The Effects of the GSEs, CRA, and Institutional Characteristics on Home Mortgage Lending to Underserved Markets

Richard A. Williams
University of Notre Dame

Eileen McConnell
Indiana University-Bloomington

Reynold Nesiba
Augustana College

Abstract

This study longitudinally compares the characteristics of loans made or bought by different institutions to see which types of lenders lead the mortgage finance industry in making credit available for low- and moderate-income families and which are merely following behind. Hypotheses are tested via a case study analysis of conventional home mortgage lending in Indiana for 1992–96. Results show that, although the government-sponsored enterprises (GSEs)—Fannie Mae and Freddie Mac—made gains in underserved markets during this period, at no time were they ever leading the market. There is also no clear evidence that the Community Reinvestment Act (CRA) was a major contributor to gains made by underserved markets, perhaps because Indiana citizen groups failed to take advantage of its provisions. Contrary to some people's fears, increasing market share for larger lenders did not appear to be detrimental to underserved markets. The results also raise the disturbing possibility that subprime lenders may have stolen away borrowers who could have gotten better deals elsewhere. Given the rapid pace of change in home mortgage lending and the recent adoption of new programs by the GSEs, the key findings of this study may soon need to be updated.

Theoretical Overview and Study Design

Over the past decade, numerous authors have evaluated the existence and degree of racial and economic disparities occurring in the urban home mortgage market. Two main analytic strategies have been employed.

Studies of the primary lending market have focused on factors affecting loan origination. Here the emphasis has often been on how characteristics of neighborhoods and individuals affect the likelihood of a loan application being accepted or denied. From the early work done by Shlay (1987a, b, c) and Dedman (1988) through the frequently cited study published by the Boston Federal Reserve Bank (Munnell, Browne, McEneaney, and Tootell, 1992), the results are practically unanimous. Studies across the country show that Blacks proportionally apply for fewer loans than Whites, yet they are rejected more often. Researchers consistently find that White neighborhoods receive many (three to four times) more loans per 1,000 mortgageable structures than do minority neighborhoods. Regression analyses using various model specifications and data sets agree that redlining and racial variables show consistent, significant, and negative associations with home mortgage lending. This is true even after applying controls for obligation ratios, credit history, loan-to-value ratios, and property characteristics (Williams and Nesiba, 1997).

By way of contrast, studies of the secondary mortgage market have focused on the purchasers and/or ultimate owners of loans, that is, the lenders who assume the risk of a loan's default. Here the emphasis typically has been on comparing the portfolios of government-sponsored enterprises (GSEs) with other lenders. GSEs (Fannie Mae and Freddie Mac) are privately owned, for-profit corporations. But because they receive significant government benefits, they are expected, indeed mandated, to promote homeownership in underserved areas. Several studies have argued that Fannie Mae and Freddie Mac could do more to achieve these goals (Lind, 1996a, b; Bunce and Scheessele, 1996). These studies typically note that the loan portfolios of Fannie Mae and Freddie Mac generally include fewer low-income and minority loans than do the portfolios of other lenders.

This article argues that, although both lines of research have been valuable, both have suffered from their failure to simultaneously consider the many factors that affect home mortgage lending and, in particular, lending to low-income and minority neighborhoods and individuals (which, for convenience, we will frequently refer to as *community reinvestment lending* or *lending to underserved markets*). Studies of the primary market have tended to emphasize denial rates. Although denial rates are important, they tell only part of the story; a low minority denial rate would mean little if few minorities ever applied. Studies of the primary market have paid little or no attention to the impact of the GSEs and the secondary market on loan originations.

Studies of the secondary market also have been limited in the range of factors they consider. We note that even if the GSEs made no changes in their policies and activities across time, their performance could appear to change because of changes in the primary market. This is because the secondary market is both a reflection and a cause of what happens in the primary market. Failure to consider changes in primary market lending leaves studies of the secondary market open to spurious or misleading results, making GSE performance look better or worse than it really is. In particular, we note that the Government has adopted a multifaceted strategy to improve access to housing credit, of which the GSEs are only one part. If the GSEs are failing to lead the market, as they have been mandated to do, it may be because other Government policies (in particular, the Community Reinvestment Act [CRA] and Home Mortgage Disclosure Act [HMDA]) have been even more effective.

In addition, we note that both lines of research generally have failed to consider the possible importance of lender institutional characteristics. Drawing on work from Williams and Nesiba (1997) and Kim and Squires (1995), we review arguments that lender characteristics such as legal structure, location of control (such as, local versus nonlocal), and asset size potentially can affect lender community reinvestment performance.

Therefore, we argue for an analytic strategy that is similar to that used in current studies of primary and secondary market lenders but that is extended to simultaneously examine the interrelationships of both. We further enhance current analyses by including indicators of lender characteristics. We test our hypotheses using a case study analysis of the entire State of Indiana supplemented by a more specialized look at one of its metropolitan statistical areas (MSAs), South Bend/St. Joseph County.

The American Housing Finance System[1]

The American housing finance system consists of a primary mortgage market and a secondary mortgage market. In the primary market, individuals obtain mortgage loans from two types of lenders: *depository* and *nondepository.* Depository institutions primarily consist of commercial banks and savings and loans. They benefit from Federal deposit insurance and from other services available only to depository institutions. In exchange, they are subject to laws and regulations that nondepository institutions are not. Among the most crucial of these is CRA, which requires them to meet the needs of the entire community in which they are located. Depository institutions raise mortgage funds from deposits and, increasingly, by selling their loans on the secondary market. Nondepository lenders also originate loans, but they almost always sell them immediately. They make their money from fees for originating and servicing mortgages. They (and credit unions) are not subject to CRA, although, like all lenders, they must comply with fair lending and antidiscrimination laws.

Many of the loans made in the primary market are sold to the secondary market. By purchasing mortgages from lenders, the secondary market channels funds back to the primary market and to new homebuyers. The secondary market has grown dramatically in recent years. Currently, approximately 55 percent of single-family mortgage debt is held by secondary market entities; 25 years ago, the figure was only 7 percent (Federal Home Loan Mortgage Corporation, 1995).

Several types of entities are involved in the secondary market. These include mortgage bankers, life insurance companies, and pension funds. The most critical, however, are the GSEs, Fannie Mae and Freddie Mac. The GSEs are stockholder-owned, for-profit entities. However, Congress established them with the goal of promoting homeownership. Toward that end, they were given both special restrictions and privileges. Unlike many corporations that can enter into any lawful line of business, the GSEs are limited to the residential mortgage market. Their loans are limited in size ($208,800 in 1998) and must have loan-to-value ratios no higher than 80 percent unless backed by private mortgage insurance (PMI) or some other form of credit enhancement. They cannot originate loans, and they must report quarterly to the HUD on their progress toward meeting annual housing goals. So they can meet their responsibilities, they are exempt from Securities and Exchange Commission (SEC) regulations and State securities laws, they pay no State or local income tax, and they have a $2.25 billion line of credit with the U.S. Department of the Treasury.

Have the GSEs met their goals? In *Financing America's Housing,* Freddie Mac (Federal Home Loan Mortgage Corporation, 1996) proudly claims that America's housing finance

system is the best in the world and the GSEs deserve much of the credit for that. Among other things, Freddie Mac argues that, thanks to the GSEs:

- **Mortgage rates are lower.** Mortgage rates in the conventional conforming market are one-half of a percentage point below jumbo market rates (loans too large to be purchased by the GSEs). This reduction saves homeowners $10 billion each year on interest costs. Lower mortgage rates, in turn, facilitate higher homeownership rates and reduce operating costs on rental property.
- **Home mortgage credit is readily available.** Mortgage credit is readily available in communities across the country at about the same interest rate, regardless of whether a local housing market is at a cyclical peak or trough. This was not the case prior to the development of the secondary market for conventional mortgages. In short, Freddie Mac and Fannie Mae stabilize mortgage flows and help eliminate regional disparities.
- **Home-financing opportunities are steadily expanding.** Freddie Mac and Fannie Mae serve diverse homebuyers and renters. Through ongoing refinement of underwriting guidelines and other actions, they extend the reach of the secondary market to more borrowers and communities. In 1995 Freddie Mac's and Fannie Mae's purchases financed homes for 1 million low- and moderate-income families.

The American housing finance system may very well be the finest in the world. Nevertheless, many contend that the system does not serve all members of society equally and fairly. Critics contend that both the primary and secondary mortgage markets have not done as well as they should at meeting the needs of low-income and minority neighborhoods and individuals. We review the research on these debates next.

Studies of the Primary Lending Market[2]

The History of the Home Mortgage Legislative Movement. Allegations of redlining, the systematic abandonment of low-income and minority neighborhoods by banks, have persisted in American urban centers since at least the late 1960s (Benston, 1979). In response to these allegations, grassroots community reinvestment groups have organized and pushed for legislative reforms to increase their access to bank credit and to bank lending data. During the 1970s, two main acts were passed in an attempt to increase access to bank loan records and to affirm the responsibilities banks have to local communities and individuals. The primary objective of the 1975 HMDA is to facilitate the examination of credit flows and of the geographic locations where credit is and is not available. HMDA requires federally regulated commercial banks and savings and loans making conventional and Government-guaranteed (FHA and Veterans Administration [VA]) home mortgage loans within MSAs to disclose the geographic location of each loan originated by census tract.

The CRA, formally Title VIII of the Housing and Community Development Act of 1977, states that financial institutions have "a continuing and affirmative obligation to help meet the credit needs of the entire community in which they are chartered…consistent with safe and sound operation of such institutions." The entire community includes minority and integrated neighborhoods as well as all-White neighborhoods. The act, furthermore, states that an institution's record of meeting credit needs includes low- and moderate-income neighborhoods (Public Law 95–128, October 12, 1977).

HMDA and CRA are pathbreaking legislative acts. Unfortunately, during the 1980s, legislative authority failed to translate into effective monitoring. Public reports of lax

enforcement, compelling evidence of lending discrimination in major cities (see following paragraphs), and a multibillion dollar taxpayer bailout of the savings and loan industry all contributed to grassroots support for a stronger community reinvestment movement. Key legislative reforms were made in 1989. In particular, HMDA data requirements were extended. HMDA now requires lending institutions to report not only the geographic location of originated loans as in the past, but also the gender, race, and income of all applicants who are granted and/or denied home mortgage refinancing, home improvement loans, or conventional, FHA, or VA home mortgage loans (Canner and Smith, 1991, 1992). These amendments greatly strengthened the quality of information and data available to community reinvestment researchers (Guskind, 1989).

Previous Research: The National Scene. Using information from HMDA and other sources, various authors have made it abundantly clear that Whites and Blacks experience different results when it comes to obtaining a home mortgage. Finn (1989) found that, even after controlling for income and other factors, Whites in Boston received three times as many residential loans per mortgageable housing unit compared with Blacks. In her 1987 study of Baltimore, Shlay (1987c) concluded that racial composition played a large and independent role in explaining disparities in residential mortgage distribution among neighborhoods. Dedman (1988) discovered that between 1981 and 1986, Atlanta financial institutions made five times as many home loans per 1,000 housing units in White neighborhoods than in Black neighborhoods with similar income levels. Studies of Chicago (Brady, Dubridges, and Klepper, 1980; Dunham, 1991; Peterman, 1990; Peterman and Sanshi, 1991; Shlay, 1986, 1987b, 1988; Shlay and Freedman, 1986), Detroit (Blossom, Everett, and Gallagher, 1988), Los Angeles (Dymski and Veitch, 1991; Dymski, Veitch, and White, 1990), and New York (Williams, Brown, and Simmons, 1988; Bartlett, 1989; Lueck, 1992; Caskey, 1992) produced similar findings.

Many regard an October 1992 study, the Federal Reserve Bank of Boston's *Mortgage Lending in Boston: Interpreting HMDA Data* (Munnell et al., 1992), as the most persuasive study of racial discrimination in residential lending. The authors of the study attempt to address the complaints leveled at earlier HMDA data analyses and their failure to include all relevant variables regarding a bank's loan acceptance/denial decision. Rather than using HMDA data alone, these researchers supplement HMDA data with actual loan application data from Boston area financial institutions. The authors conclude that even if two mortgage applicants are financially identical, a minority applicant is 60 percent more likely to be rejected than a comparable White applicant.[3]

As Bunce and Scheessele (1996) note, there has been dramatic change in the home mortgage market in recent years. The proportion of total mortgage lending going to lower income families and minorities increased substantially between 1992 and 1995. The share of loans going to very low-income families, for example, increased from 10.8 percent to 14.9 percent during this period, or 38 percent. Similarly, the share for African Americans and Hispanics increased from 8.3 percent to 13.3 percent, or 60 percent. However, a recent analysis by the National Community Reinvestment Coalition (1997) points out that progress in lending to underserved markets was not as strong in 1996. For example, although Blacks benefited from a tremendous 70-percent increase in conventional lending between 1993 and 1995, they actually received 1.5 percent fewer loans in 1996 than in 1995. Furthermore, denial rates among Blacks increased in 1996 and remained more than twice as high as the rates for Whites. The reasons for these large fluctuations in recent years are unknown, although this study will try to shed light on the matter.

