

POLICY TOOLS AND INFORMAL ACTORS: EXPLAINING REGULATORY OUTCOMES

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ABSTRACT

In this paper, I apply a policy tools framework to explain outcomes from the Community Reinvestment Act (CRA) of 1977. Designed to stimulate reinvestment in low-income and minority communities, the elements of CRA call both formal and informal actors into play. CRA grants authority to four federal regulatory agencies to hold lenders accountable. CRA also transfers authority to external actors, lenders and/or nonprofit and community-based groups, to devise and develop reinvestment responses. Over time, the issue facing low-income communities has been redefined from concerns over access to mortgage credit to concerns of the cost of credit. I argue in this paper that the mix of actors involved in carrying out CRA objectives influences the likelihood that CRA outcomes mirror these new concerns. The results suggest the effects of regulation may be contingent upon the type of policy tool enacted and the mix of actors involved.

Key Words: Governance, Policy Tools, Community Reinvestment, Regulatory Policy

INTRODUCTION

Subprime lending was originally buoyed by changes in banking regulations, and particularly the 1977 Community Reinvestment Act, which mandated that banks extend credit to low- and moderate- income customers in the communities where banks did business or else face interference from regulators. (Editorial by Richard L. Cravatts, Boston Globe, July 26, 2008)

Excerpts from editorials illuminate the recent debate about the relationship between the effort of the Community Reinvestment Act of 1977 (CRA) to extend credit to underserved borrowers and the current mortgage crisis. Originally passed in response to the perception that banks were redlining urban communities, CRA intends to stimulate access to credit in low-income and minority communities. These headlines and editorials clearly depict the political hotbed that engulfs regulatory policy-making in the United States (Bardach and Kagan 2006), pitting conservatives against liberals or pro-business groups against neighborhood activists. As the subprime crisis unfolds, blame is tossed back and forth from the conservatives who deregulated the marketplace to the liberals who enacted policies such as CRA that force lenders to make bad loans. However, lost within these debates is the complex manner through which CRA regulation is actually implemented. In this paper, I argue CRA outcomes cannot be understood without considering the mix of actors involved in developing CRA responses.

Traditional policy analyses neglect to consider the elements of policy that incorporate a wide range of formal and informal actors into the process. As argued by Salamon (2002) the direct and indirect elements of a policy can call upon a diverse set of actors, from formal regulatory agencies to nonprofit and private sector actors, to carry out or implement public objectives. By including or excluding certain actors, the elements of the policy tool chosen shape the context from which regulatory outcomes emerge. In the case of CRA, the direct elements of CRA engage formal actors, as four regulatory agencies are responsible for assessing the CRA performance of lenders. While, at the same time, the indirect elements of CRA can engage a wide range of informal actors, as lenders, community-based groups, and other members of the public can be actively involved in devising CRA responses.

Socio-legal perspectives of regulatory policy suggest that it is difficult to understand the outcomes of regulatory policies without considering the actors involved in carrying out the policy objectives. Different actors have different perspectives and as such, may interpret and implement regulatory policies that lead to a variety of outcomes. In the case of CRA, the mixture of formal and informal actors involved in developing

CRA responses may influence the outcomes that result. For example, although the legislative intent of CRA is to stimulate access to credit in underserved areas and the research suggests CRA has been effective at doing so (Belsky, Schill and Yezer 2001; Bostic and Robinson 2004, 2005; Schwartz 1998; Shlay 1999; Squires 1992, 2003) increasingly, a number of lenders and community-based groups respond to CRA legislation in ways that move beyond mere access to credit. Largely due to concerns regarding the prevalence of subprime credit in underserved communities, community-based groups have negotiated informal agreements with lenders that have led to the creation of programs or services designed to provide access to prime markets rather than the more expensive, subprime market.

Although recent headlines have blamed CRA for the rise of subprime credit and forcing lenders to make risky loans, the empirical data suggest that CRA loans are not necessarily the culprit of the crisis. When lenders partner with third party actors, loans have been either profitable, or no less profitable than regular loans (Board of Governors Federal Reserve 2000). To be specific, 61 percent of institutions responded that loans originated under programs devised in conjunction with external groups were marginally profitable or profitable (Board of Governors of the Federal Reserve 2000).

However, CRA responses are not always informed by multiple interests, rather, it is more common that lenders develop their own responses to the legislation. Therefore, it is likely that the extent to which CRA outcomes mirror new concerns in these communities differs based upon the composition of informal actors involved.

In this paper, I argue a better understanding of CRA outcomes may be gained by considering the formal elements of policy that structure action to informal actors, and in turn, explaining the outcomes that emerge as the result of the composition of these actors. I apply Salamon's (2002) policy tools framework to identify the elements of CRA that call informal actors into action. Next, I categorize CRA responses based on the composition of the actors involved and use logistic regression to test the effects of these responses on loan outcomes. I anticipate that loans from lenders who have developed CRA responses with community-based interests are more likely to be prime, reflecting new concerns in these communities, when compared to CRA responses informed solely by lenders. The results suggest that when community reinvestment interests are involved with lenders in devising CRA responses, first-time home loan originations from these lenders are more likely to be prime loans.

As noted by Bardach and Kagan (2006, xxi), "Effective regulation, from this perspective, requires whatever blend of rules and exhortation, threat and education, will induce particular regulated enterprises to advance the values embodied in the regulatory legislation." In the battle for community reinvestment, the values embodied in CRA align with providing more equitable, sustainable community reinvestment solutions. As

the financial services environment has changed, the realization of these values is not defined as increased access to credit, but is defined as increased access to more sustainable, equitable credit. The results suggest that the broader values of the legislation may be more likely to be realized when interests representing these communities are included in developing responses. However, the variation of these groups across places raises new questions as to the other elements of policy that are necessary to encourage the participation of multiple interests.

