CRA, but rather to understand the effects of regulation from outside, or from below, influence community reinvestment outcomes. We analyze a case in which CRA governance has recently changed—a city that was once nearly devoid of mobilization around CRA but has recently formed a coalition to address reinvestment needs throughout the city. This change allows us to better understand how governance structures, particularly those that include local community-based organizations, around CRA can influence reinvestment.

We consider two community reinvestment outcomes in our analysis: loan approvals and the type of lender to whom applicants apply. The first outcome represents a direct source of reinvestment, the provision of access to credit to borrowers or areas that have historically been the targets of redlining. The second outcome is critical to understanding the role of CRA mobilization in the new financial institution landscape. Federal bank regulation policy has created a financial marketplace no longer dominated by conventional or traditional savings institutions, but that now includes mortgage brokers and financial service providers that are not subject to CRA regulation (Temkin, Johnson, and Levy, 2002), many of which specialize in offering subprime credit. Research suggests that lenders not regulated by CRA originate a higher percentage of loans and higher percentage of subprime loans in minority communities (Courchane, Surette, and Zorn, 2004; HUD, 2000). Thus, as the financial institution landscape has changed, it has produced new ways in which communities are redlined. Areas once starved for access to credit are now flush with a supply of higher-priced, riskier loan opportunities. However, mobilization around CRA may, in effect, discourage applicants from pursuing credit from alternative or non-CRA-regulated lenders. Increased loan approvals and increases in applicants applying for loans from CRA-regulated lenders are considered indicators of increased community reinvestment activity.

The primary research question we ask is, does a change in the governance around CRA—namely, increased community-based mobilization—improve community reinvestment outcomes along these two dimensions? We find that the presence of agreements is associated with an increase in loan approvals. However, we also find that the benefits are not necessarily limited to a spatial, geographic level but may occur at a broader level. Furthermore, not all races and ethnicities may benefit equally. Although regulation from below provides a number of positive externalities, CRA's current design also leads to a number of negative externalities that must be addressed to enhance the functioning of the law across all assessment areas to ensure equal opportunity to access to banks for all.

Formal and Informal Regulation Under the Community Reinvestment Act

CRA is intended to encourage depository institutions to help meet the credit needs of the communities in which they operate. It was enacted in response to concerns over *redlining* practices, which can be defined as banks penalizing or refusing to lend to borrowers based on the characteristics of the community to which they belong. Redlining not only has consequences for individuals, but it

also has place-based, spatial consequences. It can trigger a cycle of spatial disinvestment as access to credit within a geographic boundary becomes difficult or impossible for individual homeowners and businesses to obtain (Immergluck, 2004; Squires, 2003, 1992). The current design of CRA addresses this spatial component by requiring lenders to define a geographical assessment area, commonly referred to as a *CRA assessment area*. CRA assessment areas generally refer to the geographies in which a bank has its main office, its branches, and its deposit-taking automated teller machines, or ATMs.[2]

Formal regulation under CRA is divided among three federal agencies responsible for regulatory oversight in the financial industry—the Federal Reserve Board (FRB), the Federal Deposit Insurance Corporation (FDIC), and the Officer of the Comptroller of Currency (OCC). Originally, four agencies handled regulatory oversight; however, effective July 21, 2011, the Office of Thrift Supervision merged with OCC. In addition, in 2008, the Consumer Financial Protection Bureau (CFPB) was formed (CFPB, 2017). The CFPB has power to enforce existing laws against discrimination in consumer finance and was formed with the intent to provide a single point of accountability for enforcing federal consumer financial laws. The CFPB has taken action around CRA. For example, in 2015, the CFPB joined with the Department of Justice (DOJ) to take action against a bank headquartered in New Jersey alleged to have engaged in illegal redlining based on the manner by which the bank delineated its CRA assessment area (Davenport and Epstein, 2015).

Formal agencies responsible for CRA oversight have interpreted CRA as holding lenders accountable in four areas: lending, investment, community development, and service. Regulators review the performance of the lender based on an established exam schedule and can impose costs on lenders when their performance is deemed to be suboptimal. The regulatory agency considers a bank's CRA rating when the bank applies to open or close a domestic branch, seeks to merge with another lending institution, consolidates, acquires assets, or assumes liabilities. If a bank has a less-than-satisfactory CRA rating, a regulator could deny or delay a merger application, an acquisition request, or the opening of a new branch. In general, satisfactory ratings for CRA are high.

However, the other side to CRA regulation, which can be argued to be the more powerful source of CRA enforcement, has expanded the nature of governance around community reinvestment. Regulation—and, arguably, progress—under CRA cannot solely be attributed to formal regulatory channels, but must recognize the important role that local community-based groups and nonprofit organizations have played in its enforcement. In many cities across the country, strong nonprofit networks and community-based groups have played a pivotal role in achieving the goals of community reinvestment. This involvement can be a positive externality, as it allows for local knowledge and the local community to inform lenders' behavior. In some cases, such as in Cleveland, Ohio, local governments have also stepped in to enhance CRA regulation. Under CRA regulation, community-based groups and other public entities are encouraged to challenge or inform the behavior of lenders under CRA—efforts that may lead to a negotiated agreement.

In a number of cities across the country, community-based and local groups have used CRA as a lever to negotiate agreements with lenders for programs or policies intended to increase access to minority borrowers and to pressure regulatory agencies to review the lenders' activity in certain

[2] 12 C.F.R. §228.41(a).

communities (Immergluck, 2004; JCHS, 2002; Squires, 2003, 1992; Williams and Nesiba, 1997). Over time, the scale of CRA negotiations has changed, moving away from smaller neighborhood efforts and protests to larger collaborative efforts among multiple groups (JCHS, 2002). In a number of cases, actors include active organizing and advocacy groups, development corporations, and support groups to coordinate community-based efforts and often forge a larger coalition (JCHS, 2002; Squires, 2003, 1992; Taylor and Silver, 2003). Agreements have also expanded in some cases to cover a larger geographic area, beyond a lender's CRA assessment area, or to provide provisions for targeted groups and populations of borrowers.

The Community Reinvestment Act Governance Context and Community Reinvestment

Understanding the relationship between community investment outcomes and the local CRA governance context is important for several reasons. Applying a governance perspective to understand reinvestment outcomes raises questions about the relationship between the local capacity to mobilize and its influence on those regulated. Pluralistic theories suggest that public policy outcomes are realized largely through the political process, whereby interests inform policy preferences, these interests are representative of the racial and ethnic makeup of the residents in a community, public officials enact policy in response to these interests, and responsible agencies neutrally administer policies through the use of rules and standard operating procedures that create the desired conditions (Dahl, 1961). Conversely, a governance perspective recognizes the potential for policies at the federal level to be shaped or characterized by local interests and the values espoused by these interests, and, in turn, the involvement of these interests may shape not only policy preferences and implementation, but also outcomes and behaviors of targeted groups (Salamon and Elliott, 2002; Schneider and Ingram, 1997). As such, governance perspectives suggest that different reinvestment outcomes and levels of community reinvestment activity might emerge in an environment governed by different interests and perspectives. Furthermore, as the governance context changes, so too might reinvestment outcomes and community reinvestment activity. As it applies to CRA, in cities where mobilization around CRA is greater, the governance context might result in increased community reinvestment activity.