Studies of the Secondary Lending Market

Research on the secondary market, and on GSEs in particular, is much more limited. This is no doubt because so little data have been available and because the secondary market has only recently grown in importance.

Early written works on the GSEs often noted their pervasive and possibly detrimental effect on application procedures and underwriting guidelines throughout the home mortgage industry. A publication of the Federal Home Loan Bank Board (1981) reported that by 1979, 80 percent of all conventional loans used the standardized loan application developed by Fannie Mae/Freddie Mac. It was feared that rigid documentation requirements limited the flexibility of lenders to help applicants be approved for mortgages. In addition, a nationally standardized application may not consider geographically situated information, which can cause problems for people living in economically depressed regions. The same and later studies also noted the impact of the GSEs' underwriting guidelines on mortgage lenders. Because lenders increasingly sell their mortgages to the secondary market and Fannie Mae/Freddie Mac are large players in the secondary market, their "underwriting guidelines define practice in conventional mortgage originations" (MacDonald, 1995).

Still, there was little hard evidence on the effect of the GSEs, and there was concern that the GSEs were not doing as much as they should for underserved markets. In 1992 Congress decried the "disturbing lack of empirical information on the GSEs' business" and mandated that the GSEs should "lead the mortgage finance industry in making credit available for low- and moderate-income families" (Lind, 1996a). At about the same time, lenders were required to give more detailed information in their HMDA reports, and the GSEs were required to make data available on their activities. This led to a new, albeit still sparse, wave of research on the GSEs and the secondary market.

Recent studies typically have taken a very different approach than that employed in primary market studies. Primary market studies often look at denial rates and how the rates differ with racial and demographic characteristics of neighborhoods and individuals. Secondary market studies instead focus on comparisons of portfolio characteristics across institutions. Specifically, these studies compare the extent to which underserved markets are included in the portfolios of the GSEs relative to other secondary market purchasers and to primary market lenders who choose to hold their loans in portfolio rather than sell them. The emphasis, then, is on who ultimately bears the risk of a loan rather than on who makes the loan first. Canner, Passmore, and Surrette (1996) lay out the rationale for this strategy:

> [T]he acceptance of credit risk is at the heart of mortgage lending…. Originators, funders, and purchasers of mortgages are numerous once an institution agrees to bear the credit risk of lending. The bearer of credit risk is therefore the crucial participant in the mortgage lending process.

The recent research that has been done suggests that:

- The GSEs are not doing as well as they could at serving underserved markets (although the GSEs dispute this).
- Fannie Mae generally does a better job with underserved markets than does Freddie Mac.

Bunce and Scheessele (1996) note several ways in which the GSEs seem to be falling short in the goal of leading the market.

- In 1995 very low-income borrowers accounted for 17.3 percent of FHA-eligible loans retained in portfolio by depositories, compared with 12.4 percent of loans purchased by the GSEs, a 28-percent shortfall in performance.
- Census tracts in which African Americans represent more than 30 percent of the population accounted for 6 percent of depositories' retained loans, compared with 4.7 percent of the GSEs' loans, a 22-percent shortfall in performance.
- For 1995 it is estimated that the GSEs purchased 28 percent of all FHA-eligible home loans in metropolitan areas, but only 14 percent of all loans to African Americans and 22 percent of all loans financing properties in underserved areas.

Other authors make similar claims. Drawing on work from Canner et al. (1996), Blalock (1996) observes that the GSEs take no more risks with loans to low-income or minority homebuyers than private companies do. Likewise, Lind (1996a) finds that, for most types of underserved markets, the GSEs are not leading the home mortgage industry.

Freddie Mac comes in for particular criticism in these studies. Lind (1996a, b) finds that in most sectors of concern, Fannie Mae was approximately at the level of the industry, whereas Freddie Mac was 20 to 30 percent behind. Lind (1996b) furthermore found that these disparities were not because of differences in the types of institutions from which the GSEs bought their loans; indeed, one major lender who dealt primarily with Freddie Mac sold its "socially responsible" loans to Fannie Mae, suggesting that Fannie Mae would take those loans—but Freddie Mac would not. Likewise, Bunce and Scheessele (1996) found that Fannie Mae is much more likely than Freddie Mac to purchase loans for underserved borrowers and for properties in their communities.

It should be noted, however, that the GSEs' own studies come to very different conclusions. For example, Freddie Mac (Federal Home Loan Mortgage Corporation, 1995) claims that its record with underserved markets is similar to that of the market as a whole and that where it has trailed is partly because its portfolios reflected refinancing loans from earlier years. The GSEs have also objected to the methodology of several studies (U.S. Department of Housing and Urban Development, 1995). In any event, most seem to agree that the GSEs have done better with underserved markets in recent years. The main questions are, given the congressional mandate to lead the market, have the GSEs improved as much as they could have and should have? Have other secondary and primary market lenders improved even more?

Critique of Previous National Research

Existing research has provided powerful documentation of racial disparities in home mortgage lending. Still, these studies have several limitations.

Studies of the primary market have focused often on denial rates and how they differ with characteristics of applicants and neighborhoods. Denial rates tell only part of the story, however. A high denial rate for a lender may indicate that it targets groups and areas ignored by others. Conversely, a low denial rate for a lender means few, if any, low-income and minority individuals apply for loans with that lender. As is the case in studies of the secondary market, primary market studies must pay more attention to the racial and economic composition of loans that are actually made. Specifically, more attention needs to be paid to what we call *Community Reinvestment Market Share* (Williams and Nesiba, 1997)—the extent to which lenders make loans to (or purchase them from) underserved markets as opposed to other types of borrowers. We elaborate on this concept later.

Perhaps even more crucially, studies of the primary market have paid little attention to the influence of the GSEs and the secondary market. This study maintains that if the GSEs are as important as both their critics and defenders maintain, it should be possible, as we describe below, to see their effects manifested in primary market lending.

Studies of the GSEs, on the other hand, often have gone too much in the other direction, ignoring practically everything else that affects community reinvestment lending. This creates the possibility that such studies may be prone to spurious or misleading results. We note several factors here.

Although the GSEs may be a cause of primary market lending, they are also a reflection of it. If the primary market changes, the secondary market will likely change too. Hence, GSE performance could appear to worsen or improve across time for reasons completely unrelated to anything the GSEs are doing. For example, an improved economy and lower interest rates could make loans accessible to members of underserved markets who previously could not afford them. GSE portfolios would improve, not because the GSEs had made loans more accessible to underserved markets, but because more members of underserved markets could meet GSE criteria.

Even the most ardent supporters of the GSEs probably would not claim credit for all of the improvements that have occurred in recent years. What other positive influences might be at work? The most important may be CRA. Although this law has been around for some time, it has perhaps become especially effective in recent years. A change in Presidential administrations may have led to stricter enforcement (or the fear of stricter enforcement) of the law. More detailed HMDA reporting requirements likely made it easier for citizen groups to monitor how well lenders were meeting the needs of their communities. Furthermore, as Williams and Nesiba (1997) argue, increased merger activity may have created more opportunities to bring CRA pressure to bear. Because lenders want their merger plans to be approved by regulatory agencies, they may have modified their practices to keep CRA objections from standing in the way.

There is also the question of whether loan portfolio comparisons accurately reflect GSE influence. They may be a very good way of comparing the two GSEs with each other, but they may not be as good for comparing the GSEs with portfolio lenders. The influence of the GSEs could go beyond those loans they actually purchase. Indeed, as noted earlier, one of the longstanding concerns about the GSEs has been that their procedures and actions may affect the entire mortgage market. By purchasing some loans, the GSEs could create greater flexibility in the other loans that lenders make. For example, lenders may be willing to make more marginal loans if they know that at least some of them will be purchased by the GSEs or if they know that such loans held in portfolio could be sold to the GSEs at a later date. GSE activity in an area may also create both competition and opportunities there: competition, in that all lenders will have to offer competitive rates, and opportunities, in that lenders know the GSEs are willing to buy loans that are made there.

There is also the possibility that lenders subject to CRA (commercial banks, savings and loans) deliberately hold in portfolio those loans that will most make them look good from a CRA standpoint. There is even a remote possibility that CRA has created a zero sum game for good loans. For example, a HUD official noted to us anecdotally that, in California, some depository institutions (which are subject to CRA) are buying CRA-related loans from mortgage companies (which do not have to meet CRA requirements). If such practices are widespread, it could be that loans that look good from a CRA standpoint are being shifted from lenders who are not subject to CRA to lenders who are. If the ownership of CRA-related loans is changing but the number of such loans is not, comparisons of loan portfolios will be highly deceptive.

We have no evidence on how significant the problems with portfolio comparisons are. However, as we argue shortly, we think there are strategies by which the problems with portfolio comparisons can be avoided altogether.

A final problem with both lines of research has been the failure to consider how institutional characteristics of lenders affect community reinvestment performance. Do all types of lenders tend to do equally well (or poor) at serving low-income neighborhoods and groups? If not, what are the characteristics of the lenders that do better? Williams and Nesiba (1997) offer several reasons why lender characteristics may be important.

First, there is a growing concern that commercial banking industry consolidation will lead to increases in average financial institution size and increase the number of bank main branches located afar. Consolidation may make it more difficult for members of underserved markets to gain access to mortgage financing. As Campen (1993) notes,

> It seems reasonable to suppose that when decisionmaking power is concentrated in distant headquarters, local communities will find banks less knowledgeable about local circumstances, less concerned with solving local problems, and, especially, less susceptible to the local organizing campaigns that have been vital in bringing about agreements for improved CRA performance.

However, those advocating the further reduction of geographic barriers to banking and supporting greater banking industry consolidation also seem to have persuasive arguments. They contend that as loan and deposit bases become more diversified, overall banking risk is decreased and the stability of the financial system as a whole is enhanced. Furthermore, freeing up the market geographically leads to increased competition, increased services, improved credit availability, and a more efficient allocation of financial resources (Mengle, 1990; Evanoff and Fortier, 1986). Larger institutions may have greater expertise in marketing to low-income and minority areas and individuals and more resources to devote to them. As a result, the economy as a whole, including small businesses, minority neighborhoods, and taxpayers, is better off with fewer, larger financial institutions.

Participants on each side of this debate have well-reasoned foundations for their assertions regarding the impact of banking industry consolidation on community reinvestment performance. Unfortunately, the empirical evidence supporting either position is extremely limited.

Kim and Squires (1995) note a second reason why supply-side (lender) characteristics may be related to community reinvestment performance. Different types of institutions have different interests. Commercial banks are involved in many sorts of activities; mortgage lending is not their main line of business. Hence, banks are more likely to reject applications because of their limited commitment to mortgage lending. Mortgage lending is far more important to savings and loans. Because mortgage loans constitute a higher share of their lending activity, Kim and Squires hypothesize that savings and loans will review applications more carefully (hence avoiding racial bias) and will be more willing to work with marginal applicants.

Williams and Nesiba (1997) further note that different types of institutions have different legal obligations, report to different Federal agencies, and may serve different types of clientele. Any of these factors could affect an institution's community reinvestment performance.

Hypotheses

This section will outline the main hypotheses to be tested and provide a general description of how concepts will be operationalized. The methods section will provide more detail on the data and statistical techniques to be used.

The most direct way that the GSEs can affect home mortgage lending is through the loans they purchase. Our primary attention, then, will be on the characteristics of these purchases. It is also possible that the GSEs have indirect effects on lending. An assumption we wish to test is that the effect of the GSEs on community reinvestment lending goes beyond those loans that happen to get sold to them. As we argued earlier, when lenders are able to sell some of their underserved market loans to the GSEs, or have the option to sell such loans later, they may be more flexible with other loans they make. Furthermore, GSE activity in an area may encourage more lenders to be active there. Underserved markets may particularly benefit from GSE purchases of first-time homebuyer loans, because it is probably easier for most families and individuals to buy their second and subsequent homes than it is to buy their first. *Our first hypothesis*, therefore, is that GSE activities will have a positive impact on the community reinvestment performance of primary market lenders. The GSEs will lead the home mortgage market, not just follow it.

To test this hypothesis, indicators of GSE influence will be included in analyses of community reinvestment market share. These indicators include:

- Characteristics of the actual purchases made by the GSEs.
- Whether a primary market institution sells any of its loans to the GSEs.
- GSE activity within specific census tracts. Specifically, we will look at how GSE purchases of loans from first-time homebuyers are related to all the lending within the area.

A key implication of the above hypothesis is that primary and secondary market lending activity must be followed across time: We cannot determine if a lender leads the market unless we can tell if other lenders are following it. If changes in the composition of GSE purchases follow similar changes in primary market lending, then the GSEs are likely just reflecting the market. If increases in GSE purchases from underserved neighborhoods and individuals are followed by increased primary market lending to those groups, then the GSEs are likely leading the market. A comparison of loans made by the primary markets with loans purchased by the GSEs is the most direct way of examining GSE influence.