POLICY TOOLS FRAMEWORK

Recognizing that a host of actors influence policy outcomes, a better understanding of regulatory policy outcomes may be gained by adopting a governance perspective. Governance perspectives recognize the potential for a multitude of actors and sectors to influence policy outcomes. However, while such perspectives recognize the role of informal actors, a greater understanding is needed of the relationship between the formal elements of policy and the involvement of informal actors. Traditional models used to evaluate policy outcomes often neglect to consider the design elements of policies that incorporate informal actors into the process (Schneider and Ingram 1997; Salamon 2002). For example, Schneider and Ingram (1997) argued that certain policy tools, such as capacity tools, encourage greater participation among citizen or neighborhood groups by incorporating these informal actors in the process, in turn influencing the responses that emerge. Furthermore, Salamon (2002) argued that policies contain elements that by design shift responsibility to a whole host of actors that reside beyond the formal boundaries of government. In short, the formal elements or design of policy may influence the composition of groups involved in governance.

Salamon (2002) provides a framework by which to classify the formal elements of tools along the dimensions of coerciveness, automaticity, visibility, and directness. Of particular focus in this paper is the element of directness as it provides a frame to assess the involvement of informal actors in carrying out policy objectives. Directness measures the extent to which the entity authorizing or inaugurating a program is involved in executing it (Salamon 2002, 27-28). A direct tool is one in which authorization, funding, and/or delivery systems are all carried out by the same governmental agency. Indirect tools parcel these out to different parties—other levels of government, community groups, nonprofit organizations, commercial banks, hospitals, and others.

While a number of regulatory studies have found informal actors influence regulatory outcomes; a policy tools perspective can provide a more nuanced understanding of the interaction between the policy and the informal actors called into

play. Furthermore, despite previous studies demonstrating the effectiveness of CRA in stimulating access to credit (Belsky, Schill and Yezer 2001; Bostic and Robinson 2004, 2005; Schwartz 1998; Shlay 1999; Squires 1992, 2003); less is known about the various influence of the informal and formal actors involved in interpreting CRA legislation. As argued by Braithwaite (2003), Black (2002), Picciotto (2007), and Lange (1999), interpretation of regulatory rules is rarely straightforward, but rather different groups generate multiple meanings of the rules. Based on its design, a policy can shift action towards different types of actors, which in turn, can influence the outcomes that emerge. For example, a policy that shifts action towards the regulated entities alone, may lead to a different set of outcomes than a policy that shifts action towards the groups representing the interests of those the regulations seek to protect. Likewise, a policy that shifts action to both sets of interests may yield yet a different set of outcomes. This study builds on previous studies by focusing on the elements of policy that incorporate informal actors, and how the interests they represent influence the empirical outcomes that result.

To accomplish this, I apply Salamon's (2002) policy tools framework to classify the indirect responses that emerge from the Community Reinvestment Act (CRA) of 1977 and test the effects of these responses on loan outcomes. I anticipate that responses to CRA regulation that include both community interests and lenders are more likely to result in more equitable or affordable loan outcomes. Logistic regression tests the effects of different responses under CRA on loan outcomes.

However, prior to embarking on this case, a few caveats are warranted. First, the study does not explicitly seek to measure actual programs or services implemented. Rather, this study paints with a broad brush a complex picture of regulation composed of formal and informal actors that influence the outcomes that emerge in low-income, urban communities. As such, this study lacks the precision that would be available in a study which delves deeper into the regulatory guidelines employed by each agency, the specific programs and services initiated by each lender, and/or the details of each negotiated or voluntary agreement. Rather, this study seeks to determine if a relationship exists, and to set the stage for future research to determine the effects of specific programs and services that emerge from regulations that incorporate multiple interests. Finally, the mortgage loan data used in this study is limited in a number of areas. Despite the fact that the most comprehensive publicly available database is used for the analysis, it does not contain complete information on borrowers and their loans, and as such, there are some weaknesses in the ability of this analysis to infer causation. Despite this limitation, the analysis does control for a number of borrower, lender, loan, and location characteristics, and does provide some indication of the extent to which the outcomes of CRA-regulation vary.

CRA: MOVING BEYOND ACCESS TO CREDIT TO COST OF CREDIT

Passed in 1977, one main goal of CRA is to stimulate reinvestment by increasing lending activity in low-income communities. CRA was enacted in the late 1970s in response to concerns that lenders were redlining urban communities. Proponents of CRA argued that redlining, when lenders choose to avoid making loans to borrowers based on the characteristics of the community (Immergluck 2004), triggers a cycle of disinvestment in urban communities as both borrowers and businesses are unable to obtain access to credit.

However, more recently, concerns in these communities focus on the cost of credit rather than mere access to credit. Today, the challenge facing a number of low-income, urban communities is not necessarily access to credit, but access to equitable, or lower-priced, credit. As recent headlines and news reports have documented, the rampant availability of higher-priced or subprime credit has been blamed for the current economic crisis. The two main mortgage credit markets are commonly referred to as prime and subprime. Prime markets, which offer credit at a lower interest rate, typically serve middle-income individuals with good credit. The prime market typically serves “A” borrowers whose credit scores are above 650 (Renuart 2004). The subprime market provides credit, offered at a higher price, to borrowers with an A- to D rating, based on FICO scores below 670.