Previous support exists for this argument; however, it does not allow for a before-and-after assessment. Casey, Glasberg, and Beeman (2011) found that minority applicants living in an area with a history of organizing around CRA were more likely to seek mortgage credit from CRA-regulated lenders than non-CRA-regulated lenders. The analysis focused on two cities, Cleveland and St. Louis, Missouri, which were identified as similar along a number of economic, demographic, and socioeconomic dimensions. The authors tested whether disadvantaged applicants have a greater likelihood of pursuing access to credit from traditional lending institutions in a context where local capacity around CRA exists. The empirical results suggested that access to credit from CRA-regulated lenders was more likely in a place with local capacity around CRA.

The aforementioned study is limited in that it relies on a cross-sectional analysis of governance contexts and is unable to capture the before and after effects of mobilization around CRA. In 2009, the CRA governance context in St. Louis changed, creating the opportunity to conduct a

longitudinal analysis of the effects of a changed governance context on community reinvestment. The St. Louis Equal Housing and Community Reinvestment Alliance (SLEHCRA) formed in 2009 with a focus on building local capacity around CRA. The coalition effort was led by the Metropolitan St. Louis Equal Housing Opportunity Council (EHOC), with a primary objective to hold lenders more accountable to CRA. Since SLEHCRA's launch in 2009, the coalition has negotiated 46 contracts with lenders, the first of which went into effect by 2010. This change in the governance context around CRA provides the opportunity to analyze the effect of CRA on community reinvestment in St. Louis.

The Community Reinvestment Act Governance Context in St. Louis

Mobilization around CRA in St. Louis was virtually nonexistent between the 1990s and SLEHCRA's formation in 2009. Justine Petersen, who began advocating for banks to increase lending to low- and moderate-income communities, largely spearheaded some CRA mobilization in the 1980s and 1990s. She successfully negotiated the first CRA agreements in St. Louis, and as Sherraden (1996: 7B) said —

> … was one of the nation's path breaking organizers in community reinvestment. Working for ACORN [the Association of Community Organizations for Reform Now] in the 1980s and early 1990s, she negotiated hundreds of millions of dollars in lending packages for low-income and minority home ownership in St. Louis. She believed that the large banks, which had abandoned the poorest neighborhoods, could learn to serve these areas and also make a profit in doing so.

One of the major community development corporations (CDCs) in St. Louis bears Petersen's name today.

However, between the late 1990s and 2009, no other CRA organizing efforts were in place (Casey, 2009). SLEHCRA was formed in response to the same concerns expressed by Peterson in the 1980s, that many low-income and minority communities in St. Louis did not have equal access to mainstream financial services and that redlining was still a major issue in the area. Community disinvestment remains a problem in St. Louis 40 years after the enactment of CRA. EHOC took the lead on building and developing the coalition. EHOC, a nonprofit fair housing organization, focuses on enforcing fair housing laws and the obligation to affirmatively further fair housing among financial institutions, as required by the federal Fair Housing Act.[3] EHOC spearheaded the formation of SLEHCRA and identified its mission as a new coalition to hold banks accountable for CRA and fair lending performance. The mission of EHOC integrates the principles of CRA and fair lending laws—to promote investment in low- and moderate-income communities, regardless of race, and in minority communities, regardless of income (SLEHCRA, 2012).

SLEHCRA has grown since its inception and includes over 25 organizations as of 2017 (SLEHCRA, 2017). SLEHCRA is a broad-based coalition, with members representing diverse

[3] 7 C.F.R. §1901.203.

interests, missions, and purposes, who work on community development issues at various scales; that is, from within the city of St. Louis only across county boundaries and throughout the state of Missouri. Members include organizations that are focused on policy advocacy and civil rights, such as the Coalition of Concerned Citizens and Ready, Aim, Advocate! Committee. Members also include CDCs and housing service providers. The coalition also includes members representing the interests of racial and ethnic groups, such as the NAACP St. Louis City and the Latinos Ex Axion. Coalition membership also includes interests representing business and the workforce.

SLEHCRA has focused on engaging all banks active in the St. Louis area on matters relating to CRA and the Fair Housing Act. SLEHCRA adds to formal regulation and oversight of CRA in a number of ways. SLEHCRA conducts analysis of banks' CRA activities, writes public comment letters to be considered by federal regulators in CRA evaluations and applications, and engages in dialogues and partnerships with banks about their performance in providing services to all communities. Since 2009, SLEHCRA has conducted more than 80 reviews of bank performance and has written more than 60 public comment letters, including the first public comment letter ever to be received by the St. Louis field office of OCC (SLEHCRA, 2015, 2012).

SLEHCRA (2015) identified a correlation between its work and enhanced regulation of CRA. For example, two banks received "Needs to Improve" CRA ratings, the first below-satisfactory CRA rating for an institution based in St. Louis since 1994. SLEHCRA's work has also led to increased scrutiny of lending institutions by the DOJ and the U.S. Department of Housing and Urban Development (HUD). SLEHCRA attributes these investigations and fair lending cases as originating from the efforts of their work.

SLEHCRA's work also expands beyond mere regulation and enforcement from below; it also aims to educate and inform borrowers and lenders about CRA lending opportunities. SLEHCRA also builds partnerships with other organizations to address issues borrowers in the community face, such as lack of financial education or awareness about banking products. Examples of these organizations include the Greater St. Louis Financial Education Collaborative and the St. Louis Regional Unbanked Taskforce. Likewise, SLEHCRA also works to educate lenders on the needs of the communities and valuable opportunities for CRA investments. An example of this outreach is the formation of the St. Louis Metropolitan CRA Association in 2012, which provides professional development and collaborative activities for CRA officers at banks or those engaged in relevant work (SLEHCRA, 2015).

As mentioned previously, SLEHCRA has negotiated 46 CRA agreements with banks serving potential borrowers in communities throughout the city of St. Louis. The CRA agreements often target the activities to low-income or minority census tracts throughout the city. The agreements are relatively standard and include provisions aimed at the following.

- Increasing lenders' commitment to providing support for community development activities.
- New bank branch openings.
- The development of new banking products, including new deposit products like second-chance checking accounts, new affordable mortgage products, and products such as small-dollar loans and credit-building products.

- Financial education resources and partnerships.
- Increased outreach to low-income communities and predominately minority communities, including increased marketing and advertising to African-American and Hispanic communities.
- Increased diversity and community development within bank staff and directors, including new positions created for CRA and community development, increased diversity among bank employees, and banks adding members to their board of directors.
- Increased partnerships with nonprofit and community organizations to provide financial support and investments, financial education resources, and partnership programs.