In addition, there may be less obvious, indirect ways in which GSE influence is manifested. If the GSEs are having a beneficial impact on community reinvestment, we may see that institutions that sell their loans to the GSEs have lower denial rates for underserved markets and/or make a higher portion of their loans to such markets. Similarly, if, in a given area, the GSEs are engaged in activities that are especially beneficial to underserved markets (for example, purchasing first-time homebuyer loans), more lenders may be motivated to be active in that area.

Many studies have also argued that the GSEs differ in their performance; in particular, some studies claim that Fannie Mae does a better job than Freddie Mac. Therefore, *our second hypothesis* is that Fannie Mae and Freddie Mac will have different effects on community reinvestment lending.

Operationalization of concepts will be the same as above, except that there will be separate indicators for each GSE.[4]

Of course, as we have strongly argued, looking only at the GSEs is not adequate. Even if the GSEs had done nothing new during the past few years, their performance could have appeared to improve because of other factors driving the home mortgage market. It is important to remember that the Federal Government has launched a multipronged effort to improve community reinvestment lending. Therefore, *our third hypothesis* is that institutions subject to CRA (commercial banks, savings and loans) will have better community reinvestment records than other lenders (credit unions, mortgage companies). Furthermore, their relative performance will have improved in recent years.

This hypothesis will be operationalized by including a variable indicating whether or not the lending institution is subject to CRA and by making both between-lender and across-time comparisons of CRA/non-CRA underserved market performance. If CRA is as important as some suspect, we should find that CRA institutions lead non-CRA institutions and that their lead has grown in recent years.

As argued earlier, other institutional characteristics must also be considered, particularly because these characteristics are correlated with CRA obligations and propensity to sell loans in the secondary market. Economic factors may render some types of lenders more or less likely to make community reinvestment loans. Whether an institution is locally owned, and its size, can affect its responsiveness to community needs. *Our fourth hypothesis,* therefore, is that institutional characteristics of primary market lenders will cause some lenders to have better community reinvestment performance than others. Note that we are deliberately vague as to what characteristics will be associated with superior performance. As noted earlier, for most characteristics arguments can be made in either direction.

Study Design: Methods and Data

This section is divided into five parts: types of underserved markets to be studied, levels of analysis, description of the data, types of loans studied/sample selection, and models and analytic techniques.

Types of Underserved Markets. The Final Rule (*Federal Register* 60:61,846–62,005) set goals for GSE lending with regard to owner-occupied housing for three types of underserved markets:

- Very low-income families—Income does not exceed 60 percent of area median income.
- Low-income families in low-income areas—Family income does not exceed 80 percent of area median income, and the median income of the census tract does not exceed 80 percent of the area median income.
- Targeted (or underserved) areas—Central cities, rural areas, and other underserved areas. A *central city* or *other underserved area* is a census tract with a median income at or below 120 percent of the metropolitan area and a minority population of 30 percent or greater, or a census tract with a median income at or below 90 percent of median income of the metropolitan area.[5]

There is, of course, significant overlap between these three markets. For example, any low-income family in a low-income area is also a member of a targeted area. Furthermore, we found that lending patterns and trends for one of the underserved markets were often similar to the others. Hence, we will often combine the above into a single category called *Final Rule underserved markets.* That is, any very low-income borrower, or any low-income borrower in a low-income area, or anyone seeking to buy property in a targeted area, will be considered a member of a Final Rule underserved market. To simplify

the discussion, we will often focus on lending to the three combined Final Rule underserved markets, then note any important differences that may exist among the three submarkets.

The three underserved markets listed in the Final Rule primarily emphasize economic factors in defining markets. To these, we add two race-related underserved markets that are often examined in studies of home mortgage lending:

- Blacks—The definition of which is not straightforward. Following practices used in published HMDA reports, we define a loan application as "Black" if the applicant is Black and the coapplicant (if any) is not White.[6]
- Minority neighborhoods—Census tracts that are more than 30 percent non-White.

As we discussed earlier, these race-related markets have received enormous attention in home mortgage lending research, but again, there is significant overlap between these markets and the ones defined in the Final Rule. Many Blacks are also very low-income or live in targeted areas. Minority neighborhoods are, for the most part, a subset of the Final Rule targeted areas (the main difference is that we do not impose a limit on the upper income of the minority area). Indeed, at one point, we considered combining all five of the underserved markets here into a single grouping. However, as will be seen, we found some important differences between the economic-based markets listed in the Final Rule and the race-related markets listed above. The lenders who do best with very low-income borrowers and poorer neighborhoods are not always the leaders when it comes to Blacks and minority areas. Therefore, although we will often focus on the three Final Rule markets collectively, the race-related markets generally will be examined separately.

Levels of Analysis. There will be two levels of analysis in this study.

- A detailed statistical analysis of all MSAs in the State of Indiana.
- A more specialized case study analysis of St. Joseph County, Indiana (also known as the South Bend MSA or the South Bend-Mishawaka MSA).

Both of these analyses are intended to lay the groundwork for an eventual national study.

For the past few years, Williams and colleagues have been engaged in an indepth study of racial, economic, and institutional disparities of home mortgage lending in St. Joseph County, Indiana. The first results from this work were recently published in the *Journal of Urban Affairs* (Williams and Nesiba, 1997).

St. Joseph County is located in the north central part of Indiana, approximately 100 miles east of Chicago. Its two largest cities are South Bend (population 110,000) and Mishawaka (population 40,000). The South Bend-Mishawaka MSA had a population total of 247,052, according to the 1990 census (see exhibit 1). Approximately 87.8 percent of residents are White and 12.2 percent are non-White (with most of these being Black). The corresponding national averages are 80.3 percent and 19.7 percent. In this respect, the South Bend-Mishawaka MSA is probably more representative of the United States as a whole than many of the larger cities studied previously. A variety of lenders operate in the area, ranging from small, locally owned credit unions to large national mortgage companies.

Our study of St. Joseph County originally began when a community group asked the principal investigator of this study to analyze the home mortgage lending records of local banks. After analyzing only several banks, it became apparent that area institutions differed dramatically to the extent to which they served low-income and minority areas and

individuals. We then decided to undertake a much more systematic data collection and analysis effort. This effort included gathering information from HMDA, the 1990 census, and data on lender characteristics from published sources.

The main risk with any case study, of course, is that the case being examined may be atypical and the results not generalizable. To reduce the likelihood of this threat, while still maintaining many of the advantages of our case study approach, we will examine all MSAs in the State of Indiana.

Indiana offers a larger and more diverse area than the county to study, while still small enough for an indepth analysis. This diversity will allow us to examine the determinants of home mortgage lending under a variety of conditions and settings. Indiana had 13 MSAs as of 1993 and 14 at the time of the 1990 census (the Anderson MSA was recently merged with the Indianapolis MSA). That census indicated the population of Indiana to be approximately 5,540,000. There is substantial variation in racial/ethnic composition among MSAs in the State. For example, approximately 19 percent of residents living in the Gary MSA in 1990 were African American, whereas the Indiana portion of the Cincinnati MSA was less than 1 percent African American. Other MSAs in the State varied between 2 percent and 10 percent African American residents. Median family incomes also vary across MSAs. Although the State median income was $34,082, across MSAs the median ranged from approximately $27,000 up to $37,600.[7] There are also some

Exhibit 1

Indiana 1990 Population Information by MSA

Location	MSA Number	Population	Median Age	White (%)	Black (%)	Very Low-Income (%)	Percent in Targeted Tracts	Percent in Minority Tracts
United States	NA	248,709,873	32.8	80.4	12.0	29.8	NA	NA
Indiana	NA	5,544,159	32.8	89.5	7.8	28.6	32.9	12.4
Bloomington	1020	108,978	26.4	93.4	2.6	41.1	28.1	0.0
Cincinnati*	1640	38,835	33.1	98.8	0.6	27.8	19.9	0.0
Elkhart-Goshen	2330	156,198	31.8	92.7	4.5	24.3	15.3	2.8
Evansville	2440	235,946	34.2	93.3	5.5	28.7	30.8	6.2
Ft. Wayne	2760	363,811	32.2	88.8	8.4	26.4	28.3	8.8
Gary*	2960	604,526	32.9	71.8	19.4	29.6	33.0	26.4
Indianapolis	3480	1,249,822	32.3	84.3	13.8	27.6	41.5	15.4
Kokomo	3850	96,946	34.3	93.5	4.5	29.6	27.6	4.4
Lafayette	3920	130,598	26.8	92.5	2.0	28.5	14.3	2.2
Louisville-New Albany*	4520	182,071	33.8	94.9	4.1	28.2	18.7	1.8
Muncie	5280	119,659	31.4	92.6	6.0	31.0	42.2	4.0
South Bend	7800	247,052	32.8	87.8	9.8	28.0	38.9	14.9
Terre Haute	8320	130,812	33.4	93.4	4.6	29.4	21.7	4.6

Note: NA = not available.

* MSA crosses State lines—figures are for the Indiana portion only.

Source: 1990 Census information from the Ball State University Web page (http://www.bsu.edu/business/bbr/CENSUS/) the Census Bureau Web site (http://www.census.gov), the 1992–96 HMDA data, and the 1996 GSE Public Use data. Many measures (such as percent in targeted tracts, percent very low-income) had to be estimated and hence may not be completely accurate.

differences in population and size of MSAs. Indianapolis is the most populated MSA in the State with 1.2 million persons, whereas the Indiana portion of the Cincinnati MSA is the smallest with 39,000 residents.

Although internally diverse, as a whole, Indiana is fairly representative of the entire United States. The Indiana average family income of $34,082 is similar to the national median family income of $35,225, according to census data. The State also ranks roughly in the middle nationally on percentage of population living in metropolitan areas (71 percent—23rd among all States), percentage of persons living below the poverty level (13 percent—19th), employment-to-population ratio (63 percent—32nd), and average individual annual pay of $21,700 (24th). The State is somewhat less diverse than the Nation as a whole in terms of its racial and ethnic population. In 1990, 80.3 percent of the U.S. population was White, whereas 89.5 percent of Indiana residents were White. Similarly, 7.8 percent of the Indiana population was African American compared with 12.3 percent nationwide. Only 1.8 percent of Indiana residents were of Hispanic origin, compared with 8.8 percent nationwide.[8]

The benefits of this multilevel study will be discussed after we have described the different types of data available.

Descriptions of the Data. The appendix describes in detail the various data sets that were used in this analysis. It also outlines the advantages of a multilevel/multidata-set approach and describes some of the issues and complications that arose when dealing with the data. For now, we will simply note the most essential highlights:

- Wherever possible, data were collected for each of the years from 1992 to 1996. By looking at trends over a 5-year period, it is much easier to assess whether the GSEs (and CRA) were leading the market or simply following it.
- The HMDA loan application registers were the most critical data used. Starting in 1990, most lenders were required to provide information on every home mortgage application they received. The information included the type of loan (conventional, FHA, or VA); the requested amount; the final disposition of the application (approved, denied, withdrawn, not accepted); the census tract in which the desired property was located; the income, race, and gender of the applicant(s); and the ultimate purchaser of the loan (not sold, sold to Fannie Mae or Freddie Mac). The HMDA data also include key information on census tracts, making it possible to determine whether a neighborhood is low income or minority.
- The GSEs began providing HUD with loan-level data on each of their mortgage transactions in the beginning of 1993. As we discuss in the appendix, key features of the way the GSE data sets are constructed greatly limit their usefulness for the sort of regional analysis undertaken here. We therefore relied primarily on HMDA data and, where possible, used the GSE data to doublecheck the accuracy of our results. We did extract from the 1996 GSE data a list of census tracts defined as "targeted" under the Final Rule. Furthermore, we computed from the GSE data the percent of all GSE purchases in a census tract that were from first-time homebuyers, on the rationale that the higher this percentage was, the more aggressively the GSEs were helping needy markets.
- There is an ongoing debate about whether manufactured housing and B&C (below-investment-grade, or subprime) loans should be included in analyses. These are generally higher risk, higher interest loans that the GSEs will not buy. Using a list of subprime lenders provided to us by HUD, we originally planned to include subprime loans throughout our analysis and apply appropriate controls for them. However, it

quickly became apparent to us that this would greatly complicate the analysis and make a fair evaluation of the GSEs and CRA much more difficult. We therefore decided to leave subprime loans out of our main analysis and instead include a section to examine them separately. As section 4 shows, subprime lending has risen dramatically in Indiana during the 1990s, and any analysis that does not somehow take this into account has the potential to be highly misleading.