Since the mid 1990s, the issue facing a number of urban, low-income communities is the extent to which subprime lending is concentrated among lower income and minority borrowers in these communities. The empirical data provides further support for these concerns. Subprime lending has a strong correlation with borrower-specific characteristics, such as minority status and education levels (Courchane, Surette, and Zorn 2004), as well as neighborhood characteristics such as low-income, predominantly minority, and urban communities (Courchane, Surette, and Zorn 2004; Department of Housing and Urban Development 2000). For example, the Department of Housing and Urban Development (HUD) (2000), assessed subprime lending in five cities (Atlanta, Baltimore, Chicago, Los Angeles, and New York) and found subprime loans were over three times more likely in low-income neighborhoods than in high-income neighborhoods, and five times more likely in black neighborhoods than in white neighborhoods. Based on individual borrower racial characteristics, black and Hispanic mortgage holders pay more for mortgages—Krivo and Kaufman (2004) found that both groups have home loans with higher interest rates when compared to whites and are 1.5 to 2.5 times more likely to pay interest of 9 percent or more.

Although CRA does not directly address the provision of prime credit in these communities, in a number of cases, CRA-regulated lenders and community-based groups have negotiated lending agreements to increase access to prime, or more inexpensive forms of credit, in low-income or traditionally underserved communities. For example, in Cleveland, through the use of CRA, informal agreements have emerged between community-based groups and lenders which have led to linkages between city officials, CDC networks, and lenders to develop programs that make mortgage loans for new homes available at low interest rates (Bright 2003). Other responses include provisions for homeownership counseling, opportunities for wealth creation by combining mortgage loans with matched savings accounts, relaxed underwriting standards, ongoing lender involvement in assessing community credit needs and lender commitments to matched market share lending in low-income and minority communities (National Community Reinvestment Coalition [NCRC] 2005).

However, CRA regulation does not always lead to agreements between lenders and community-based groups, and in most cases, CRA does not lead to negotiated agreements (Sidney 2003). In the case of CRA, a mix of formal and informal actors, regulatory agencies, lenders, and community-based organizations, are involved in carrying out the objectives of CRA. As such, the mixture of actors involved in CRA may lead to a wide range of interpretations of the legislation. An application of Salamon's (2002) policy tools framework helps to illustrate CRAs direct and indirect mechanisms that incorporate both formal and informal actors into the mix.

It is important to note, overall CRA-regulated lenders typically originate a higher percentage of prime loans, which it turn raises questions about the importance of this study. Policy decisions made in the arena of financial services have removed a number of regulations and fostered the creation of new institutions not subject to CRA-regulation. Typically, lenders not subject to CRA-regulation originate a higher percentage of subprime loans in low-income communities (Cochrane, Surette and Zorn 2004; Department of Housing and Urban Development 2000). However, the focus of this paper is not on the overall effectiveness of CRA in a dually-regulated marketplace, but rather, to use CRA as a case to explain how the outcomes of CRA, or regulation policy in general, vary by the mixture of groups involved. The insight of which may contribute to current efforts to devise regulatory mechanisms that recognize the importance of multiple interests in achieving more sustainable community reinvestment solutions.

CRA and Formal Actors

Although the focus of this paper is on the informal aspects of CRA regulation, it is necessary to recognize the potential effects of formal regulatory oversight how lenders respond to CRA. Formal oversight is highly fragmented, as formal authority under CRA is divided among the four agencies responsible for regulatory oversight in the financial industry. These include the Federal Reserve System (FRS), the Federal Deposit Insurance Corporation (FDIC), the Office of Comptroller of the Currency (OCC), and the Office of Thrift Supervision (OTS). Created in 1913, The FRS oversees bank holding companies and state-chartered banks that are members of the Federal Reserve System. In 1935, the Roosevelt administration created the FDIC to regulate state-chartered banks that elect not to join the Federal Reserve system. Established under the Currency Act of 1863, the OCC oversees the regulation of over 1600 nationally chartered banks and 50 federal branches of foreign banks in the United States. Finally, established in 1989, the OTS is the successor to the Federal Home Loan Bank Board and regulates the national thrift industry and their subsidiaries and affiliates.

Regulators review the performance of the lender based on a pre-established exam schedule and have the formal authority to impose costs on lenders when their performance is deemed to be suboptimal. A lender receives a rating of outstanding, satisfactory, needs to improve, or substantial noncompliance (Federal Financial Institutions Examination Council 2006). 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 needs to improve or substantial noncompliance CRA rating, a regulator could deny or delay a merger application, an acquisition request, or the opening of a new branch.

Formal agencies responsible for CRA oversight have interpreted CRA as holding lenders accountable in four areas: Lending, investment, community development and service. Most recently, CRA was reinterpreted to encourage lending to low-income households, regardless of the location of their properties. There is considerable latitude in both the geographic scope of the assessment area and strategies employed by the lenders to meet CRA obligations. In short, CRA does not mandate lenders meet a one-size-fits all standard. For example, in the area of community development, a lender can pursue different avenues such as providing financing for affordable housing for low- or moderate-income individuals, provide funding for community services targeted to low- or moderate-income individuals, promote economic development by financing small businesses, or provide financing in designated disaster areas or distressed or underserved metropolitan middle-income geographies. In terms of geographic scope, under the investment test, a bank has flexibility in the scope of its efforts, as a lender

can meet CRA requirements by investing in its local assessment area or by identifying a broader statewide or regional area that includes the local assessment area. Thus, while there is formal and direct action, CRA is not highly coercive as lenders exercise some discretion in how they fulfill their obligations.

Despite the flexibility lenders have in meeting CRA obligations, it is likely that commonalities may exist between lenders regulated by the same agency. Previous regulatory studies have found that a number of agency specific characteristics such as organizational culture, internal administrative decisions, agency and bureaucratic politics can influence how regulated entities respond to formal regulation (Burby, May, and Peterson 1998; May and Wood 2003; Moe 1985). For example, in the case of CRA, agencies often have exercised their authority to schedule different exams, determined the rigor with which certain sized banks will be evaluated, and established policies and practices that reflect their culture or current leadership (Immergluck 2004). Thus, it is to be expected that lenders supervised by the same agencies may respond to CRA in similar ways, and hence loan outcomes may vary by the formal regulatory agency.