Anticipated Outcomes of a Changed Community Reinvestment Act Governance Context

The emergence of SLEHCRA provides the opportunity to evaluate the impact of this governance change on community reinvestment activity in St. Louis. How did this change in governance around CRA influence community reinvestment in the city of St. Louis? Has community reinvestment activity increased? If so, at what geographic level does this change occur and who benefits?

We anticipate the change in CRA governance to have a positive relationship with increased community reinvestment activity in St. Louis. As mentioned previously, we define increased community reinvestment activity in two ways: an increase in the likelihood of loan approvals and a decrease in the likelihood that applicants pursue credit from alternative or non-CRA-regulated lenders. Key subquestions include the following: do only lenders in negotiated agreements drive community reinvestment activity in the post-CRA governance context? Does community reinvestment activity occur only in the tracts covered by the agreements, or does a post-CRA governance effect stimulate community reinvestment activity that cuts across tracts and lenders? We utilize interaction terms to determine if these effects are equal across all races and ethnicities. The logic that informs the different expectations is discussed in the following sections.

The Changed CRA Context: Lenders With Negotiated Lending Agreements

The changed CRA governance context now includes lenders that have agreed to a negotiated CRA agreement with SLEHCRA. The most direct outcome from the post-CRA governance context is the negotiation of a lending agreement between the coalition members and targeted lenders in the city of St. Louis. We test the relationship between lenders with a CRA agreement and loan approvals. We test this relationship because a loan approval is one way a lender can fulfill its CRA obligation, increasing community reinvestment activity by increasing lenders' investments to fulfill the terms of the agreement. We anticipate that lenders with a CRA agreement will be more likely to approve loan applications in order to satisfy their CRA agreement requirements.

The Changed CRA Context: Tracts Covered by Negotiated Lending Agreements

The changed CRA governance context in the case of St. Louis also results in an increase in the number of census tracts covered by negotiated lending agreements. Our expectations related to the

relationship between the coverage of the CRA agreements and community reinvestment activity is informed by signaling theory and information externalities, which suggest the presence of effects of CRA agreements that extend beyond the lender involved in the agreement. Signaling theory addresses information asymmetries between two parties, whereby the sources of asymmetric information are mainly concerned with information about quality or intent (Stiglitz, 2000). The changed governance context may exert a signaling effect to other CRA-covered institutions and to applicants.

Two primary signaling effects are of interest in this analysis—those that influence the behavior of lenders and those that influence the behavior of applicants. First, the post-CRA governance context can improve the information lenders have about applicant characteristics and how regulators are going to evaluate their CRA performance. The mechanisms behind the signaling and lenders' responses to it are not of primary concern in this analysis, but rather the intent is to understand if any CRA governance effects extend beyond the parties and geographic areas subject to the agreement. We anticipate that some will, and that this signaling effect will exert an influence on the lender's behavior, resulting in increased loan approvals in tracts covered by the agreement.

Secondly, the post-CRA governance context can have a signaling effect on the behavior of applicants. It can also result in improved information for applicants as lenders engage in outreach or other activities to market to applicants or as the coalition and its partners improve the information flow to applicants about CRA and CRA-regulated institutions. We anticipate that this signaling effect can reduce the likelihood that applicants pursue credit from non-CRA-regulated lenders.

The Post-CRA Governance Context

Finally, we also aim to understand the geographic reach of a post-CRA governance context. Su et al. (2014) found that the strength of a signal, for example, the presence or absence of a coalition, may change for different institutional environments. In a context with an active coalition, we anticipate that the effects of the signal may not be limited only to the lenders or the geographic areas covered by the agreement but that it may be strong enough to change the overall lending environment. We anticipate that the post-CRA governance context may represent a changed institutional context that exerts a signaling effect that extends beyond the individual lenders involved in agreements or the geographic areas covered by CRA agreements. Rather, community reinvestment activity may reach across the city. The local coalition is involved in efforts beyond the negotiation of CRA agreements, such as providing public input on lenders' performance and informing regulators about the behavior of lenders in the area. Thus, it is plausible that this increased scrutiny has changed the response and behavior of lenders and that they have enhanced their efforts to meet the objectives of CRA. Likewise, CRA agreements can enhance information in a given context that improves the loan outcomes for applicants throughout the city.

SLEHCRA has also been engaged in educating potential borrowers about CRA, CRA lending products, and financial education. This community engagement can improve the information potential borrowers have about the opportunities available through CRA-regulated lenders, leading to a reduced likelihood of applying to non-CRA-regulated lenders.

Finally, although CRA does not have a specific race or ethnicity requirement, we anticipate that the composition of this particular coalition—and the socioeconomic and demographic characteristics

of St. Louis—will exert an effect, and hence agreements and outcomes will also be targeted toward minority borrowers. The historical correlation among race, ethnicity, income, and redlining in the city of St. Louis is strong (Gordon, 2008), so we anticipate that lending goals are also targeted toward minorities. Furthermore, as the *New York Times* reported in 2016, citing a National Community Reinvestment Coalition study, "only 3 percent of loans to low- and moderate-income borrowers were made in St. Louis neighborhoods where minorities made up 80 to 100 percent of the population" (Eavis, 2016: B3). Finally, the coalition, as mentioned previously, is led by EHOC, which has as its mission equal and fair housing and reducing discriminatory barriers.

Methods

We use Home Mortgage Disclosure Act (HMDA)[4] data, census data, and qualitatively coded data from CRA agreements for the analysis. We use the HMDA database to obtain data on loan applications in the city of St. Louis from 2007 to 2014, as it is the most comprehensive public database of mortgage loans and lenders. Loans are restricted to conventional loans, one- to four-family property types, home purchase loan types, and owner-occupied as a principal dwelling. We collect supplementary borrower data from the census 2000 Summary File 3 and the census 2010 Summary File 1, available via the U.S. Census Bureau. We use the census data from 2000 and 2010, as opposed to other data sources such as the American Community Survey, to align with the data used in the HMDA database. HMDA uses 2000 Census definitions through 2011 and does not apply the updated definitions (2010) until 2012. Census data are used to control for characteristics of the census tracts that could impact the analysis. The controls include the percentage of college education in a tract, African-American percentage in the tract, and number of housing units.

SLEHCRA provided copies of all CRA agreements negotiated since 2010. All the contracts provide the terms of the agreement, the targeted geographic location, the target demographic hoped to be reached, and the years of coverage. Although most contracts targeted lower-income borrowers, some specified all minorities and others predominantly targeted African-American borrowers, as we anticipated, given the coalition's focus on fair housing and lending and given the historic correlation in the city of St. Louis among race, ethnicity, and income (Gordon, 2008). Other provisions in the contracts include increasing promotion and lending education in minority areas and increasing the level of minority employee representation.

Dependent Variables

Two dependent variables are considered in the analysis: loan approval and type of lender. Loan approval is a binary variable that equals 1 if a loan is originated or is approved by the lender but not accepted. Loan denials are those applications that are denied by the financial institution and are coded with a 0.