- Information on lender characteristics came from several sources, both local and national. Each lender was coded as being either a commercial bank, credit union, mortgage company, or savings and loan. Each lender active in Indiana during 1995–96 was coded as either (a) having its headquarters in Indiana, (b) having branches in Indiana but headquarters elsewhere, or (c) having no branches that we could identify in Indiana. Information on the assets of lending institutions was of high quality for 1994–96 but weaker for earlier years. We coded lenders as (a) small, assets of $100 million or less; (b) medium, assets of $100 million to $1 billion; or (c) large, assets greater than $1 billion.
- Some special programs aimed at low-income and minority borrowers are not reflected in the HMDA data. For example, during 1994–96 the Community Homebuyer's Corporation (CHC) made 102 loans in St. Joseph County. CHC pools money from area lenders with Community Development Block Grant support from the Federal Government to provide loans that make homeownership more affordable to low-income persons. Although CHC makes relatively few loans, the vast majority of them (90 percent) go to underserved markets. Because CHC is a nonprofit entity, its loans are not reported to HMDA; because most of the lenders who back the CHC are subject to CRA, exclusion of these loans runs the risk of understating the actual impact of CRA in St. Joseph County. CHC has graciously provided us with HMDA-style information on its lending, which we incorporated in our analysis of St. Joseph County. This analysis was further enhanced by our familiarity with important events during the 1990s that may have affected area lending. We know which lenders have engaged in mergers. We also know which institutions have entered into CRA agreements with community organizations and which ones were asked to do so but refused.
- Working with a variety of data sets from a number of sources raised several problems and issues. Because most of these are fairly technical in nature, they are covered in detail in the appendix. The appendix describes how constraints built into the GSE data sets cripple their usefulness for the sort of regional analyses undertaken here. Fortunately, the HMDA data provide very good estimates of GSE activity in underserved markets. The appendix also describes how three lenders—Trustcorp Mortgage, First Source Bank, and Bank of America FSB—required special attention because of data errors or unique characteristics of the way they did business. Finally, the appendix describes how data sets were merged and how B&C and manufactured housing lenders were identified and, when necessary, excluded from the analysis.

Types of Loans/Sample Selection. For reasons outlined below, we do not think it would be appropriate to include every type of home mortgage loan possible in our analysis. Therefore, the following criteria were used when selecting loans for inclusion in our sample. These criteria must be kept in mind when considering the study's results. Different criteria would have led to some very important differences in the conclusions we reach. We will therefore discuss the rationale and implications for each criterion in detail.

1. For most of the analysis, only conventional loans were selected; Government-backed loans (FHA, VA, Farmers Home Administration [FmHA]) were not.

This is a very common criterion in home mortgage studies, particularly those involving the GSEs. The GSEs almost exclusively buy conventional loans. Because FHA, VA, and FmHA loans are Government backed and often targeted at first-time homebuyers who could not qualify for conventional loans, the GSEs maintain that it would be unfair to expect the loans they purchase to be as good as the Government-backed loans they do not. In addition, it would be unfair to commercial banks and credit unions, which also deal primarily in conventional loans.

Conversely, it could be argued that it is unfair to savings and loans (S&Ls) and mortgage companies to exclude FHA and other Government-backed loans when evaluating their performance. For these lenders such loans are a major part of their business. In Indiana during 1992–96, 17.5 percent of S&L loans and 30.1 percent of mortgage company loans were FHA. Not surprisingly, the underserved market performance of these lenders appears far better when FHA and other Government-backed loans are included than when they are not.[9]

However, even though many FHA loans go to members of underserved markets, the beneficial impact of these loans has been hotly disputed. Based on studies of housing market patterns in Cook and Du Page Counties done by the Chicago Area Fair Housing Alliance, Bradford (1998) contends that FHA lending "is inordinately concentrated in minority and racially changing communities"; [has resulted in] "undue levels of blight and disinvestment"; "limits housing opportunities, contributes to segregation, [and] perpetuates the myth of race as a contributor to community disinvestment"; "ultimately leads to community decline itself"; and "is a measure of the discrimination that needs to be overcome [in the conventional markets]."

Bradford mentions several policies and practices that have led to these harms. Generous service fees entice mortgage lenders to produce high volumes of FHA loans. At the same time, insurance protects 100 percent of the loan for investors, thus reducing any concern on the part of the lender for the soundness of the loan. Bradford also maintains that the Government has failed to monitor the quality of lending in minority and racially changing areas. Defaulted borrowers whose homes might be saved have not received effective relief; then, rather than return foreclosed properties back to the market in sound condition, HUD (which runs FHA) often allows these properties to sit vacant and deteriorate, contributing to neighborhood blight and the impression that racial change causes neighborhood decline.

An experimental study in which similarly qualified minority and White testers posed as homeseekers yielded additional evidence to support Bradford's claims. In several tests, minority testers were steered toward FHA products, while White testers were offered a wider variety of loan products. Realtors steered White homeseekers toward White communities and conventional loan products; minorities, however, were steered toward minority and changing communities and toward FHA products. Bradford maintains that economic factors alone cannot explain the large differences in FHA lending to White and minority markets.

Bradford therefore contends that:

> HUD needs to structure its fair lending initiatives to eliminate the conventional lending discrimination that contributes in significant measure to the high levels of FHA lending to minorities. Recent legislation gives HUD the role of setting goals for … the two government-sponsored enterprises (GSEs) that essentially drive the conventional markets in moderate- to middle-income markets. HUD needs to utilize this new power to correct past deficiencies.

We have no direct evidence to confirm Bradford's findings or to show that the same problems also exist in Indiana. However, we think there is a powerful rationale for primarily focusing on the conventional loan market, given that:

- Our primary interest is in evaluating the GSEs, which largely deal with conventional loans.
- The beneficial impact of FHA lending to underserved markets is a subject of considerable dispute.
- Nothing prevents a lender who makes Government-backed loans from also making conventional loans (and indeed, if Bradford is correct, more minorities should be receiving conventional rather than FHA loans).

This is the fairest way to evaluate the GSEs, and it is also a fair way to evaluate the conventional lending of primary market institutions.

2. Subprime and manufactured housing lenders are generally excluded from the analyses.

As explained earlier, we originally planned to include subprime lenders throughout our analysis. It quickly became apparent that this would greatly complicate things. Instead, briefly in section 2 and in much more detail in section 4, we assess the impact of subprime lenders on Indiana home mortgage lending.[10]

3. Records with high loan-to-income ratios (6 or above) are excluded.

Bunce and Scheessele (1996) make the same restriction in their study, noting that high loan-to-income mortgages appear to be data errors in HMDA, such as lenders reporting monthly, rather than yearly, income. They also note that figures from HMDA and GSE data correspond more closely when this restriction is made.

An additional implication of this restriction is that any case that is missing data on either applicant income or loan amount is excluded from the analysis. We think that, without such basic information, the usefulness, and indeed the entire validity, of the record is called into question. Furthermore, we found that records missing income often also were missing other crucial information, such as race.

4. All loans are for owner-occupied home purchases.

Again, this is a very common restriction. Although refinancing and home improvement loans are important, the most critical concern for most people is whether they can purchase a home at all. Furthermore, the factors that affect a home purchase are likely to be very different from the factors affecting home refinance and home improvement.

5. The case must be from an Indiana MSA and not be missing census tract information.

HMDA data are of little use for studying non-MSA areas; that said, the factors affecting home mortgage lending in MSAs may well be different from the factors affecting rural areas. If the census tract number is missing, it is impossible to tell if the case belongs to an underserved area. Other information is often missing for these cases as well.

6. Only applications that resulted in either originations or denials are included. Withdrawals, loans not accepted, and files closed for incompleteness are excluded.

This is also a frequent practice. Each of the excluded types of applications may represent something over which the lender has little control. The applicants may not have been very serious to begin with, or something may have come up that caused them to change their minds (for example, found problems with the home, found something they liked better, had a change in their family or work situation). Deciding whether to make the loan or deny it, however, is something over which the lender does have control.[11]

7. Denied loans are also excluded in analyses that focus on characteristics of the loans made by primary market lenders and those purchased and not purchased by the GSEs.
8. "Jumbo" loans are excluded.

There are dollar limits on the size of the loans the GSEs can purchase ($207,000 in 1996). These jumbo loans account for only a very small percentage of home mortgage loans made in Indiana.

One additional result of the above criteria is that, for the sample selected, very little data are missing. For example, fewer than 2 percent of the selected records are missing information on race. When large amounts of data are missing on a particular variable, it is always because information was not available at all in a given year, and we could not find a way to substitute a plausible value. For example, Expected Reporter Panel Data are not available before 1994, the GSE data sets did not begin until 1993, and we only attempted to look up information on headquarters and branches for lenders that were active in 1995 and 1996.

Models and Analytic Techniques. As implied in numerous places above, our analysis will emphasize longitudinal models of Community Reinvestment Market Share. These models assess how activities of primary and secondary market lenders are related to each other and to the amount of lending that goes to underserved markets. By examining primary and secondary market lenders simultaneously and across time, we can determine which types of lenders are leading the market and which are merely following behind. More specifically, we can see how the loans that the GSEs purchase compare with the ones that they do not, and whether and how that relationship has changed across time. We can do the same thing for comparing CRA versus non-CRA institutions, specific types of primary market lenders (banks, S&Ls, credit unions, and mortgage companies), and various other characteristics of lenders (large or small, locally headquartered or not). In presenting a wide variety of tables and statistics, we rely heavily on charts to display some of the most crucial points in our comparisons.

Outline of the Article. The analysis proceeds as follows. In the next section *(Indiana MSAs, 1992–96)*, we present the most critical part of our study, the statewide analysis of Indiana MSAs. We begin by examining separately the trends in Indiana home mortgage lending during this period. We then show how these trends are interrelated, with a particular emphasis on who is leading the market and who is not.

The next section *(South Bend/St. Joseph County MSA, 1992–96)* then takes a closer look at St. Joseph County, Indiana. As we will see, in terms of both GSE and CRA activity, this MSA was one of the most unique in Indiana. We use HMDA data to clarify the major changes in GSE purchases that occurred between 1992 and 1996. We then rely on specially collected data from the county to address some of the issues and mysteries concerning CRA that the national data alone cannot provide.

The section *Subprime and Manufactured Housing Loans in Indiana, 1992–96* provides an indepth look at subprime lending in Indiana. As argued above, any attempt to include

subprime lenders in our main analysis would be either unfair to the GSEs or highly complicated. But to ignore subprime lending completely would be to ignore one of the most important new influences on Indiana home mortgage markets. We show the increasingly important role that subprime lenders are playing in Indiana and how any future analyses must somehow take them into account.

Finally, in *Discussion and Conclusions,* we present the conclusions we draw from our study. Are the GSEs leading the market or not? Has CRA played the role in improving lending to underserved markets that many expected and hoped for? If neither the GSEs nor CRA deserve the credit for changes in Indiana lending that occurred during the early to mid-1990s, what does? These questions and others will be discussed here.

Indiana MSAs, 1992–96

This section profiles conventional home mortgage lending in Indiana MSAs during 1992–96. We begin by providing descriptive statistics of overall lending patterns during this period. The performance of GSEs and CRA institutions with regard to underserved markets is then examined and compared with all nonsubprime lenders that were active during this period. We also examine the relationship, if any, other lender characteristics have with lending to underserved markets.

Overall Lending Patterns, 1992–96

Exhibit 2 describes home mortgage applications, originations, and denial rates for each of the years from 1992 to 1996.[12] Exhibits 3 and 4 present the frequency counts from which the percentages in Exhibit 2 were computed.[13] We show statistics for all lenders statewide and for the various types of underserved markets and primary and secondary lenders examined in this study.

As exhibit 2 shows, overall there were 213,483 conventional home mortgage applications and 193,927 originations in Indiana between 1992 and 1996, with an overall denial rate of 9.2 percent. There were, however, substantial variations across years, markets, and lenders. Both the number of applications and originations were higher in 1996 than in 1992, whereas the overall denial rate was lower.

Underserved markets consistently had denial rates that were two to three times as high as their served (that is, markets not classified as underserved) counterparts. Still, they made gains during this period. The three Final Rule underserved markets combined[14] went from 20.2 percent of all loan originations in 1992 to 24.2 percent in 1996. This occurred partly because they disproportionately increased their number of applications (from 23.5 percent of all applications in 1992 to 26.9 percent in 1996) and because their denial rates further declined (from 22.9 percent to 18.9 percent, compared with the smaller drop from 6.9 percent to 6.5 percent of the served markets). Furthermore, these patterns of above average increases in the number of applications, combined with greater than average declines in denial rates, held for every type of underserved market. Gains were not consistent across time, however; for every underserved market, the share of all loans peaked in 1994 or 1995 and by 1996 was showing noticeable decline (although still ahead of the 1992 situation).