CRA and Informal Actors

Indirectly, both lenders and community-based interests can influence CRA responses. Under CRA, lenders have some discretion in how they meet agency guidelines. Furthermore, external groups are also encouraged to challenge or comment on the behavior of lenders in their communities. However, not every area has historically had groups organized around community reinvestment. The involvement of informal reinvestment-based interest groups varies widely across the country, throughout states, and within cities (NCRC 2005). This variation suggests that lenders operating in areas without these interests may respond to CRA in a very different manner. For example, where these interests are present, CRA regulated lenders may be more likely to respond in ways that generate access to more affordable, or prime credit, than their counterparts in areas without these interests. Conversely, when these agreements are not present, lenders may largely react to CRA in a different manner. Thus, CRA outcomes may best be understood by categorizing the types of CRA responses by those of lenders alone or in conjunction with other interests.

In this paper, I classify lender responses under CRA into three categories: voluntary, negotiated or no agreements. By classifying the responses that emerge, some indication is provided of the groups informally involved in CRA governance.

Voluntary Agreements

A number of lenders announce voluntary lending agreements whereby they pledge to lend to certain communities without actually entering into a formal agreement with other interests (Bostic and Robinson 2004; 2005). Overall, voluntary agreements have a relationship with increased access to credit (Schwartz 1998; Bostic and Robinson 2004; 2005); however, whether or not they are more effective than negotiated agreements remains inconclusive. Voluntary agreements are often announced unilaterally by the banks, are often announced by larger lenders, and often cover a larger geographic area or region (Schwartz 1998).

However, the usage of the term voluntary may be misleading as often lenders announce a voluntary agreement prior to a merger request or application to demonstrate to regulators their effort to fulfill CRA obligations (Bostic and Robinson 2004; NCRC 2005). Furthermore, in some cases, lenders announce voluntary agreements because other regulatory bodies require them to do so in response to other fair-lending violations beyond the scope of CRA (NCRC 2005). For example, in a number of cases lenders facing fair housing or other charges have been required by the Department of Justice (DOJ) to announce a voluntary agreement related to their CRA efforts. Despite the fact that in some cases coercive factors influence why a lender announces a voluntary agreement, what remains voluntary about the agreement is that the lender proposes to meet CRA obligations. For the purposes of this paper, the major distinguishing factor is the composition of groups which inform the agreement. In the case of voluntary agreements, CRA responses are announced by the lender.

Negotiated Lending Agreements

Secondly, community-based actors exert influence on how lenders meet CRA objectives. Under CRA, community based groups and other public entities are encouraged to challenge or inform the behavior of lenders under CRA—efforts which often result in negotiated agreements between the parties. As explained by Fishbein (1992), CRA sanctioned a large role for community-based groups to engage in ‘regulation from below’ (Fishbein 1992; McCluskey 1983), largely because it was viewed more effective than formal regulation. This finding is not unique to CRA—informal actors have been found to enhance the understanding of regulations, foster the development of collective responses to problems, and enhance the extent to which regulated firms are held accountable by regulatory agencies (Koski and May 2005; Sabatier 1975; Salamon 2002).

Through the negotiation of CRA agreements, community-based groups have influenced how lenders respond to CRA regulation. The range of responses negotiated through CRA fall into the categories established by the formal regulatory agencies of

lending, service, investment and community development. The responses range from negotiating with lenders to increase lending in underserved communities, to working in conjunction with lenders to develop programs and services, or to grant programs whereby lenders help community-based groups or other organizations in their efforts to increase sustainable and affordable home ownership opportunities.

Often, a community reinvestment network emerges to utilize CRA to challenge a lender. The networks often consist of active organizing and advocacy groups, development corporations, and support groups to coordinate efforts across communities (Joint Center for Housing Studies 2002; Pogge 1992; Squires 1992, 2003; Taylor and Silver 2003). In some cases, locally-based community development agencies join in these efforts. For example, in Cleveland, the city partnered with a community development network to negotiate agreements with lenders (NCRC 2005). While technically networks such as the one that evolved in Cleveland include formal government actors, these are actors that are not formally tasked with CRA responsibility. In the case of negotiated CRA agreements, groups representing different neighborhoods or communities, interested in economic justice or fair housing issues, and interested in community development often engage in collective action to develop an active agenda to bring forth to the lenders.

No Agreements

Finally, a lender can choose not to announce an agreement or to enter into a negotiated agreement, which suggests they will be reviewed according to agency guidelines. However, the effect on CRA outcomes when a lender chooses this path is not entirely captured by the formal regulatory agency. As presented previously, under formal CRA regulation, lenders still have choices in the manner through which they meet the objectives of lending, service, development and investment, leaving much of the decision making to the lender alone as to how they fulfill CRA requirements.

CRA RESPONSES AND PRIME LOANS

As presented previously, it is argued in this paper when lenders enter into locally-negotiated lending agreements with community reinvestment interests, CRA leads to responses that mirror new credit concerns in low-income, urban communities. Specifically, when controlling for formal elements of CRA regulation and other factors that influence the cost of a loan, I expect that loans from lenders with locally negotiated CRA agreements will more likely be prime loan originations.

In addition to the potential effects formal regulation may have on loan outcomes, there are a number of other factors that influence the cost of a loan including borrower and neighborhood characteristics, and loan and lender characteristics. The literature on economics and finance provide insight as to borrower, loan, neighborhood, and lender characteristics that influence the price at which a loan is originated. A number of the studies draw upon the literature on the role of information and risk in lending markets and some are exploratory in nature given the recent increase in subprime lending (Calem, Hershaff, and Wachter 2004; Courchane, Surette, and Zorn 2004; Krivo and Kaufman 2004; Lax, Manti, Raca, and Zorn 2004; Pennington-Cross and Ho 2005; O'Brien 2005). Control variables are included in the analysis consistent with the previous findings.