Type of lender is a categorical variable that indicates if the loan application was made to a CRA-regulated lender, a credit union, or a non-CRA-regulated lender. A 1 indicates a loan application made to a CRA-regulated lender, defined as a lender subject to regulatory oversight by FRB, FDIC,

[4] Pub. L. 94–200, 89 Stat. 1124.

or OCC. A 2 indicates a credit union lender that is governed by the National Credit Union. A 3 indicates a lender that is not regulated as a depository institution, is not subject to CRA, and is governed by HUD.

Independent Variables

Three independent variables of interest are in the analysis, which are hereafter referred to as a group as "CRA variables." The first is the binary variable "lender with a CRA agreement," which represents a loan application made to a lender with a negotiated CRA agreement. A loan application to a lender with a CRA agreement is coded with a 1. All other loan applications are coded with a 0.

The second independent variable of interest is "CRA Agreement," which indicates if the loan application is for a home in a tract covered by a CRA agreement. A value of 1 is assigned to census tracts covered by a CRA agreement during a given year. Census tracts covered by CRA agreements in this study are those that were *majority-minority* or *low-income*, as specified in the original CRA agreement. *Majority-minority* is determined by the presence of 50 percent minority population (FFIEC, 2015). *Low-income* is defined as less than 50 percent of the Area Median Income (Brison, 2016). The definitions of low-income and minority are specified in many of the agreements, and for those not specified we applied the same definitions.

The third independent variable of interest is "post-CRA," which indicates a loan application made after the change in CRA governance occurred. The pre-CRA governance period included the 2007-to-2010 period. The post-CRA period was from 2011 to 2014. All loan applications made from 2011 to 2014 are coded with a "1" to represent those loans made after the first CRA agreement was enacted.

Data Analysis

We used logistic and multinomial regression the analysis; we estimated several specifications of each model for robustness purposes. We used interaction terms to understand how the relationship between minority borrower status and loan approvals and type of lender changes (1) when CRA agreements cover the tract in which the loan is made, (2) when applicants apply to a lender with a CRA agreement, and (3) in the post-CRA governance context. The presence of a significant interaction indicates that the effect of one predictor variable on the response variable is different for different values of the CRA variables. When adding the interaction term, the effect of a borrower's minority status will depend upon the value of the interaction term, and as such the interpretation of the coefficients is different. Model summary statistics are presented as applicable. A *p*-value of .05 is used to determine significance.

Results

Exhibit 1 presents the descriptive statistics for the sample overall (n = 14,483) and indicates the significant differences in means for the pre- and post-CRA governance context. A significant, positive increase in the percentage of applications approved in the post-CRA governance context (mean [M] = 89.91 percent, standard deviation [SD] = 0.30) emerges as compared with the

Exhibit 1

Characteristics of Loan Applicants in St. Louis, 2007–2014

Variables	2007–2014				Pre (2007–2010)				Post (2011–2014)				Post vs. Pre Difference
	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max	
Approved or approved not accepted (%)	83.35	0.37	0.00	1.00	80.02	0.40	0.00	1.00	89.91	0.30	0.00	1.00	9.89***
Loan amount ($ in 000)	147.59	105.14	1.00	1,460.00	140.81	100.28	1.00	1,360.00	160.99	112.96	1.00	1,460.00	20.18***
Approved (%)	76.57	0.42	0.00	1.00	71.43	0.45	0.00	1.00	86.71	0.34	0.00	1.00	15.27***
Approved not accepted (%)	6.78	0.25	0.00	1.00	8.59	0.28	0.00	1.00	3.21	0.18	0.00	1.00	– 5.38***
Denied (%)	16.65	0.37	0.00	1.00	19.98	0.40	0.00	1.00	10.09	0.30	0.00	1.00	– 9.89***
Lender with CRA agreement (%)	3.27	0.18	0.00	1.00	2.19	0.15	0.00	1.00	5.40	0.23	0.00	1.00	3.21***
Applicant income ($ in 000)	81.16	98.36	5.00	3,675.00	75.44	96.36	5.00	3,675.00	92.45	101.27	6.00	2,566.00	17.01***
Applicant sex (1=Male) (%)	62.0	0.49	0.00	1.00	60.5	0.49	0.00	1.00	64.8	0.48	0.00	1.00	4.3***
White, non-Hispanic (%)	75.77	0.43	0.00	1.00	70.02	0.46	0.00	1.00	87.14	0.33	0.00	1.00	17.12***
Asian (%)	3.47	0.18	0.00	1.00	3.16	0.17	0.00	1.00	4.07	0.20	0.00	1.00	0.91**
Other race (%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
African-American (%)	18.77	0.39	0.00	1.00	24.80	0.43	0.00	1.00	6.86	0.25	0.00	1.00	– 17.94***
Hispanic (%)	1.99	0.14	0.00	1.00	2.02	0.14	0.00	1.00	1.93	0.14	0.00	1.00	– 0.09
CRA-regulated lenders (%)	72.46	0.45	0.00	1.00	77.81	0.42	0.00	1.00	61.89	0.49	0.00	1.00	– 15.92***
Credit union (%)	4.22	0.20	0.00	1.00	3.00	0.17	0.00	1.00	6.64	0.25	0.00	1.00	3.64***
Non-CRA-regulated lenders (%)	23.32	0.42	0.00	1.00	19.20	0.39	0.00	1.00	31.48	0.46	0.00	1.00	12.28***
Loans in tracts with CRA agreements (%)	8.72	0.28	0.00	1.00	0.00	0.00	0.00	0.00	25.95	0.44	0.00	1.00	25.95***
Tract population	3,937.69	1,675.75	865.00	9,154.00	3,999.39	1,815.43	865.00	9,154.00	3,815.80	1,350.09	1,006.00	9,154.00	– 183.59***
Housing units in the tract	2,121.47	883.66	358.00	4,925.00	2,103.83	957.75	358.00	4,925.00	2,156.32	713.84	358.00	4,925.00	52.50***
College in the tract (%)	24.98	15.75	0.00	71.10	23.72	15.26	0.50	65.50	27.46	16.42	0.00	71.10	3.73***
Tract-to-income ratio	79.51	28.44	14.64	153.71	74.09	25.96	17.10	143.65	90.21	30.04	14.64	153.71	16.12***
Minority population in the tract	41.68	29.23	4.33	99.69	45.45	31.19	4.33	99.69	34.24	23.17	4.33	99.69	– 11.21***
Lien status (0 = no lien) (%)	93.2	0.25	0.00	1.00	91.2	0.28	0.00	1.00	97.4	0.16	0.00	1.00	6.2***
Total loans (n)	14,483				9,616				4,867				

CRA = Community Reinvestment Act. SD = standard deviation.

** p ≤ .05. ** p ≤ .01. *** p ≤ .001.*

pre-CRA governance context (M = 80.02 percent, SD = 0.40); $p < .001$. Likewise, applications to lenders with CRA agreements are significantly higher in the post-CRA governance context (M = 5.4 percent, SD = 0.23) as compared with the pre-CRA governance context (M = 3.27 percent, SD = .15), $p < .001$. However, applications to CRA-regulated lenders significantly decline in the post-CRA governance context (M = 61.89 percent, SD = 0.49) from the pre-CRA context (M = 77.81 percent, SD = 0.42), $p < .001$, whereas loans to non-CRA-regulated lenders significantly increase (M = 31.48 percent, SD = 0.46) in the post-CRA governance context, $p < .001$.