There were also changes among lenders. CRA institutions (banks and S&Ls) lost market share, going from 63.7 percent of all originations in 1992 to 56.8 percent in 1996. This occurred not because they made fewer loans (as exhibit 4 shows, they made more) but because of a surge in the number of loans reported by mortgage companies. Mortgage companies made nearly 6,000 more loans in 1996 than in 1992 (17,042 versus 11,351)

Exhibit 2

Application, Origination, and Denial Rates by Year: Indiana MSAs, 1992–96

	1992	1993	1994	1995	1996	All Years
All lenders						
Number of applications	37,129	41,212	45,765	42,712	46,665	213,483
Number of originations	33,182	37,789	41,846	39,044	42,066	193,927
Percentage denial rate	10.6	8.3	8.6	8.6	9.9	9.2
Not Final Rule underserved markets						
Percentage of applications	76.5	76.0	71.6	72.4	73.1	73.9
Percentage of originations	79.8	77.9	73.8	74.5	75.8	76.2
Percentage denial rate	6.9	5.9	5.8	5.9	6.5	6.2
All Final Rule underserved markets						
Percentage of applications	23.5	24.0	28.4	27.6	26.9	26.2
Percentage of originations	20.2	22.1	26.2	25.5	24.2	23.8
Percentage denial rate	22.9	15.8	15.6	15.7	18.9	17.5
Not very low-income borrowers						
Percentage of applications	87.1	86.5	83.3	85.4	85.8	85.5
Percentage of originations	89.7	88.0	85.0	87.0	87.9	87.4
Percentage denial rate	8.0	6.7	6.7	6.9	7.6	7.2
Very low-income borrowers						
Percentage of applications	12.9	13.5	16.7	14.6	14.2	14.5
Percentage of originations	10.3	12.0	15.0	13.0	12.1	12.6
Percentage denial rate	28.6	18.6	17.9	18.5	23.5	21.0
Not low-income applicants in low-income areas						
Percentage of applications	95.2	94.9	93.5	93.6	94.5	94.3
Percentage of originations	96.3	95.7	94.3	94.4	95.4	95.2
Percentage denial rate	9.6	7.6	7.8	7.9	9.0	8.3
Low-income applicants in low-income areas						
Percentage of applications	4.8	5.1	6.5	6.4	5.5	5.7
Percentage of originations	3.7	4.3	5.7	5.6	4.6	4.8
Percentage denial rate	30.4	22.2	19.9	19.3	24.8	22.8
Nontargeted tracts						
Percentage of applications	84.5	84.4	81.3	80.5	81.6	82.4
Percentage of originations	86.4	85.6	82.6	81.9	83.1	83.8
Percentage denial rate	8.5	6.8	6.9	6.9	8.2	7.4

Exhibit 2 (continued)

Application, Origination, and Denial Rates by Year: Indiana MSAs, 1992–96

	1992	1993	1994	1995	1996	All Years
Targeted tracts						
Percentage of applications	15.5	15.6	18.7	19.5	18.4	17.6
Percentage of originations	13.6	14.4	17.4	18.1	16.9	16.2
Percentage denial rate	21.4	15.4	15.0	15.2	17.3	16.6
Non-Blacks						
Percentage of applications	98.0	97.6	96.3	95.9	96.8	96.9
Percentage of originations	98.4	97.9	96.7	96.2	97.1	97.2
Percentage denial rate	10.1	7.7	7.8	7.8	8.9	8.4
Blacks						
Percentage of applications	2.0	2.4	3.7	4.1	3.2	3.1
Percentage of originations	1.6	2.1	3.3	3.8	2.9	2.8
Percentage denial rate	26.0	19.6	18.3	16.3	17.6	18.6
Nonminority tracts						
Percentage of applications	96.8	96.5	95.8	95.5	96.5	96.2
Percentage of originations	97.2	96.9	96.2	96.0	96.8	96.6
Percentage denial rate	10.2	7.9	8.1	8.2	9.5	8.8
Minority tracts						
Percentage of applications	3.2	3.5	4.2	4.5	3.5	3.8
Percentage of originations	2.8	3.1	3.8	4.0	3.2	3.4
Percentage denial rate	22.2	18.1	19.0	17.6	19.2	19.0
Lender not subject to CRA						
Percentage of applications	34.4	41.8	41.5	44.9	42.1	41.2
Percentage of originations	36.3	42.8	42.6	46.0	43.2	42.4
Percentage denial rate	5.8	6.1	6.2	6.3	7.6	6.5
Lender subject to CRA						
Percentage of applications	65.6	58.2	58.5	55.1	57.9	58.8
Percentage of originations	63.7	57.2	57.4	54.0	56.8	57.6
Percentage denial rate	13.2	9.9	10.2	10.5	11.5	11.1
Loan not sold to a GSE						
Percentage of originations	58.6	53.9	68.2	66.1	60.4	61.7
Loan sold to a GSE						
Percentage of originations	41.4	46.1	31.8	33.9	39.6	38.3
Commercial bank						
Percentage of applications	34.8	32.7	33.2	32.3	32.9	33.1
Percentage of originations	31.6	30.9	31.3	30.3	30.6	30.9
Percentage denial rate	18.9	13.2	13.7	14.2	16.3	15.2

Exhibit 2 (continued)

Application, Origination, and Denial Rates by Year: Indiana MSAs, 1992–96

	1992	1993	1994	1995	1996	All Years
Savings and loan						
Percentage of applications	30.8	25.5	25.3	22.8	25.0	25.7
Percentage of originations	32.1	26.3	26.1	23.6	26.3	26.7
Percentage denial rate	6.7	5.6	5.7	5.1	5.2	5.7
Credit union						
Percentage of applications	2.0	1.8	2.5	2.3	2.6	2.3
Percentage of originations	2.1	1.8	2.6	2.4	2.7	2.3
Percentage denial rate	8.2	7.4	4.8	4.5	6.2	6.0
Mortgage company						
Percentage of applications	32.4	40.1	39.0	42.6	39.5	38.9
Percentage of originations	34.2	41.0	40.0	43.6	40.5	40.0
Percentage denial rate	5.7	6.1	6.3	6.4	7.7	6.5
Sold to Fannie Mae						
Percentage of originations	25.0	27.1	19.4	22.0	22.8	23.1
Sold to Freddie Mac						
Percentage of originations	16.4	19.0	12.4	11.9	16.8	15.2
Sold to other						
Percentage of originations	10.0	10.3	16.0	17.0	11.8	13.2
Not sold						
Percentage of originations	48.6	43.6	52.2	49.1	48.6	48.5
Assets ≤ $100M[a]						
Percentage of applications	23.3	24.4	26.9	25.9	22.6	24.7
Percentage of originations	23.3	24.3	26.8	25.9	22.5	24.7
Percentage denial rate	9.1	8.9	8.8	8.8	10.1	9.1
Assets $100M to $1B						
Percentage of applications	42.5	36.3	33.7	32.7	30.4	34.5
Percentage of originations	42.8	36.2	33.8	32.8	30.6	34.6
Percentage denial rate	8.8	8.5	8.3	8.2	9.2	8.6
Assets > $1B						
Percentage of applications	34.2	39.3	39.4	41.4	47.1	40.8
Percentage of originations	33.9	39.5	39.3	41.3	46.9	40.7
Percentage denial rate	10.1	7.9	8.6	8.8	10.2	9.1
Headquarters in Indiana[b]						
Percentage of applications	50.9	49.7	54.6	54.3	48.8	51.7
Percentage of originations	51.0	49.1	54.0	53.7	49.4	51.5
Percentage denial rate	10.4	9.4	9.6	9.5	8.9	9.5

Exhibit 2 (continued)

Application, Origination, and Denial Rates by Year: Indiana MSAs, 1992–96

	1992	1993	1994	1995	1996	All Years
Branch in Indiana, headquarters elsewhere						
Percentage of applications	16.7	25.4	30.1	35.0	36.6	29.3
Percentage of originations	17.6	26.0	30.6	35.6	36.8	29.8
Percentage denial rate	5.9	6.4	7.0	7.0	9.2	7.4
No known Indiana branches						
Percentage of applications	4.7	10.6	8.4	10.7	14.6	10.0
Percentage of originations	4.7	10.6	8.4	10.7	13.8	9.8
Percentage denial rate	9.3	8.0	8.2	9.2	14.6	10.5
Not active after 1994						
Percentage of applications	27.7	14.3	6.9	0.0	0.0	9.1
Percentage of originations	26.6	14.3	7.0	0.0	0.0	8.8
Percentage denial rate	14.1	8.0	7.5	0.0	0.0	11.2
Lender sold no loans to the GSEs						
Percentage of applications	28.9	26.7	30.0	32.0	30.6	29.7
Percentage of originations	26.2	25.9	28.3	30.7	28.5	28.0
Percentage denial rate	18.9	11.2	13.6	12.4	16.2	14.4
Lender sold some loans to the GSEs						
Percentage of applications	71.1	73.3	70.0	68.0	69.4	70.3
Percentage of originations	73.8	74.1	71.7	69.3	71.5	72.0
Percentage denial rate	7.3	7.2	6.4	6.8	7.1	7.0
No GSE loans to first-time buyers[c]						
Percentage of applications	NA	4.7	4.9	2.8	2.5	3.7
Percentage of originations	NA	4.2	4.3	2.6	2.2	3.3
Percentage denial rate	NA	16.9	20.3	16.6	19.6	18.5
<10% to first-time buyers						
Percentage of applications	NA	54.4	20.1	10.0	14.7	24.2
Percentage of originations	NA	55.3	20.7	10.0	14.7	24.7
Percentage denial rate	NA	6.7	6.1	8.1	9.7	7.2
10–20% to first-time buyers						
Percentage of applications	NA	35.3	53.9	43.2	58.6	48.2
Percentage of originations	NA	35.0	54.5	43.8	59.0	48.5
Percentage denial rate	NA	9.0	7.6	7.3	9.2	8.3

Exhibit 2 (continued)

Application, Origination, and Denial Rates by Year: Indiana MSAs, 1992–96

	1992	1993	1994	1995	1996	All Years
20–30% to first-time buyers						
Percentage of applications	NA	3.9	13.7	30.9	19.1	17.0
Percentage of originations	NA	3.8	13.5	30.9	19.1	16.9
Percentage denial rate	NA	10.8	9.6	8.4	9.8	9.2
More than 30% to first-time buyers						
Percentage of applications	NA	1.8	7.3	13.1	5.2	6.9
Percentage of originations	NA	1.6	7.0	12.6	5.0	6.6
Percentage denial rate	NA	16.1	12.6	12.0	13.5	12.7

Note: NA = not available.

[a] Coding of assets is less reliable in 1992–93.
[b] Coding of branches and headquarters is less reliable in years prior to 1995.
[c] First-time homebuyer information not available prior to 1993.

Exhibit 3

Number of Applications, by Year: Indiana MSAs, 1992–96

	1992	1993	1994	1995	1996	All Years
All lenders	37,129	41,212	45,765	42,712	46,665	213,483
Not Final Rule underserved markets	28,418	31,307	32,787	30,923	34,095	157,530
All Final Rule underserved markets	8,711	9,905	12,978	11,789	12,570	55,953
Not very low-income borrowers	32,354	35,645	38,118	36,466	40,030	182,613
Very low-income borrowers	4,775	5,567	7,647	6,246	6,635	30,870
Not low-income applicants in low-income area	35,344	39,129	42,800	39,997	44,097	201,367
Low-income applicants in low-income areas	1,785	2,083	2,965	2,715	2,568	12,116
Nontargeted tracts	30,352	33,914	36,452	33,800	37,778	172,296
Targeted tracts	5,564	6,265	8,383	8,196	8,506	36,914
Missing	1,213	1,033	930	716	381	4,273
Non-Blacks	35,505	39,357	43,488	40,086	44,018	202,454
Blacks	712	972	1,657	1,728	1,439	6,508
Missing	912	883	620	898	1,208	4,521
Nonminority tracts	35,933	39,760	43,825	40,803	45,023	205,344
Minority tracts	1,196	1,452	1,940	1,909	1,642	8,139
Lender not subject to CRA	12,787	17,238	19,015	19,172	19,652	87,864
Lender subject to CRA	24,342	23,974	26,750	23,540	27,013	125,619
Commercial bank	12,913	13,458	15,180	13,816	15,358	70,725
Savings and Loan	11,429	10,516	11,570	9,724	11,655	54,894
Credit union	754	725	1,155	991	1,197	4,822
Mortgage company	12,033	16,513	17,860	18,181	18,455	83,042
Assets ≤$100M[a]	6,664	9,267	12,320	11,079	10,528	49,858
Assets $100M to $1B	12,177	13,787	15,436	13,953	14,171	69,524
Assets >$1B	9,788	14,914	18,009	17,680	21,966	82,357
Missing	8,500	3,244				11,744
Headquarters in Indiana[b]	18,907	20,474	24,991	23,183	22,794	110,349
Branch in Indiana, headquarters elsewhere	6,215	10,485	13,790	14,950	17,067	62,507
No known Indiana branches	1,732	4,357	3,834	4,579	6,804	21,306
Not active after 1994	10,275	5,896	3,150	NA	NA	19,321
Lender sold no loans to the GSEs	10,729	11,016	13,709	13,664	14,299	3,417
Lender sold some loans to the GSEs	26,400	30,196	32,056	29,048	32,366	150,066

Exhibit 3 (continued)

Number of Applications, by Year: Indiana MSAs, 1992–96

	1992	1993	1994	1995	1996	All Years
No GSE loans to first-time buyers	NA	1,919	2,264	1,210	1,176	6,569
<10% to first-time buyers	NA	22,417	9,220	4,257	6,841	42,735
10–20% to first-time buyers	NA	14,547	24,672	18,450	27,327	84,996
20–30% to first-time buyers	NA	1,602	6,267	13,187	8,892	29,948
More than 30%	NA	727	3,342	5,608	2,429	12,106

Note: NA = not available.