METHODS

Using cross-sectional data on first-time home loan originations, I estimate the effects of locally-negotiated CRA agreements on the likelihood that a loan is a prime loan origination, controlling for other borrower, neighborhood, city, and lender factors. Treating the loan origination as the unit of analysis, I categorized loans based on the following criteria:

- 1) Regulatory agency of the lender that originated the loan
- 2) If the lender that originated the loan has a *voluntary agreement, negotiated agreement, or no agreement*
- 3) Borrower, lender, and neighborhood characteristics of the loan
- 4) The type of loan origination, prime or subprime

Sample

Cross-sectional data were collected on 2004 first time home loan originations in low-income census tracts in Chicago, Cleveland, St. Louis, and Indianapolis. A relative measure was used to define low-income tracts.¹ Tracts with median household incomes less than 50 percent of the metropolitan area were considered to be low-income, ranging from \$22,000 to \$25,000, depending upon the city. Tract data were collected from the Census Bureau for the year of 2000.

Cross tabulations were conducted to determine if there was a significant difference in the tracts among these cities based on racial or socioeconomic differences. No significant differences were found. The sample cities were selected based on similarities in regards to historical practices of redlining, racial segregation, and deindustrialization. However, the cities in the sample represent a mixture of cities that

vary in their history of groups using CRA to negotiate agreements. For example, in Chicago and Cleveland, community-based groups have negotiated a number of CRA agreements. In Chicago, since the 1980s, CRA agreements have totaled over \$12 billion (NCRC 2005). Cleveland has negotiated 27 CRA agreements since 1977 (NCRC 2005). The other two cities have utilized CRA to a lesser degree. In St. Louis and Indianapolis, there appears to be little evidence of community-based organizing around CRA. For example, there is evidence of only four CRA agreements in St. Louis back all before the mid 1990s. In Indianapolis, only one group initiated a CRA challenge since 1977. Thus, it was imperative to control for any city-level effects influencing how lenders respond to CRA.

Regression Models

Two separate logistic regression models were estimated—one using fixed-effects methods and the other using cluster-robust methods. Logistic regression was chosen given the use of a binary dependent variable. Fixed-effects and cluster-robust methods were chosen to ensure the robustness of the findings and to control for the potential influence of the variation among cities in community reinvestment effects. I used SAS version 9.12 to fit the models.

When using fixed-effects methods, each city is modeled as having its own effect on the type of loan origination. In a cluster-robust model, the variance of the estimate is adjusted to reflect the groupings of the loans in the cities, which alters the standard error, confidence interval, and significance of the estimate. A generalized estimating equation (GEE) with an exchangeable working correlation structure was used to fit the cluster-robust model.

Variables of Interest

The dependent variable of interest is whether or not a loan origination is prime. Prime loans were coded as one, and subprime loans were coded with a zero. A prime loan is defined as a loan origination that does not exceed the price triggers established by the Federal Reserve Board in 2004. As of 2004, HMDA requires that lenders report pricing information on loans that exceed a certain threshold. Lenders are required to report the difference between the loan's annual percentage rate (APR) and the yield on Treasury securities with comparable periods of maturity. If the difference in the spread is equal to or greater than three percentage points for loans secured by a first lien or five percentage points for loans secured by a subordinate lien, the spread is reported in the database. Loans above the trigger can be classified as subprime. Likewise, loans below

the trigger can generally be classified as prime. Data is not available on the loan terms; therefore, any excessive penalties or fees that are not captured in the APR will not be reflected in the dataset. Although not a perfect measure of whether or not a loan is prime or subprime, the threshold provides some indicator of the type of loan and is the best data available publically.

The independent variable of interest is locally-negotiated CRA agreements. Loans were identified as being originated by a lender with a locally-negotiated lending agreement by using the NCRC's *CRA Commitments* (2005). If a lender had a negotiated lending agreement between the years of 2000-2004, the lender was identified as having a locally negotiated agreement. Loans from lenders with a locally-negotiated lending agreement were coded with a one, and loans from lenders without a locally-negotiated lending agreement were coded with a zero. The base group for the analysis was a loan from a lender with no agreements.

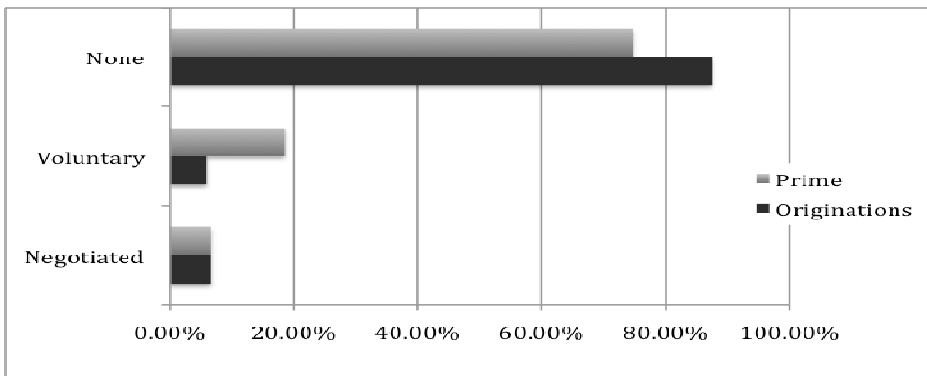
It was necessary to control for the other factors that might influence loan outcomes including CRA responses taken by lenders and the regulatory agency of the lender that originated the loan. As described previously, lenders are regulated under CRA by one of four regulatory agencies, the Office of Thrift Supervision, the Office of Comptroller of Currency, the Federal Reserve System, or the Federal Deposit Insurance Corporation. Dummy variables were created by coding the regulatory agency of the lender by which the loan origination was made. Loans originated by lenders subject to regulation by the OCC served as the base group.