White applicants account for the majority of the loan applications in the overall sample, 75.77 percent. African-American applicants account for the second largest group of applicants in the sample overall, 18.77 percent, followed by Asian applicants, at 3.47 percent. Hispanic applicants represent a very small percentage of the overall sample, about 2 percent. The percentage of applications from White borrowers significantly increases in the post-CRA context to 86.71 percent (SD = 0.34) from 71.43 percent (SD = 0.45), $p < .001$. However, African-American applications significantly decline in the post-CRA governance context (M = 6.86 percent, SD = 0.25) as compared with the pre-CRA governance context (M = 24.8 percent, SD = 0.43), $p < .001$. Conversely, Asian applicants have significantly higher loan activity in the post-CRA context by about 1 percent, $p < .001$. Hispanic applications also decline in the post-governance context; however, the decline is not significant.

Several significant changes occur in the characteristics of census tracts and applicant characteristics in the pre- and post-CRA context. The percentage of college-educated residents in census tracts increases significantly by 3.73 percent in the post-CRA context, $p < .001$. The mean tract population decreases significantly, $p < .001$. The mean percentage of minority population in census tracts significantly decreases in the post-CRA context by 11.2 percent, $p < .001$. To summarize, in the post-CRA context, the minority population in census tracts slightly decreases, and the percentage of college-educated residents increases.

Exhibit 2 summarizes the descriptive statistics of minority applicants in the sample (n = 3,509). Minority applicants experience a significant, positive increase in the percentage of applications approved in the post-CRA governance context (M = 76.2 percent, SD = 0.43), $p < .001$ as compared with the pre-CRA governance context (M = 61.2 percent, SD = 0.49). Likewise, the percentage of minority applicants applying to a lender with a CRA agreement is significantly higher in the post-CRA governance context (M = 7.5 percent, SD = 0.26), $p < .001$ as compared with the pre-CRA governance context ($M \leq 1$ percent, SD = 0.08). However, the percentage of minority borrowers applying to CRA-regulated lenders significantly declines in the post-CRA governance context (M = 70.5 percent, SD = 0.46), $p < .001$ when compared with the pre-CRA context (M = 76.34 percent; SD = 0.43).

Several differences are evident when comparing the tract and applicant characteristics of minority borrowers (exhibit 2) with characteristics of the sample overall (exhibit 1). The mean percentage of college-educated residents in the tracts where minority applicants apply (M = 16.5 percent, SD = 14.88) is lower than in the sample overall (M = 25 percent, SD = 15.75). Minority applicants apply for loans in tracts with a higher percentage of minority population (M = 67.35 percent, SD = 29.82) when compared with the sample overall (M = 42 percent, SD = 29.23). Loan amounts and incomes of minority applicants also tend to be lower than the sample overall.

Exhibit 2

Characteristics of Minority Loan Applicants in St. Louis, 2007–2014

Variables	2007–2014				Pre (2007–2010)				Post (2011–2014)				Post vs. Pre Difference
	Mean	SD	Min	Max	Mean	SD	Min	Max	Mean	SD	Min	Max	
Approved or approved not accepted (%)	63.89	0.48	0.00	1.00	61.22	0.49	0.00	1.00	76.20	0.43	0.00	1.00	14.98***
Loan amount ($ in 000)	118.96	87.51	1.00	1,292.00	117.21	80.56	1.00	1,000.00	127.00	113.93	1.00	1,292.00	9.79**
Approved (%)	53.78	0.50	0.00	1.00	49.84	0.50	0.00	1.00	71.88	0.45	0.00	1.00	22.04***
Approved not accepted (%)	10.12	0.30	0.00	1.00	11.38	0.32	0.00	1.00	4.31	0.20	0.00	1.00	– 7.06***
Denied (%)	36.11	0.48	0.00	1.00	38.78	0.49	0.00	1.00	23.80	0.43	0.00	1.00	– 14.98***
Lender with CRA agreement (%)	1.82	0.13	0.00	1.00	0.59	0.08	0.00	1.00	7.51	0.26	0.00	1.00	6.92***
Applicant income ($ in 000)	61.77	70.34	5.00	1,460.00	58.22	62.18	5.00	1,460.00	78.14	98.06	9.00	1,003.00	19.92***
Applicant sex (1=Male) (%)	50.8	0.50	0.00	1.00	49.8	0.50	0.00	1.00	55.1	0.50	0.00	1.00	5.3**
White, non-Hispanic (%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Asian (%)	14.31	0.35	0.00	1.00	10.54	0.31	0.00	1.00	31.63	0.47	0.00	1.00	21.08***
Other race (%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
African-American (%)	77.49	0.42	0.00	1.00	82.73	0.38	0.00	1.00	53.35	0.50	0.00	1.00	– 29.37***
Hispanic (%)	8.21	0.27	0.00	1.00	6.73	0.25	0.00	1.00	15.02	0.36	0.00	1.00	8.29***
CRA-regulated lenders (%)	75.29	0.43	0.00	1.00	76.34	0.43	0.00	1.00	70.45	0.46	0.00	1.00	– 5.90***
Credit union (%)	3.65	0.19	0.00	1.00	2.32	0.15	0.00	1.00	9.74	0.30	0.00	1.00	7.42***
Non-CRA-Regulated lenders (%)	21.06	0.41	0.00	1.00	21.33	0.41	0.00	1.00	19.81	0.40	0.00	1.00	– 1.52
Loans in tract with CRA agreement (%)	8.75	0.28	0.00	1.00	0.00	0.00	0.00	0.00	49.04	0.50	0.00	1.00	49.04***
Tract population	3,712.39	1,424.97	865.00	9,154.00	3,769.28	1,457.49	865.00	9,154.00	3,450.38	1,232.04	1,006.00	9,154.00	– 318.89***
Housing units in the tract	1,879.20	745.01	358.00	4,925.00	1,868.75	752.10	358.00	4,925.00	1,927.34	710.01	358.00	4,925.00	58.59
College in the tract (%)	16.54	14.88	0.00	71.10	15.22	13.64	0.50	65.50	22.64	18.42	0.00	71.10	7.42***
Tract-to-income ratio	63.45	24.67	14.64	153.71	60.32	21.54	17.10	143.65	77.85	32.00	14.64	153.71	17.53***
Minority population in the tract	67.35	29.82	4.33	99.69	71.03	28.67	4.33	99.69	50.39	29.17	4.33	99.69	– 20.64***
Lien status (0 = no lien) (%)	93.7	0.24	0.00	1.00	93.3	0.25	0.00	1.00	95.4	0.21	0.00	1.00	2.1
Total loans (n)	3,509				2,883				626				

CRA = Community Reinvestment Act. SD = standard deviation.