[a] Coding of assets is less reliable in 1992–93.
[b] Coding of branches and headquarters is less reliable in years prior to 1995.

and climbed from 34.2 percent of all originations to 40.5 percent. This occurred despite the fact that denial rates actually went up for mortgage companies during this period while declining for other types of primary market lenders.

According to the HMDA data, the GSEs bought 38.3 percent of the loans made during these years. As noted in the appendix, this is likely an underestimate of their number of purchases, but because the missing loans appear on a more or less random basis, the rest of the analysis is not affected.

Larger lenders (those with assets greater than $1 billion) also increased their market share during this time, going from 39.3 percent of all originations in 1992 to just under half (46.9 percent) in 1996.[15] This occurred because large lenders made more loans while smaller lenders made fewer (see exhibit 4). As noted earlier, the trend toward larger lending institutions has provoked concern among some. Therefore, it may be somewhat reassuring that lender size was virtually unrelated to denial rates; small, medium, and large lenders all rejected approximately 9 percent of the applications they received.

As noted before, our data on lender headquarters and branch locations is not as complete and perhaps not as reliable as the other information we have. It appears, however, that outside lenders may be becoming increasingly influential in Indiana. For the years where our information is most reliable (1995 and 1996), lenders that we knew had headquarters in Indiana lost 4.3 percentage points of their market share (dropping from 53.7 percent to 49.4 percent), and lenders that apparently had no branches in Indiana climbed from 10.7 percent of originations to 13.8 percent. As exhibit 4 shows, this occurred not so much because the locally headquartered lenders were making fewer loans (in both years their total was slightly under 21,000), but because other lenders were making more (a jump of about 3,000).

Exhibit 2 further shows that lenders who did at least some business with the GSEs made the most loans. Such lenders also had much lower denial rates. It may be that, when lenders know they can sell at least some of their loans to the GSEs, they are willing to take more risks. Or, perhaps more likely, lenders who deal with lower risk applicants are more likely to have loans that are attractive to the GSEs.

Exhibit 4

Number of Originations, by Year: Indiana MSAs, 1992–96

	1992	1993	1994	1995	1996	All Years
All Lenders	33,182	37,789	41,846	39,044	42,066	193,927
Not Final Rule underserved markets	26,464	29,448	30,894	29,105	31,874	147,785
All Final Rule underserved markets	6,718	8,341	10,952	9,939	10,192	46,142
Not very low-income borrowers	29,772	33,259	35,568	33,952	36,989	169,540
Very low-income borrowers	3,410	4,530	6,278	5,092	5,077	24,387
Not low-income applicants in low-income area	31,940	36,169	39,471	36,854	40,135	184,569
Low-income applicants in low-income areas	1,242	1,620	2,375	2,190	1,931	9,358
Nontargeted tracts	27,778	31,602	33,925	31,475	34,692	159,472
Targeted tracts	4,376	5,300	7,126	6,953	7,032	30,787
Missing	1,028	887	795	616	342	3,668
Non-Blacks	31,933	36,317	40,084	36,951	40,098	185,383
Blacks	527	782	1,354	1,446	1,186	5,295
Missing	722	690	408	647	782	3,249
Nonminority tracts	32,252	36,600	40,275	37,470	40,740	187,337
Minority tracts	930	1,189	1,571	1,574	1,326	6,590
Lender not subject to CRA	12,043	16,183	17,828	17,971	18,165	82,190
Lender subject to CRA	21,139	21,606	24,018	21,073	23,901	111,737
Loan not sold to a GSE	19,455	20,357	28,556	25,807	25,405	119,580
Loan sold to a GSE	13,727	17,432	13,290	13,237	16,661	74,347
Commercial bank	10,474	11,679	13,108	11,849	12,855	59,965
Savings and loan	10,665	9,927	10,910	9,224	11,046	51,772
Credit union	692	671	1,099	946	1,123	4,531
Mortgage company	11,351	15,512	16,729	17,025	17,042	77,659
Sold to Fannie Mae	8,285	10,240	8,114	8,608	9,588	44,835
Sold to Freddie Mac	5,442	7,192	5,176	4,629	7,073	29,512
Sold to other	3,324	3,890	6,716	6,626	4,956	25,512
Not sold	16,131	16,467	21,840	19,181	20,449	94,068
Assets ≤ $100M[a]	6,059	8,443	11,230	10,107	9,464	45,303
Assets $100M to $1B	11,111	12,612	14,162	12,807	12,869	63,561
Assets >$1B	8,796	13,743	16,454	16,130	19,733	74,856
Missing	7,216	2,991				10,207

Exhibit 4 (continued)

Number of Originations, by Year: Indiana MSAs, 1992–96

	1992	1993	1994	1995	1996	All Years
Headquarters in Indiana[b]	16,937	18,540	22,588	20,984	20,763	99,812
Branch in Indiana, headquarters elsewhere	5,851	9,817	12,824	13,901	15,493	57,886
No known Indiana branches	1,571	4,010	3,520	4,159	5,810	19,070
Not active after 1994	8,823	5,422	2,914			17,159
Lender sold no loans to the GSEs	8,707	9,778	11,846	11,973	11,989	54,293
Lender sold some loans to the GSEs	24,475	28,011	30,000	27,071	30,077	139,634
No GSE loans to first-time buyers	NA	1,594	1,804	1,009	946	5,353
<10% to first-time buyers	NA	20,913	8,655	3,913	6,180	39,661
10-20% to first-time buyers	NA	13,243	22,801	17,103	24,814	77,961
20-30% to first-time buyers	NA	1,429	5,664	12,084	8,024	27,201
More than 30%	NA	610	2,922	4,935	2,102	10,569

Note: NA = not available.

[a] Coding of assets is less reliable in 1992–93.
[b] Coding of branches and headquarters is less reliable in years prior to 1995.

Finally, the last set of items in exhibit 2 looks at GSE activity with first-time homebuyers. Only a very small percentage of loans come from census tracts in which the GSEs bought no loans at all from first-time homebuyers. However, these tracts also have the highest denial rates, suggesting that the GSEs may be completely avoiding some of the neediest areas. However, the next highest denial rates are found in those tracts in which the GSEs bought 30 percent or more of their loans from first-time homebuyers. This might imply that, although the GSEs may avoid some areas altogether, when they do buy more of their loans from first-time homebuyers, they do so in areas where the need is greater.

Comparisons of GSE and CRA Lending With Underserved Markets

Exhibit 5 describes the lending to underserved markets of primary and secondary market lenders. The numbers indicate, for any given year, the percentage of loans made or purchases from a particular underserved market.

For the GSEs, there were major shifts during this period. In 1992 only 15.4 percent of GSE purchases were from one of the Final Rule underserved markets; by 1994 the figure was 23 percent. After 1994 there was some decline, but the 1996 tally (20.8 percent) was still well above where the GSEs had started in 1992. Furthermore, these improvements occurred in every category of underserved markets: very low-income borrowers, low-income applicants in low-income areas, targeted census tracts, Blacks, and minority neighborhoods.

Exhibit 5

GSE, CRA Lending to Underserved Markets: Indiana MSAs, 1992–96 (in percent)

	1992	1993	1994	1995	1996	All Years
GSE purchases						
All Final Rule underserved markets	15.4	17.8	23.0	21.6	20.8	19.6
Very low-income borrowers	6.9	9.0	13.0	10.0	10.1	9.8
Low-income applicants in low-income areas	2.4	2.7	4.0	4.0	3.4	3.3
Targeted tracts	10.7	11.4	14.5	15.5	14.3	13.2
Blacks	1.5	1.8	3.4	3.7	2.9	2.6
Minority tracts	2.3	2.8	3.6	3.6	3.0	3.0
CRA institutions						
All Final Rule underserved markets	22.9	24.5	28.2	28.1	26.0	26.0
Very low-income borrowers	12.5	14.0	16.1	15.0	13.1	14.1
Low-income applicants in low-income areas	4.6	5.4	6.6	6.4	5.0	5.6
Targeted tracts	15.1	16.0	19.3	19.9	18.1	17.7
Blacks	1.3	1.8	2.7	3.2	2.3	2.3
Minority tracts	2.4	2.7	3.3	3.4	2.7	2.9
Non-GSE loans						
All Final Rule underserved markets	23.6	25.7	27.7	27.4	26.5	26.4
Very low-income borrowers	12.7	14.5	15.9	14.6	13.3	14.3
Low-income applicants in low-income areas	4.7	5.6	6.4	6.4	5.3	5.8
Targeted tracts	15.7	17.0	18.7	19.5	18.6	18.1
Blacks	1.7	2.3	3.2	3.8	2.9	2.9
Minority tracts	3.1	3.4	3.8	4.2	3.3	3.6
Non-CRA institutions						
All Final Rule underserved markets	15.6	18.8	23.5	22.4	21.8	20.8
Very low-income borrowers	6.5	9.3	13.5	10.8	10.7	10.4
Low-income applicants in low-income areas	2.3	2.8	4.4	4.7	4.0	3.8
Targeted tracts	11.1	12.3	14.8	16.0	15.3	14.1
Blacks	2.2	2.6	4.0	4.5	3.6	3.5
Minority tracts	3.5	3.7	4.4	4.8	3.8	4.1

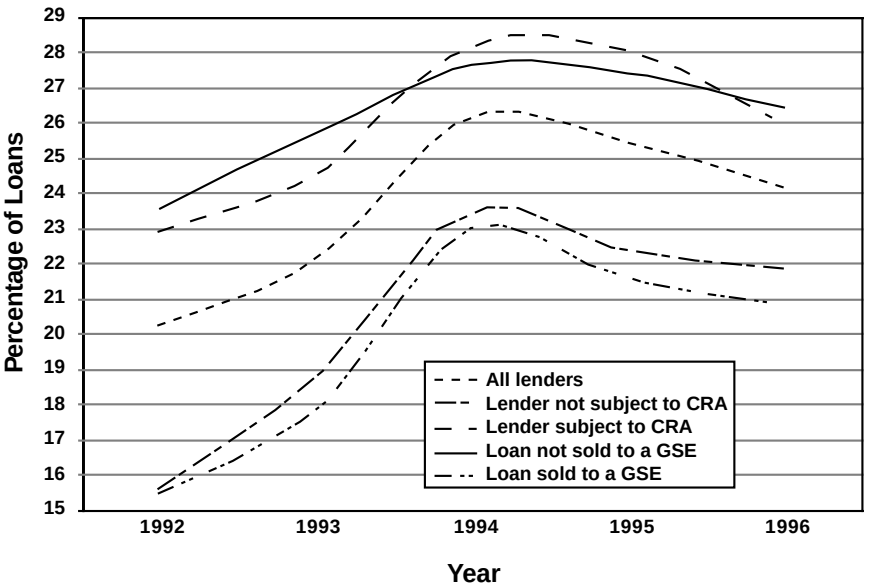
Exhibit 5 (continued)

GSE, CRA Lending to Underserved Markets: Indiana MSAs, 1992–96 (in percent)

	1992	1993	1994	1995	1996	All Years
All lenders						
All Final Rule underserved markets	20.2	22.1	26.2	25.5	24.2	23.8
Very low-income borrowers	10.3	12.0	15.0	13.0	12.1	12.6
Low-income applicants in low-income areas	3.7	4.3	5.7	5.6	4.6	4.8
Targeted tracts	13.6	14.4	17.4	18.1	16.9	16.2
Blacks	1.6	2.1	3.3	3.8	2.9	2.8
Minority tracts	2.8	3.1	3.8	4.0	3.2	3.4

Exhibit 6

Percentage of Loans Going to Final Rule Underserved Markets: GSE Versus CRA Comparisons, Indiana MSAs, 1992–96



Institutions covered by CRA achieved similar, albeit smaller, improvements during this period. The three combined Final Rule underserved markets went from 22.9 percent of CRA lender loans in 1992 to 28.2 percent in 1994 before dropping to 26 percent in 1996. Again, improvements were across the board, although in some categories much of the gains seen in 1994 had greatly diminished by 1996.

Observed separately, these numbers might seem to be impressive tributes to the benefits of the GSEs and CRA in the 1990s. Clearly, underserved markets fared better with them during this time. However, these numbers mean little unless they are placed in context.

One needs to see how the entire conventional home mortgage market performed before one can fully evaluate the relative performance of GSEs and CRA institutions.

The rest of exhibit 5 provides the figures for non-GSE and non-CRA loans as well as for all lenders pooled together. For all Final Rule underserved markets, this information is presented visually in exhibit 6. An examination of exhibits 5 and 6 makes several things apparent.