Loans were identified as being from a lender with a voluntary lending agreement by using NCRC's *CRA Commitments* (2005). If a lender had announced a voluntary lending agreement between the years of 2000-2004, the lender was identified as having a voluntary agreement. All loans originated by the lender in the area subject to the voluntary agreement were coded. Loans from lenders with a voluntary agreement were coded with a one, and loans from lenders without a voluntary lending agreement were coded with a zero. The base group for the analysis was a loan origination by a lender with no agreements.

Overall, 88 percent of the loans in the sample were prime, which suggests overall the majority of loan originations by CRA-regulated lenders are prime. However, the distribution of prime loans throughout the sample varies by regulatory characteristics. The relationships between these variables and the dependent variable of interest are presented in Figures 1 and 2. Figure 1 demonstrates that although lenders with no agreements represented the largest percentage of loan originations and the largest number of prime loans, their overall percentage of prime loans were lower than lenders with an agreement. Lenders that took no additional indirect action under CRA originated the majority of the loans, over 80 percent, in the sample and over 70 percent

of these were prime. Conversely, 6 percent of the loans in the sample were originated by a lender with a locally-negotiated lending agreement and 8.5 percent were originated by a lender with a voluntary agreement. However, among prime loan originations the sample, loans from lenders with negotiated or voluntary CRA agreements ranged between 6 and 18 percent, suggesting that within these categories a greater percentage of loan originations were prime. Conversely, although loans from lenders with no agreement did constitute the greatest number of prime loans, their within category percentage of prime loan originations was lower.²

Figure 1. Loan Originations and Informal Regulatory Responses



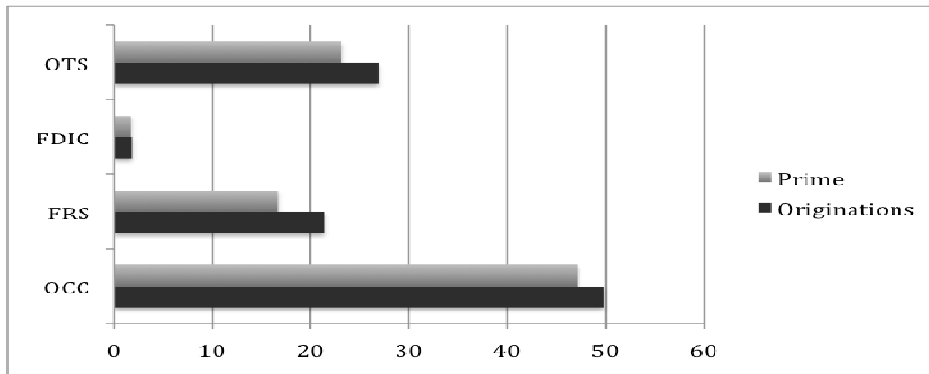
Descriptive Statistics (N=2869):

Negotiated Agreements: Mean=.067, Std Dev=.249, Min=0, Max=1

Voluntary Agreements: Mean=.196, Std Dev=.397, Min=0, Max=1

Figure 2 depicts the relationships between loan originations, prime loans and regulatory agency type. Overall, the majority of loans in the sample were originated by lenders regulated by the OCC, roughly 50 percent. Across categories, lenders regulated by the OCC originated the greatest number of prime loans; however, within categories, the FDIC originated a greater percentage of prime loans, whereas the FRS originated the smallest percentage of prime loans.

Figure 2. Loan Originations by Formal Regulatory Agency



Descriptive Statistics (N=2869):

OCC: Mean=.499, Std Dev=.500, Min=0, Max=1

FDIC: Mean=.214, Std Dev=.410, Min=0, Max=1

FRS: Mean=.019, Std Dev=.136, Min=0, Max=1

OTC: Mean=.268, Std Dev=.443, Min=0, Max=1

Borrower, Loan, Lender and Neighborhood Characteristics

Variables controlling for the borrower characteristics of the loan include borrower race, sex, and amount of the loan. Borrower race is coded with a one and nonminority borrowers are represented by a zero. Female sex status is represented by a one and male status is represented by a zero. Applicant income was dropped from the analysis due to its strong correlation with loan amount. Loan amount is a continuous variable indicating the amount of the loan origination in thousands.

Variables controlling for the neighborhood characteristics of the loan include minority population, percentage of college educated residents, total population in the census tract, median housing value, and age of housing stock. Minority population represents the total minority population in the census tract where the loan was originated. Percent college represents the percentage of residents with a college education in the census tract where the loan was originated. College degree is defined as any degree, including associates through post-graduate degrees. Total population represents the total population in the census tract in thousands. Finally, median housing value and age of housing stock represent the median housing value and average age of housing stock in the census tract, respectively.

The variables lender activity, assets, and lender philosophy control for the effects of lender characteristics on the type of loan. Activity is a continuous variable that represents the number of loans originated in the total sample by the originating lender

was used as a measure to control for the potential effects of specialization. Assets is a categorical variable divided along the lines of CRA regulatory exams (different sized banks have different tests and exam schedules), with small banks being coded one, medium-sized banks coded two, and large banks coded three. The base group for the analysis was large banks.