** p ≤ .05. ** p ≤ .01. *** p ≤ .001.*

However, despite these differences, minority borrowers experience the same directional changes in tract, applicant, and loan characteristics in the post-CRA context as the sample overall. In the post-CRA context, the percentage of college-educated residents in census tracts where minority applicants apply increases significantly by 7.42 percent, $p < .001$. The mean percentage of minority population in census tracts decreases in the post-CRA context 20 percent, $p < .001$. In summary, in the post-CRA governance context, applicants tend to apply for loans in tracts with a higher percentage of college-educated residents and a lower percentage of minority residents. This suggests some demographic and socioeconomic shifts are possibly occurring throughout the census tracts in the city over the years, which are controlled for in the analysis by adding the relevant control variables and year controls.

Exhibits 3 and 4 present the results of the regression analyses, reporting the untransformed coefficients. Exhibit 3 presents the results of the analysis of the relationship between the CRA variables and loan approvals. Exhibit 4 presents the results of the analysis of the relationship between the CRA variables and type of lender to which applicants apply. As presented earlier, three main CRA variables of interest are in the analysis—loan applications to lenders with CRA agreements, loan applications in tracts covered by a CRA agreement, and the post-CRA governance context. For each dependent variable, five models are presented, which consider the different CRA variables and interaction terms.

Exhibit 3 illustrates the relationship between the three CRA variables and the likelihood of loan approvals. Overall, the results suggest that Asian, African-American, and Hispanic applicants are significantly less likely to be approved for a loan when compared with the base group of White borrowers. This fact is evidenced by the significant, negative coefficients across models 1a through 1e on the race variables, suggesting this relationship holds when adding all the variables of interest and when including the control variables. Model 1b includes the CRA variables of interest along with the race and control variables. Loan applications made in the post-CRA context ($ß = 0.583$, $p = .001$) and applications to lenders with a CRA agreement ($ß = 1.408$, $p < .001$) have a positive, significant relationship with loan approvals. This finding suggests that loan applications are more likely to be approved in the post-CRA context. However, loan applications for homes in a tract covered by a CRA agreement does not have a significant effect ($ß = 0.011$). This suggests that the odds of a loan approval, although greater in the post-CRA context, do not differ if the loan is made for a home in a tract covered by a CRA agreement. The direction and significance of the relationships stay consistent as additional variables and interaction terms are added, as evidenced in models 1c through 1e. Models 1c through 1e indicate the results when the CRA variables interact with race and ethnicity. None of the interaction terms are significant, which indicates that the CRA variables do not exert a mediating effect on minority applicant status and loan approvals.

Exhibit 4 illustrates the relationship between these variables and likelihood of applying to a CRA-regulated lender compared with a credit union or a non-CRA-regulated lender. The likelihood of applying to a certain type of lender differs by applicant race. As illustrated in model 2b, with the CRA variables and controls included, Asian applicants are less likely to apply to a credit union than White applicants ($ß = -0.992$, $p < .01$) and are less likely to apply to a non-CRA-regulated lender than White applicants ($ß = -0.845$, $p < .01$). Hispanic applicants do not significantly differ from White applicants in the likelihood of applying to a credit union versus a CRA-regulated lender or to a non-CRA-regulated lender versus a CRA-regulated lender. Also as evidenced in model 2c,

Exhibit 3

Loan Approvals in St. Louis by Governance Context, 2007–2014

	Coefficient				
	1a.	1b.	1c.	1d.	1e.
White, non-Hispanic	Base				
Asian	– 0.672 (0.120)***	– 0.654(0.120)***	– 0.698(0.127)***	– 0.537(0.148)***	– 0.653(0.120)***
African-American	– 1.257 (0.072)***	– 1.254(0.072)***	– 1.257(0.076)***	– 1.233(0.079)***	– 1.254(0.072)***
Hispanic	– 0.342 (0.166)*	– 0.368(0.166)*	– 0.448(0.169)**	– 0.305(0.190)	– 0.368(0.166)*
Pre-/Post-CRA governance	0.614 (0.105)***	0.583(0.115)***	0.584(0.115)***	0.617(0.118)***	0.584(0.115)***
Tract covered by agreement		0.011(0.111)	– 0.037(0.130)	0.031(0.119)	0.011(0.111)
Lender with CRA agreement		1.408(0.255)***	1.410(0.256)***	1.415(0.256)***	1.473(0.382)***
Interactions: Tract covered by agreement and race/ethnicity					
Asian			0.378(0.385)		
African-American			0.025(0.188)		
Hispanic			1.551(1.065)		
Interactions: Pre-/post-CRA governance and race/ethnicity					
Asian				– 0.337(0.249)	
African-American				– 0.086(0.159)	
Hispanic				– 0.229(0.381)	
Interactions: Pre-/post-CRA governance and lender with CRA agreement					
Lender with CRA agreement					– 0.115(0.514)
Pseudo R^2	0.122	0.125	0.126	0.125	0.125
N	14,483	14,483	14,483	14,483	14,483
Log pseudo likelihood	– 5,729	– 5,705	– 5,703	– 5,704	– 5,705
Control variables	Yes	Yes	Yes	Yes	Yes
Year control	Yes	Yes	Yes	Yes	Yes
Applicant sex (1=Male)	– 0.121(0.051)*	– 0.119(0.051)*	– 0.120(0.051)*	– 0.119(0.051)*	– 0.119(0.051)*
Tract population	0.000(0.000)	0.000(0.000)*	0.000(0.00)	0.000(0.000)	0.000(0.000)
Housing units in the tract	0.000(0.000)	0.000(0.000)*	0.000(0.000)	0.000(0.000)	0.000(0.000)
Percentage college in the tract	0.010(0.003)***	0.011(0.003)***	0.011(0.003)***	0.011(0.003)***	0.011(0.003)***
Tract-to-income ratio	0.005(0.002)***	0.006(0.002)***	0.006(0.002)***	0.006(0.002)***	0.006(0.002)***
Minority population in the tract	– 0.006(0.001)***	– 0.005(0.001)***	– 0.005(0.001)***	– 0.006(0.001)***	– 0.005(0.001)***
Applicant income	0.000(0.000)	0.000(0.000)	0.000(0.000)	0.000(0.000)	0.000(0.000)
Lien status (0 = no lien)	– 0.368(0.105)***	– 0.375(0.105)***	– 0.375(0.105)***	– 0.379(0.105)***	– 0.375(0.105)***

CRA = Community Reinvestment Act.