- All categories of lenders showed similar inverted U-shaped patterns of improvement and decline during the 1990s. At the same time that the GSEs and CRA lenders were increasingly doing business with underserved markets, so were non-CRA institutions and non-GSE loan purchases. For all lenders, there were improvements that peaked in either 1994 or 1995, followed by a decline in 1996.
- At no time during this period were the GSEs ever leading the market. The percentage of underserved market loans purchased by the GSEs was, over the 5-year period, nearly 7 percentage points lower than it was for the loans they did not purchase (19.6 percent for GSE purchases, 26.4 percent for nonpurchases).
- Although the GSEs never led the market, across time they did at least close part of the gap. The 1992 differential of 8.2 percent between the loans they purchased and those they did not (GSE 15.4 percent, non-GSE 23.6 percent) was about one-third smaller (5.7 percent) by 1996 (20.8 percent GSE, 26.5 percent non-GSE).
- Conversely, CRA lenders consistently led non-CRA lenders by an overall margin of 5.2 percentage points (26 percent for CRA, 20.8 percent for non-CRA). However, counter to what we hypothesized, their lead actually *diminished* over the course of the decade. A lead of 7.3 percent in 1992 (22.9 percent CRA, 15.6 percent non-CRA) shrunk to 4.2 percent in 1996 (26 percent versus 21.8 percent).

Exhibits 7 through 12 provide a more detailed examination of lending to underserved markets. In addition to again describing CRA/non-CRA and GSE/non-GSE differences, the exhibits provide information on the specific types of primary market lenders (banks, S&Ls, credit unions, and mortgage companies), buyers of loans (Fannie, Freddie, sold to others, and loans not sold), and various institutional characteristics that we will discuss shortly. Using the information from exhibit 7, exhibit 13 visually compares the GSEs with primary market lenders for the combined Final Rule underserved markets. Several things stand out.

- First and foremost, GSE performance almost perfectly mirrors mortgage company performance. The two lines are practically indistinguishable.
- Furthermore, mortgage companies are consistently the worst performers with regard to lending to underserved markets.[16] Commercial banks and credit unions consistently do much better. The performance of savings and loans tends to be similar to or slightly better than that of mortgage companies.

In short, the GSEs are *not* leading the market; rather, they are consistently shadowing the lenders who always trail the rest. However, by 1996 mortgage companies had closed some of the gap that existed between them and other lenders (except with credit unions, who improved in 1996 when other lenders were declining); hence, the GSEs showed modest relative improvement as well.

What accounts for this strong relationship between mortgage company and GSE performance in underserved markets? As nondepository institutions, mortgage companies are

Exhibit 7

Detailed Profile of Lending to All Final Rule Underserved Markets: Indiana MSAs, 1992–96 (in percent)

	1992	1993	1994	1995	1996	All Years
All lenders	20.2	22.1	26.2	25.5	24.2	23.8
Lender not subject to CRA	15.6	18.8	23.5	22.4	21.8	20.8
Lender subject to CRA	22.9	24.5	28.2	28.1	26.0	26.0
Loan not sold to a GSE	23.6	25.7	27.7	27.4	26.5	26.4
Loan sold to a GSE	15.4	17.8	23.0	21.6	20.8	19.6
Commercial bank	26.9	28.6	33.2	32.2	30.1	30.3
Savings and loan	19.0	19.7	22.1	22.8	21.3	21.0
Credit union	26.6	30.8	29.2	28.8	35.0	30.4
Mortgage company	14.9	18.3	23.1	22.0	21.0	20.2
Sold to Fannie Mae	15.0	18.2	24.7	21.8	21.3	20.2
Sold to Freddie Mac	16.1	17.3	20.3	21.1	20.2	18.9
Sold to other	19.9	23.9	25.4	24.9	23.7	24.0
Not sold	24.4	26.1	28.4	28.3	27.1	27.0
Assets ≤ $100M[a]	18.4	19.8	27.4	24.3	25.5	23.7
Assets $100M to $1B	22.0	22.7	25.1	24.2	24.9	23.9
Assets > $1B	18.7	22.6	26.2	27.1	23.2	24.1
Headquarters in Indiana[b]	22.2	24.9	29.9	28.2	26.9	26.7
Branch in Indiana, headquarters elsewhere	17.5	20.4	23.3	23.3	22.2	21.9
No known Indiana branches	10.3	14.8	17.4	18.8	20.2	17.4
Not active after 1994	20.0	20.8	20.7			20.4
Lender sold no loans to GSEs	26.7	27.3	32.4	31.0	31.5	30.1
Lender sold some loans to GSEs	18.0	20.2	23.7	23.0	21.3	21.3
No GSE loans to first-time buyers[c]	NA	39.5	49.6	40.3	52.5	45.3
< 10% to first-time buyers	NA	14.6	14.4	15.4	18.3	15.2
10–20% to first-time buyers	NA	24.7	19.5	18.6	18.0	19.7
20–30% to first-time buyers	NA	58.3	43.0	29.1	34.0	35.0
More than 30%	NA	91.1	65.7	45.4	64.7	57.5

Note: NA = not available.

[a] Coding of assets is less reliable in 1992–1993.
[b] Coding of branches and headquarters is less reliable in years prior to 1995.
[c] First-time homebuyer information not available prior to 1993.

Exhibit 8

Detailed Profile of Lending to Very Low-Income Borrowers: Indiana MSAs, 1992–96 (in percent)

	1992	1993	1994	1995	1996	All Years
All lenders	10.3	12.0	15.0	13.0	12.1	12.6
Lender not subject to CRA	6.5	9.3	13.5	10.8	10.7	10.4
Lender subject to CRA	12.5	14.0	16.1	15.0	13.1	14.1
Loan not sold to a GSE	12.7	14.5	15.9	14.6	13.3	14.3
Loan sold to a GSE	6.9	9.0	13.0	10.0	10.1	9.8
Commercial bank	15.9	16.9	20.1	18.0	15.7	17.4
Savings and loan	9.1	10.6	11.3	11.1	10.1	10.4
Credit union	11.7	17.0	16.3	15.3	16.0	15.4
Mortgage company	6.1	9.0	13.4	10.5	10.4	10.1
Sold to Fannie Mae	6.4	9.0	15.0	10.6	10.7	10.3
Sold to Freddie Mac	7.6	9.1	10.0	9.0	9.4	9.0
Sold to other	10.0	12.8	14.6	12.6	12.1	12.7
Not sold	13.2	15.0	16.3	15.3	13.6	14.7
Assets ≤ $100M[a]	8.5	9.0	15.2	11.4	11.3	11.5
Assets $100M to $1B	11.7	12.7	13.8	11.5	11.7	12.3
Assets > $1B	9.1	13.0	15.9	15.3	12.6	13.6
Headquarters in Indiana[b]	11.6	14.2	17.8	15.2	13.4	14.6
Branch in Indiana, headquarters elsewhere	8.1	10.4	12.6	11.1	11.1	11.0
No known Indiana branches	4.1	6.6	9.1	8.8	9.9	8.3
Not active after 1994	10.3	11.3	10.8			10.7
Lender sold no loans to GSEs	15.4	15.9	18.9	17.0	15.1	16.5
Lender sold some loans to GSEs	8.5	10.6	13.5	11.3	10.8	11.0
No GSE loans to first-time buyers[c]	NA	20.1	26.9	19.9	23.2	22.9
< 10% to first-time buyers	NA	8.5	9.2	8.3	9.4	8.8
10–20% to first-time buyers	NA	13.7	12.5	10.3	10.0	11.4
20–30% to first-time buyers	NA	26.8	21.0	14.3	15.6	16.7
More than 30%	NA	36.9	32.7	21.7	26.2	26.5

Note: NA = not available.

[a] Coding of assets is less reliable in 1992–93.
[b] Coding of branches and headquarters is less reliable in years prior to 1995.
[c] First-time homebuyer information not available prior to 1993.

Exhibit 9

Detailed Profile of Lending to Low-Income Applicants in Low-Income Areas: Indiana MSAs, 1992–96 (in percent)

	1992	1993	1994	1995	1996	All Years
All lenders	3.7	4.3	5.7	5.6	4.6	4.8
Lender not subject to CRA	2.3	2.8	4.4	4.7	4.0	3.8
Lender subject to CRA	4.6	5.4	6.6	6.4	5.0	5.6
Loan not sold to a GSE	4.7	5.6	6.4	6.4	5.3	5.8
Loan sold to a GSE	2.4	2.7	4.0	4.0	3.4	3.3
Commercial bank	6.1	7.2	8.8	8.1	6.5	7.4
Savings and loan	3.0	3.3	4.0	4.1	3.3	3.6
Credit union	4.9	6.6	6.6	6.3	6.9	6.4
Mortgage company	2.2	2.6	4.3	4.6	3.8	3.6
Sold to Fannie Mae	2.1	2.7	4.8	4.4	3.9	3.5
Sold to Freddie Mac	3.0	2.8	2.9	3.3	2.9	3.0
Sold to other	2.6	4.8	5.9	6.1	4.9	5.2
Not sold	5.1	5.8	6.6	6.5	5.4	5.9
Assets ≤ $100M[a]	2.8	2.8	4.4	4.2	3.9	3.7
Assets $100M to $1B	4.7	4.6	5.3	4.6	4.6	4.8
Assets > $1B	3.5	5.0	6.9	7.4	4.9	5.7
Headquarters in Indiana[b]	4.7	5.6	7.3	6.7	5.3	6.0
Branch in Indiana, headquarters elsewhere	2.6	3.1	4.1	4.6	4.2	3.9
No known Indiana branches	1.1	1.4	3.3	3.4	3.1	2.7
Not active after 1994	3.1	3.8	3.4			3.4
Lender sold no loans to GSEs	5.2	6.0	7.6	7.1	6.3	6.5
Lender sold some loans to GSEs	3.2	3.7	4.9	5.0	3.9	4.2
No GSE loans to first-time buyers[c]	NA	13.2	22.2	15.4	26.5	19.0
<10% to first-time buyers	NA	1.4	1.7	2.1	2.7	1.8
10–20% to first-time buyers	NA	4.8	2.9	3.5	3.0	3.4
20–30% to first-time buyers	NA	12.7	11.2	5.7	5.4	7.1
More than 30%	NA	48.0	18.2	13.5	15.8	17.2

Note: NA = not available.

[a] Coding of assets is less reliable in 1992–93.
[b] Coding of branches and headquarters is less reliable in years prior to 1995.
[c] First-time homebuyer information not available prior to 1993.

Exhibit 10

Detailed Profile of Lending to Targeted/Underserved Areas: Indiana MSAs, 1992–96 (in percent)

	1992	1993	1994	1995	1996	All Years
All lenders	13.6	14.4	17.4	18.1	16.9	16.2
Lender not subject to CRA	11.1	12.3	14.8	16.0	15.3	14.1
Lender subject to CRA	15.1	16.0	19.3	19.9	18.1	17.7
Loan not sold to a GSE	15.7	17.0	18.7	19.5	18.6	18.1
Loan sold to a GSE	10.7	11.4	14.5	15.5	14.3	13.2
Commercial bank	17.4	19.2	23.1	23.1	21.2	21.0
Savings and loan	12.9	12.4	15.0	16.0	14.5	14.1
Credit union	18.6	19.6	20.4	18.2	24.4	20.5
Mortgage company	10.7	12.0	14.4	15.9	14.7	13.8
Sold to Fannie Mae	10.3	11.8	15.1	15.7	14.6	13.5
Sold to Freddie Mac	11.2	10.8	13.6	15.1	13.8	12.8
Sold to other	13.0	16.3	17.1	18.3	16.2	16.6
Not sold	16.3	17.1	19.2	19.9	19.1	18.5
Assets ≤ $100M[a]	12.9	13.8	18.1	17.6	18.8	16.6
Assets $100M to $1B	14.5	14.3	16.8	16.9	17.4	16.0
Assets > $1B	13.0	14.5	17.3	19.3	15.6	16.3
Headquarters in Indiana[b]	15.2	16.5	20.1	20.0	18.7	18.3
Branch in Indiana, headquarters elsewhere	11.6	13.0	15.2	16.7	15.6	15.0
No known Indiana branches	7.5	9.7	11.7	13.1	13.5	11.8
Not active after 1994	12.9	13.3	13.2			13.1
Lender sold no loans to GSEs	17.0	18.0	22.8	22.0	22.9	20.9
Lender sold some loans to GSEs	12.5	13.1	15.3	16.4	14.5	14.4
No GSE loans to first-time buyers[c]	NA	60.5	68.9	76.9	65.7	67.1
< 10% to first-time buyers	NA	7.9	7.5	9.6	11.7	8.5
10–20% to first-time buyers	NA	15.3	10.2	11.8	10.9	11.7
20–30% to first-time buyers	NA	46.3	33.8	20.6	25.0	26.0
More than 30%	NA	88.4	52.7	35.8	56.7	47.6

Note: NA = not available.

[a] Coding of assets is less reliable in 1992–93.
[b] Note: Coding of branches and headquarters is less reliable in years prior to 1995.
[c] Note: First-time homebuyer information not available prior to 1993.