Finally, a variable was included to control for the effects of lender philosophy on the likelihood of a prime loan origination. Although a lender may enter into a negotiated agreement in a city, the effects of the agreement may be due less to the agreement or input from community groups, but from their internal commitment to lending in these communities. For example, a lender with a negotiated lending agreement may be more likely to enter into the agreement not because of the presence of community-based groups, but because they have a culture that views lending in low-income communities as a priority. Thus, it might be expected that loans from this lender in another area will not significantly differ from the loans in the city with the agreement—suggesting the outcomes are the result of something unique to the lender rather than the influence of community based groups. To control for this, a dummy variable was used to identify loans in non-agreement areas originated by lenders with a negotiated agreement.

RESULTS

The results and interpretation of the coefficients are presented in Tables 2 and 3, respectively. The logistic regression with fixed effects is viewed as being the more appropriate model for this analysis but may limit the study's generalizability beyond the cities in the sample. As noted by Reynolds , Lambert and Burton (2008) in their simulation of various regression models, a fixed-effects analysis is generally most appropriate for samples with a large number of cases from only a few areas. The current sample has a large number of loans in each city, but few cities, and furthermore, the cities are grouped within a region, the Midwest. For this reason, only the results from the fixed-effects model are discussed in this paper.

Table 2. Type of Loan Origination by Informal and Formal CRA-Regulation

Independent Variables	Logistic-Fixed Effects	Logistic-Cluster-Robust
Locally-Negotiated CRA Agreement	1.512* [.746]	1.513* [.678]
Voluntary CRA Agreement	.749* [.291]	.753 [.519]
Small Banks	-.652* [.170]	-1.602* [.675]
Medium-sized Banks	-.293 [.216]	-1.236* [.145]
Federal Reserve (FRS)	-1.113* [.230]	-1.119* [.569]
Federal Deposit Insurance Company (FDIC)	.210 [1.047]	.233 [.441]
Office of Thrift Supervision (OTS)	-.950* [.208]	-.951* [.462]
Lender Philosophy	-.348 [.195]	-.354 [.519]
Age of Housing Stock	-.031* [.010]	-.031* [.011]
Total Population	.000 [.000]	-.000* [.000]
Percent College Residents	.075* [.014]	.076* [.014]
Median Housing Value	.000* [.000]	.000* [.000]
Minority Population	-.015* [.005]	-.015* [.006]
Borrower Race	-.184 [.159]	-.183* [.053]
Borrower Sex	-.159 [.147]	-.159 [.119]
Loan Amount	.003* [.018]	.003* [.001]
Lender Activity	-.005* [.001]	-.005* [.001]
Constant	3.680* [.883]	5.918* [1.334]
Number of Observations	2869	2869

Table 2 presents the estimates of the coefficients followed by the standard errors of the estimates in brackets. Coefficients significant at the $p < .05$ level are denoted by an *. While there are a number of

debates over the appropriate model fit statistics for logistic regression equations, the overall model was significant at the $p < .001$ level [-2 Log Likelihood Value=1435.686 AIC=1477.686, and SC=1602.882].

Table 3. Interpretation of the Regression Coefficients

	Probability	Fixed Effects		Cluster-Robust
		Odds Ratio	Confidence Interval	Confidence Interval
Locally-Negotiated CRA Agreement	.82	4.549	1.054-19.631	1.201-17.150
Voluntary CRA Agreement	.68	2.115	1.196-3.743	.767-5.877
FRS	.247	.328	.209-.515	.107-.996
FDIC	.552	1.233	.158-9.606	.532-2.995
OTS	.279	.387	.257-.581	.156-.956

Fixed-Effects Methods

When using a fixed-effects method, local CRA agreements, voluntary CRA agreements, and regulatory agency type significantly influenced the type of loan origination. Other things being equal, the estimated odds of a loan origination by a lender with a locally-negotiated CRA agreement is prime is 4.549 [1.054-19.631]. This suggests loans from lenders with negotiated agreements are 4.5 times more likely to be prime than loans from lenders without CRA agreements. In terms of probability, this suggests that a loan origination from a lender with a negotiated agreement is about 82 percent likely to be prime. Although the effect is significant, as indicated by the confidence interval, the precision with which this can be predicted is highly variable, which means the actual effects of CRA agreement can range from just slightly increasing the odds a loan is prime, to increasing the odds by nearly 19 times.

Other things being equal, the estimated odds of a prime loan origination by a lender with a voluntary CRA agreement are 2.115 [1.196-3.743]. This suggests when compared to a loan from a lender with no agreement, loans from lenders with voluntary agreements are about 2 times more likely to be prime. In terms of probability, when holding all other values constant, this suggests a loan from a lender with a voluntary agreement is about 68 percent likely to be prime. The effect is significant, and the range of the confidence interval is more precise, suggesting it is realistic to expect voluntary agreements increase the odds of a prime loan origination by 1.2 to 3.7 times.

Loans from lenders regulated by the FRS and OTS were less likely to be prime than loans originated by lenders regulated by the OCC. Loans subject to regulation by the FDIC did not differ significantly from those subject to the OCC. Other things being equal when compared to the OCC, the estimated odds of a loan originated by a FRS-regulated lender is reduced by .328 [.209-.515]. Likewise, the estimated odds of a loan originated by a lender regulated by the OTS is .387 [.257-.581] less likely to be prime, again compared to loans originated by lenders regulated by the OCC. In terms of probability, loans from the FRS and OTS are roughly 25-27 percent likely to be prime, when holding all other factors constant.

For both methods, the direction and significance of the control variables were in the same direction and most were significant, based upon the p values and confidence intervals. The exception is that borrower race was not significant in the fixed-effects model. When using the fixed effects method, the confidence interval suggests in some cases, borrowers race may not reduce the likelihood [.609-1.135]. Conversely, when using cluster robust methods, borrower race does reduce the likelihood of a prime loan origination by .832 [-.286 - -.080]. Based on the rationale presented above, the fixed effects estimation is deemed to be more appropriate given the sample design of this study; however, additional research is needed before drawing any conclusions about the relationship between borrower race and prime loan originations.