Note: Logistic regression coefficients with standard deviations in parentheses (p ≤ .05; ** p ≤ .01; *** p ≤ .001).*

Exhibit 4

Applications to Type of Lender by Governance Context, 2007–2014

	Coefficient				
	2a.	**2b.**	**2c.**	**2d.**	**2e.**
Credit Union					
White, non-Hispanic	Base				
Asian	– 0.944(0.311)**	– 0.947(0.310)**	– 0.992(0.311)***	– 1.425(0.418)***	– 1.862(0.721)**
African-American	0.345(0.155)*	0.357(0.156)*	0.366(0.156)**	0.184(0.185)	0.010(0.207)
Hispanic	0.263(0.276)	0.265(0.276)	0.324(0.277)	0.302(0.296)	0.292(0.376)
Pre-/Post-CRA governance	1.885(0.178)***		1.880(0.187)***	1.846(0.187)***	1.764(0.189)***
Tract covered by agreement		0.107(0.159)	0.124(0.159)	– 0.121(0.191)	– 0.038(0.173)
Interactions: Tract covered by agreement and race/ethnicity					
Asian				1.575(0.647)*	
African-American				0.579(0.298)[t]	
Hispanic				0.056(0.816)	
Interactions: Pre-/post-CRA governance and race/ethnicity					
Asian					1.278
African-American					0.623*
Hispanic					0.018
Non-CRA-Regulated					
White, non-Hispanic	Base				
Asian	– 0.813(0.137)***	– 0.808(0.137)***	– 0.845(0.138)***	– 0.864(0.152)***	– 1.049(0.216)***
African-American	0.084(0.068)	0.063(0.069)	0.065(0.069)	0.186(0.072)**	0.255(0.076)***
Hispanic	– 0.114(0.150)	– 0.117(0.150)	– 0.053(0.150)	0.050(0.154)	– 0.016(0.192)
Pre-post agreement	1.033(0.068)***		1.125(0.074)***	1.147(0.075)***	1.172(0.076)***
Tract covered by CRA agreement		– 0.177(0.084)**	– 0.158(0.085)[t]	0.025(0.092)	– 0.018(0.089)
Interactions: Tract covered by CRA agreement and race/ethnicity					
Asian				0.066(0.372)	
African-American				– 1.112(0.217)***	
Hispanic				– 1.240(0.650)[t]	
Interactions: Pre-/post-CRA governance and race/ethnicity					
Asian					0.366(0.286)
African-American					– 0.976(0.174)***
Hispanic					– 0.066(0.310)
Pseudo R^2	0.038	0.039	0.057	0.059	0.059
N	14,483	14,483	14,483	14,483	14,483
Log pseudo likelihood	– 9,840	– 9,838	– 9,653	– 9,629	– 9,627
Control variables	Yes		Yes	Yes	Yes
Year control	Yes		Yes	Yes	Yes

CRA = Community Reinvestment Act.

Note: Logistic regression coefficients with standard deviations in parentheses (p ≤ .05; ** p ≤ .01; *** p ≤ .001; p ≤ .10).*

African-American applicants are significantly more likely than White applicants to apply to a credit union rather than to a CRA-regulated lender (ß = 0.366, $p < .05$), however, they are not more likely than White applicants to apply to a non-CRA-regulated lender (ß = 0.065, p = not significant). Overall, applying for a loan in a tract covered by a CRA agreement does not significantly influence the likelihood an applicant applies to a credit union as opposed to a CRA-regulated lender. However, applicants applying for a loan in a tract covered by a CRA agreement are less likely to apply to a non-CRA-regulated lender, a marginally significant difference (ß = -0.158, $p < .10$). In the post-CRA governance context, applicants are significantly more likely to apply to a credit union (ß = 1.880, $p < .001$) and more likely to apply to non-CRA-regulated lenders (ß = 1.125, $p < .001$).

However, as evidenced in models 2d and 2e, race and ethnicity, interacted with the CRA variables, make a significant difference. CRA agreements and the post-CRA context have differential effects based on applicant race and ethnicity. Overall, the post-CRA governance context appears to increase the likelihood that applicants apply to a non-CRA-regulated lender, however, this increase appears to be mitigated by the race and ethnicity of the borrower. Model 2d illustrates the effects of applicant race and applying for a loan in a tract covered by a CRA agreement on the type of lender. African-American loan applicants in tracts covered by CRA agreements are significantly less likely to apply to non-CRA-regulated lenders when compared with White borrowers (ß = -0.926, $p < .01$). Model 2e illustrates the effects of applicant race and the post-CRA governance context on the type of lender. Model 2e illustrates that in the post-CRA governance context, African-American applicants are significantly less likely to apply to non-CRA-regulated lenders than White borrowers (ß = -0.721, $p < .01$). Hispanic applicants are marginally significantly less likely to apply to non-CRA-regulated lenders in tracts with CRA agreements (ß = -1.19, $p < .01$), but the post-CRA governance context does not seem to exert a significant effect (ß = -0.082). The CRA variables exert less influence on the behavior of Asian applicants, with the exception that Asian applicants who apply for a loan in a tract covered by a CRA agreement are significantly more likely to apply to a credit union than to a CRA-regulated lender (ß = 0.05, $p < .05$).

In summary, the analysis suggests the post-CRA governance context is associated with a change in the lending environment—the likelihood of loan approvals in a post-CRA governance context increases. The overall post-CRA governance context and applying to a lender with an agreement are associated with an increased probability of loan approval. Conversely, applying for a loan in a tract covered by a CRA agreement does not seem to be associated with loan approval. The CRA variables do not appear to exert a mediating effect on race and ethnicity and loan approval.

The results also suggest that the post-CRA governance context is associated with the types of lenders to which applicants apply. Overall, in the post-CRA governance context, applicants are more likely to apply to a non-CRA-regulated lender. However, there is marginal support that the presence of a CRA agreement in the tract reduces the likelihood of a borrower applying to a non-CRA-regulated lender. Perhaps more importantly, the post-CRA governance context appears to have differential effects based on borrower race and ethnicity, particularly on the behavior of African-American applicants. African-American borrowers experience different outcomes in the post-CRA governance context, both when applying for loans in a tract covered by an agreement and during a period when agreements are in effect. Under these two conditions, African-American applicants are less likely to apply for loans from a non-CRA-regulated lender.

Taken together, the results suggest that the post-CRA governance context may be associated with community reinvestment activity, particularly by increasing access to CRA-regulated lenders for African-American borrowers. This finding suggests that the signaling effect may change applicant behaviors, and efforts of the coalition may be improving information flows between CRA-regulated lenders and African-American borrowers. Likewise, lenders with CRA agreements may be associated with stimulating community reinvestment activity as they increase the likelihood of loan approvals. However, these activities do not necessarily translate to benefits for all minority applicants. Although the post-CRA governance context is associated with a higher level of loan approvals, it is also associated with more loans being made by non-CRA-regulated lenders. The longitudinal analysis also suggests that the post-CRA governance context may improve community reinvestment outcomes for African-American borrowers but not necessarily for Hispanic or Asian borrowers.

It is important to note the limitations of the study. First, other factors that cannot be ruled out, such as personal credit history or other unique features of the property for which data are not available, may influence a loan approval or denial decision. However, these data are not available from HMDA or a publicly available data source. Even so, it is plausible that barriers, such personal credit history, or other individual factors, such as length of employment, that typically lead to the exclusion of credit may be reduced in a post-CRA governance context due to the partnerships and programs enacted that provide a bridge to lenders. Secondly, this analysis considers only one CRA governance context, the city of St. Louis. The history of racial segregation that characterizes the city of St. Louis may explain why some particular races or ethnicities benefit more than others in the post-CRA governance context.

Finally, considering only one city does not allow for us to account for macro-level forces that may explain these results. To address this limitation, we conduct a descriptive analysis of lending patterns using data from Kansas City, Missouri, during the same time periods. The purpose of the descriptive analysis is to understand if the pattern of loan approvals and types of lender looks similar or different from the pattern in the city of St. Louis. Kansas City is different than St. Louis in that it cuts across several county boundaries, whereas St. Louis city is its own county. The descriptive analysis of loan applications and types of lenders to which borrowers applied indicates a minimal change in loan approvals from the time period of 2007 to 2010 (M = 86.00 percent, SD = 0.35) to the period of 2011 to 2014 (M = 87.00 percent, SD = 0.34). The number of loans to CRA-regulated lenders also declined significantly during the 2011-to-2014 time period (M = 36.00 percent, SD = 0.49) as compared with the 2007-to-2010 period (M = 66.00 percent, SD = 0.49). Loan applications to non-CRA-regulated lenders increased from 2007 to 2010 (M = 15.00 percent, SD = 0.36) to 2011 to 2014 (M = 59.00 percent, SD = 0.49). The percentage of minority loan applications (n = 13,898) approved during the 2011-to-2014 period (n = 4,283, M = 76.00 percent, SD = 0.43) to that of the 2007-to-2010 period (n = 9,615, M = 75.00 percent, SD = 0.43) remained almost constant. As in St. Louis, the percentage of minority borrowers applying to CRA-regulated lenders declined in the years of 2011 to 2014 (M = 33.00 percent, SD = 0.47) as compared with 2007 to 2010 (M = 60.00 percent, SD = 0.49). Although the analysis of Kansas City is descriptive in nature, it does suggest that macro-level forces alone may not be the only factor explaining the results. However, it is still limited in proving causality, in that we do not control for nuances about variations in local lending markets in the descriptive analysis.

Discussion and Conclusion

The results suggest that applicant outcomes differ in the post-CRA governance context and that community-based mobilization around CRA can stimulate community reinvestment activity. CRA has fueled the creation of nonprofit partnerships and networks that serve as valuable links between lenders and borrowers and, in many cases, can make the regulation to work better. Community involvement in its implementation gives voice to a community, and allows for local-level influence in decisionmaking. For example, Casey (2009) found that challenges and negotiations in Chicago, Illinois, and in Cleveland led to agreements that contained a number of provisions that moved beyond increasing the number of loans. These agreements included community-level input from groups representing multiple segments of society and included the provision of education, resources, and outreach to improve borrower awareness of opportunities and options.

However, organizing around CRA has been highly variable across time and place, which may lead to further inequities when community-based coalitions or organizations are absent. Casey (2009) argued that the indirect element of CRA regulation is positive in that it can foster broader connections between lenders and community-based groups to develop community reinvestment responses. However, the previously referenced study that analyzed four different cities—Cleveland; Chicago; Indianapolis, Indiana, and St. Louis—revealed inequities across cities in mobilization around CRA. Indianapolis and St. Louis did not organize around CRA; hence, the benefits afforded to communities in Chicago and Cleveland were not realized (Casey, 2009).

A major shortcoming in CRA regulation is its variation across places, and this variation is further complicated by a changed regulatory landscape. The regulatory landscape has changed and has led to the emergence of a host of non-CRA-regulated lending entities and banks that do business across state lines and outside the communities in which they are chartered. Arguably, these changes produce positive externalities; however, it is also critical to reflect on the implications of these changes on reinvestment in urban areas, potential negative externalities, and the potential of CRA in today's environment. The current design of CRA regulation has both positive and negative externalities. A positive is that CRA's current design provides local groups and organizations with the opportunity to better inform lenders of the banking needs of low- to moderate-income and minority communities. Community development advocates in the 1960s and 1970s argued for more community-based participation in programs and policies in response to top-down initiatives (Phillips and Pittman, 2009); however, it is necessary to consider how to strike a more appropriate and just balance between formal and informal regulation. The balance is necessary to address the variation across metropolitan areas in the capacity for community-based groups and nonprofit organizations to take regulation into their own hands.

What, then, do the findings from this analysis suggest for the future of community reinvestment and, more specifically, the design of CRA for the future? The findings suggest that the appropriate policy design lies somewhere between top-down and bottom-up regulation. Too much reliance on bottom-up regulation may reproduce inequities or shift the burden to nonprofit and community-based organizations that may lack the capacity or leadership to undertake mobilization efforts. Conversely, too much reliance on top-down regulation has the potential to diminish community participation in reinvestment activity, proscribing one-size-fits-all approaches for meeting CRA objectives.

Thus, the design of the policy (and formal regulatory enforcement of it) needs to address the organizational capacity equities and inequities that are built into the context in which community reinvestment is vital. A value of CRA is that it allows for flexibility to best address reinvestment market conditions and community needs; however, CRA in its current form seems to be more effective in areas with a strong community-based capacity or network. This aspect of CRA is important when considering the democratic value of CRA, but it neglects to consider the inequities in capacities and reinvestment needs that exist across places. In effect, the unevenness of community-based capacity and networks around CRA can lead to CRA assessment areas that are more desirable for lenders to target, which may deplete lender activity in areas that lack community capacity.

The resulting recommendation is the need to balance bottom-up and top-down regulation and address organizational capacity at the local level of the community. The three recommendations that follow suggest several roles for formal regulatory agencies, including the newly formed CFPB and HUD. The first recommendation is for formal regulators to more stringently define and restrict what qualifies as a CRA assessment area. Some precedent for this exists, as the CFPB and DOJ have recently taken action against a bank in New Jersey for selectively picking its CRA assessment areas (Davenport and Epstein, 2015). Formal regulatory agencies can strengthen their enforcement by requiring lenders to define CRA assessment areas as those that not only possess the historical characteristics related to redlining but also are areas that are overly serviced by non-CRA-regulated lenders. Fulfilling this recommendation requires an expansion of the definition of CRA assessment areas to include criteria related to the current level of investment in the area and the types of lenders in operation.

Second, formal regulatory agencies can strengthen enforcement by analyzing CRA mobilization capacity in specific areas, and other agencies such as HUD can develop grant programs geared toward building capacity around CRA. Areas that are weak in CRA capacity should be prioritized for capacity building. The goal of these efforts should be twofold: to develop internal, local networks aimed at developing local knowledge and capacity in these CRA assessment areas, and to leverage the knowledge and experience of successful CRA networks from outside the CRA assessment area.

Finally, the design of CRA policy needs to recognize the diverse composition and lending experiences of minority borrowers, and also the variation that exists across different metropolitan contexts. The results from this study suggest that organization around CRA can lead to differential effects for borrowers, which could be due to the types of groups mobilized around CRA or the historical disparities that have persisted. However, formal regulation needs to ensure that when CRA activity occurs, it creates reinvestment opportunities equally for all.

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