To put the results in perspective, I consider the effects of locally-negotiated CRA agreements on loan originations in minority communities based upon the estimates achieved using fixed effects estimation. As indicated by the constant in the model, when all variables are held at zero, the log odds of a loan being a prime loan origination is 3.68, suggesting the probability of receiving a prime loan is 97 percent, based on a loan origination to a nonminority, male borrower, from a large lender regulated by the OCC.

If we examine the effects of locally-negotiated agreements on loan originations in a community where 75 percent of residents are minority, a locally-negotiated CRA agreement increases the log odds to 4.107, increasing the probability to 98 percent. Conversely, for loans originated in a community with the same composition of minority residents by a lender without a negotiated agreement the log odds decrease to 2.592, decreasing the probability to 93 percent. When considering a community where 95 percent of residents are minority, the log odds of a prime loan origination when a locally-negotiated agreement is 3.789, 97.8 percent; whereas, when no agreement is present, the log odds are 2.27, reducing the probability to 91 percent.

As additional factors are taken into consideration, the effects of locally-negotiated agreements further mitigate some of the gaps that exist between certain loan characteristics and prime loan originations. For example, considering the effects of FRS

regulation, when locally-negotiated agreements are present, the odds of the same loan in a community with 75 percent minority residents originated by a FRS regulated lender with a locally-negotiated agreement is 2.9. Conversely, under the same conditions, if an agreement is not present, the odds decrease to 1.457.

CONCLUSION

In conclusion, the analysis suggests that a recognition of the actors called into play through the elements of policy can lead to a better understanding of the outcomes that emerge. Governance models recognize that multiple actors, both formal and informal, often influence the policy outcomes that emerge. In this paper, it was argued that the outcomes that emerge are shaped by the mixture of actors involved in developing the responses. In the case of CRA, when community-based interests are involved in devising CRA response, the outcomes are more likely to reflect the current concerns in these communities, resulting in an increased likelihood of prime loan originations.

It was anticipated that when lenders and community-based interests were involved in developing CRA responses, as measured by the presence of a negotiated CRA agreement, prime loans originations would be more likely. Locally-negotiated CRA agreements had a positive effect on prime loans, increasing the likelihood that a loan was prime when compared to lenders that largely devised their own responses to CRA in line with agency guidelines.

However, the precision with which negotiated agreements increase the likelihood is highly variable--either slightly increasing the likelihood a loan is prime or increasing it substantially. To better understand the effects of these agreements, additional research should focus on the relationship between the specific programs or services that emerge from these agreements, the mixture and type of organizations involved, and prime loan outcomes. Bostic and Robinson (2005) have undertaken some of this work from a largely economic perspective, but additional research is needed to understand how different actors representing different interests contribute in these arrangements.

While there is a clear difference among loan outcomes from lenders with negotiated CRA agreements and those without, the effects of voluntary agreements are inconclusive. The significance of the effects of voluntary agreements on loan outcomes varies by the underlying assumption of the model chosen for estimation, suggesting additional analyses are needed before drawing any conclusions. The lack of significance in the second model suggests that there may be something unique to the voluntary agreements in the sample that influence their effects on loan outcomes. Anecdotal research in this particular case indicates that the voluntary agreements

announced in this sample were at the formal request of the Department of Justice (DOJ). Therefore, although voluntary in name, the DOJ may have exert some formal influence on how lenders interpreted their CRA responsibility. One way to extend this analysis is to obtain additional data from different cities and different types of voluntary agreements and retest the effects.

Finally, the results suggest that an understanding of regulatory outcomes is not complete without also accounting for the involvement of formal actors. In the case of CRA, the formal regulatory agency of the lender originating the loan has a significant effect on the type of loan outcome. The fragmented nature of formal CRA oversight influences differences in how lenders respond, which in turn, influences the outcomes that result. When controlling for borrower and neighborhood characteristics likely to influence loan originations, regulatory agency exerted a significant influence. Specifically, loans from lenders regulated by the FRS and OTS were less likely to be prime originations than those regulated by the OCC. While these findings suggest formal regulation plays a role, the specific factors that influence why one agency increases or decreases the likelihood of prime loan originations is beyond the scope of this paper. Additional research is needed to understand how these agencies differ by the internal policies they put in place, their culture, and the composition of external groups that may influence the CRA guidelines and policies they put in place.

Taken together, these findings raise broader questions about the role of formal actors and other elements of policy necessary to ensure the appropriate mix of actors are involved in developing responses. The empirical results from this study suggest the composition of interests involved may influence the outcomes that emerge, and in the particular case of community reinvestment, including both lenders and community-based interests may yield more sustainable loan outcomes. However, as CRA is currently designed, multiple interests are not mandated to contribute to the development of these responses, and lenders can often devise their own responses or react to agency guidelines. When considering Bardach and Kagan's (2006) earlier quote, regarding the appropriate blend or mixture of regulatory mechanisms, additional questions arise concerning other elements of policy, such as to what extent are formal actors accountable for ensuring multiple interests contribute to the responses, and to what extent do other policy elements, such as coercion, interaction with indirect policy elements to influence the responses that emerge? In cases where indirect policy elements heavily favor one set of actors, it may be necessary to blend coercive and indirect mechanisms to ensure multiple actors have the opportunity to inform the responses that emerge.

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END NOTES

¹ The Department of Housing and Urban Development and some CRA regulators use a 50 percent standard (of MSAs median household income) to identify low-income communities.

² Among loans from lenders with no agreements, 18.2 percent of these loans were from lenders with locally-negotiated agreements covering a different city. The potential effects of these agreements were controlled for by the variable lender philosophy (Mean=.182, Std Dev=.387, Min=0, Max=1).