Exhibit 11

Detailed Profile of Lending to Blacks: Indiana MSAs, 1992–96 (in percent)

	1992	1993	1994	1995	1996	All Years
All lenders	1.6	2.1	3.3	3.8	2.9	2.8
Lender not subject to CRA	2.2	2.6	4.0	4.5	3.6	3.5
Lender subject to CRA	1.3	1.8	2.7	3.2	2.3	2.3
Loan not sold to a GSE	1.7	2.3	3.2	3.8	2.9	2.9
Loan sold to a GSE	1.5	1.8	3.4	3.7	2.9	2.6
Commercial bank	1.7	2.1	3.7	3.8	2.7	2.8
Savings and loan	0.9	1.4	1.6	2.4	1.9	1.6
Credit union	1.6	3.4	2.7	2.1	2.6	2.5
Mortgage company	2.2	2.5	4.1	4.6	3.7	3.5
Sold to Fannie Mae	1.6	2.2	4.1	4.2	3.2	3.1
Sold to Freddie Mac	1.2	1.2	2.2	2.6	2.4	1.9
Sold to other	2.2	3.5	4.7	5.5	5.0	4.5
Not sold	1.7	2.1	2.8	3.2	2.3	2.5
Assets ≤ $100M[a]	1.6	1.9	3.2	3.7	3.4	2.9
Assets $100M to $1B	1.3	1.4	1.7	2.1	1.4	1.6
Assets > $1B	2.0	2.9	4.7	5.1	3.5	3.8
Headquarters in Indiana[b]	1.4	2.0	3.2	3.4	2.2	2.5
Branch in Indiana, headquarters elsewhere	1.9	2.3	3.3	4.2	3.5	3.3
No known Indiana branches	3.0	2.3	3.6	4.2	3.6	3.4
Not active after 1994	1.6	1.9	3.1			2.0
Lender sold no loans to GSEs	1.8	1.8	3.2	3.9	3.0	2.8
Lender sold some loans to GSEs	1.6	2.2	3.3	3.7	2.8	2.8
No GSE loans to first-time buyers[c]	NA	5.0	5.5	7.0	10.2	6.5
< 10% to first-time buyers	NA	1.2	1.6	2.2	1.3	1.4
10–20% to first-time buyers	NA	2.6	2.6	2.3	2.2	2.4
20–30% to first-time buyers	NA	4.0	6.8	4.6	4.3	5.0
More than 30%	NA	10.4	5.3	7.1	6.8	6.7

Note: NA = not available.

[a] Coding of assets is less reliable in 1992–93.
[b] Coding of branches and headquarters is less reliable in years prior to 1995.
[c] First-time homebuyer information not available prior to 1993.

Exhibit 12

Detailed Profile of Lending to Minority Neighborhoods: Indiana MSAs, 1992–96 (in percent)

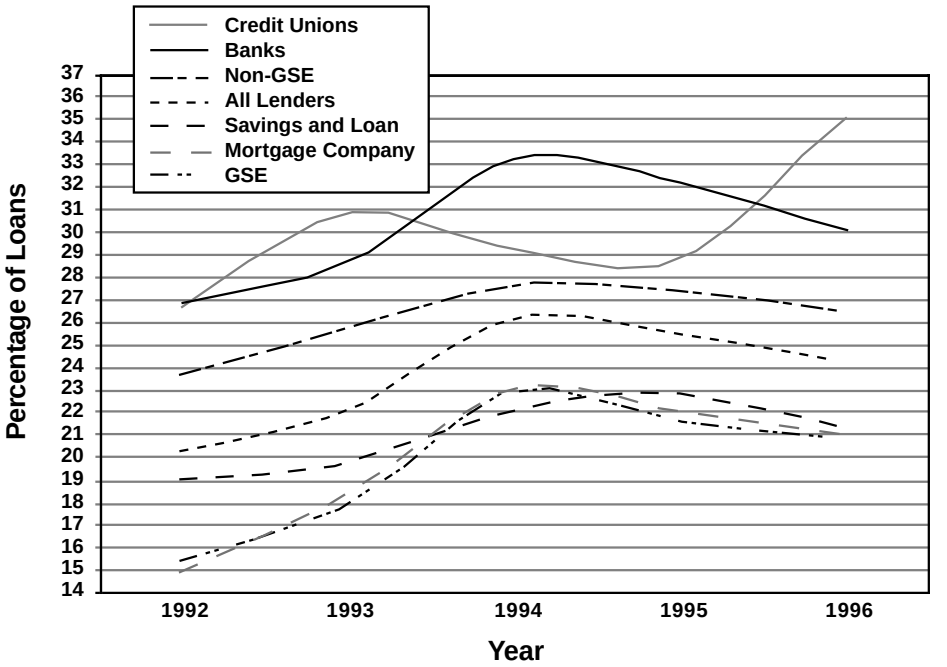
	1992	1993	1994	1995	1996	All Years
All lenders	2.8	3.1	3.8	4.0	3.2	3.4
Lender not subject to CRA	3.5	3.7	4.4	4.8	3.8	4.1
Lender subject to CRA	2.4	2.7	3.3	3.4	2.7	2.9
Loan not sold to a GSE	3.1	3.4	3.8	4.2	3.3	3.6
Loan sold to a GSE	2.3	2.8	3.6	3.6	3.0	3.0
Commercial bank	3.2	3.5	4.7	4.4	3.2	3.8
Savings and loan	1.6	1.7	1.6	2.1	2.1	1.8
Credit union	4.0	4.5	4.1	3.7	4.3	4.1
Mortgage company	3.5	3.7	4.4	4.8	3.7	4.1
Sold to Fannie Mae	2.5	3.4	4.3	4.3	3.4	3.6
Sold to Freddie Mac	2.1	2.0	2.5	2.5	2.4	2.3
Sold to other	4.2	4.7	5.3	5.5	4.6	5.0
Not sold	2.9	3.1	3.4	3.8	2.9	3.2
Assets ≤ $100M[a]	2.5	3.0	4.0	4.2	3.4	3.5
Assets $100M to $1B	1.9	2.2	2.2	2.4	1.7	2.1
Assets > $1B	3.6	3.9	4.9	5.3	4.0	4.4
Headquarters in Indiana[b]	2.6	2.9	3.9	3.8	2.8	3.3
Branch in Indiana, headquarters elsewhere	2.7	2.9	3.6	4.4	3.5	3.5
No known Indiana branches	2.4	3.8	3.7	3.8	3.3	3.5
Not active after 1994	3.4	3.9	3.5			3.5
Lender sold no loans to GSEs	2.9	3.1	4.4	5.0	3.8	3.9
Lender sold some loans to GSEs	2.8	3.2	3.5	3.6	2.9	3.2
No GSE loans to first-time buyers[c]	NA	12.7	11.4	15.0	16.9	13.4
< 10% to first-time buyers	NA	0.9	1.8	2.8	2.1	1.5
10–20% to first-time buyers	NA	3.6	1.9	2.3	1.6	2.2
20–30% to first-time buyers	NA	10.2	7.6	4.4	4.9	5.5
More than 30%	NA	27.0	11.9	8.0	11.1	10.8

Note: NA = not available.

[a] Coding of assets is less reliable in 1992–93.
[b] Coding of branches and headquarters is less reliable in years prior to 1995.
[c] First-time homebuyer information not available prior to 1993.

Exhibit 13

Percentage of Loans Going to Final Rule Underserved Markets: GSE Versus Primary Market Lender Comparisons, Indiana MSAs, 1992–96

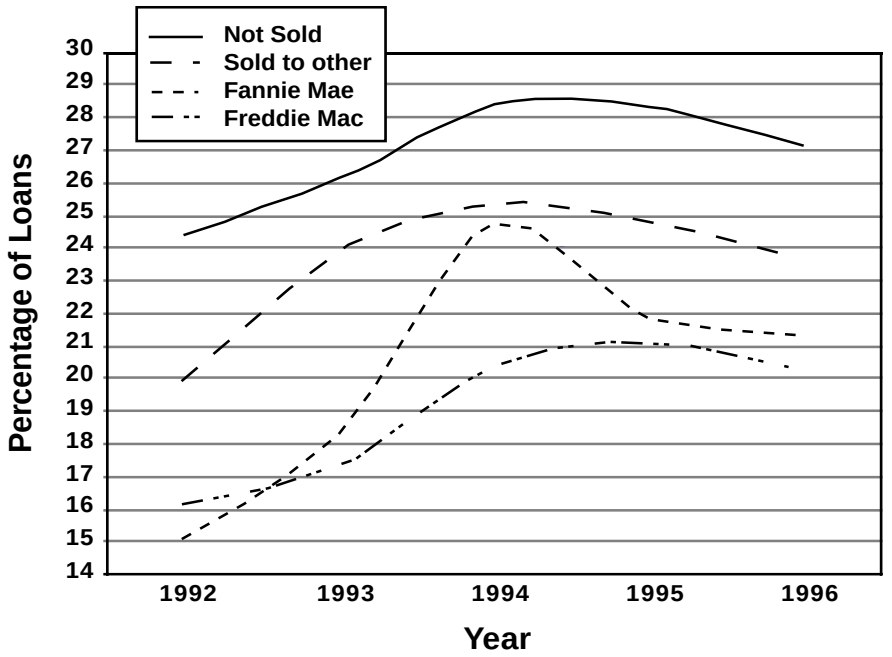


the primary market lenders that are most dependent on the secondary market. Thus, mortgage companies may be unwilling to make a conventional loan unless they are certain the GSEs (or some other secondary market entity) will purchase it. Therefore, it is not surprising that their underserved market performance is no better than that of the GSEs. However, the opposite need not also be true: There is nothing that precludes the GSEs from doing more business with underserved markets than mortgage companies do—or at least more business than mortgage companies are currently doing. Indeed, the strong relationship between GSE and mortgage company performance raises the possibility that mortgage companies might be willing to make more conventional loans to underserved markets if they were confident that the GSEs would purchase them. If the relatively weak underserved market performance of mortgage companies is due to limitations on the types of loans that the GSEs are willing to purchase, then it might be said that the GSEs are leading the market—but unfortunately, they are leading it in the wrong direction. Primary market lenders who are not as dependent on selling their loans to the GSEs perform better with regard to the share of their loans going to underserved markets.

Exhibit 14 provides another way of viewing GSE performance. Here we compare the various buyers and nonbuyers of loans. As the exhibit shows, the "best" loans (in terms of share going to underserved markets) are the loans not sold to anyone. Perhaps these are loans that did not meet secondary market underwriting guidelines. However, next best are the loans sold to others. Generally well behind (with the exception of Fannie Mae in 1994) are the two GSEs. In short, among secondary market lenders, Fannie and Freddie consistently do less in Indiana for underserved markets than do their secondary market competitors, although the gap narrowed somewhat between 1992 and 1996.

Exhibit 14

Percentage of Loans Going to Final Rule Underserved Markets: Buyers of Loans Compared, Indiana MSAs, 1992–96



Exhibits 15 and 16 provide one final assessment of statewide GSE performance with regard to Final Rule underserved markets. These tables compare GSE loans with non-GSE loans and with mortgage companies on an MSA-by-MSA basis for 1992–96. Exhibit 15 shows that, in nearly every MSA in every year, the share of non-GSE loans going to underserved markets is greater than the corresponding GSE share.[17] Exhibit 16 shows that, in most MSAs in most years, and in particular over the entire 5-year period, GSE performance tended to be a little better or a little worse than mortgage company performance.[18]

So far, we have focused on the underserved markets listed in the Final Rule. The story is somewhat different for the race-related markets we also decided to examine. As exhibits 11 and 17 illustrate, there are only small differences in the proportions of GSE and non-GSE loans that go to Blacks. Furthermore, between CRA and non-CRA lenders, it is the non-CRA lenders that do better, and their lead has actually widened with time. Furthermore, as exhibit 12 shows, in minority tracts non-GSE purchases have a small but declining lead over GSE purchases, whereas non-CRA lenders have a consistent lead of approximately 1 percentage point over their CRA counterparts.

Given the strong relationship between race and income, these differences may seem surprising. Exhibit 18 shows that part of the CRA/non-CRA differential exists because mortgage companies fare a little better than commercial banks in minority neighborhoods, but another major reason is that S&Ls consistently are less successful than any other type of primary market lender.

Exhibit 15

Percentages of Loans Going to Final Rule Underserved Markets: GSE Loans Compared With Non-GSE Loans, All Indiana MSAs, 1992–96

Location	1992	1993	1994	1995	1996	All Years
All of Indiana						
GSE loans	15.4	17.8	23.0	21.6	20.8	19.6
Non-GSE loans	23.6	25.7	27.7	27.4	26.5	26.4
Ratio of GSE to non-GSE	0.65	0.69	0.83	0.79	0.78	0.74
Bloomington						
GSE loans	17.5	19.1	20.5	16.3	22.6	19.3
Non-GSE loans	22.4	33.2	33.2	32.6	34.9	31.4
Ratio of GSE to non-GSE	0.78	0.58	0.62	0.50	0.65	0.61
Cincinnati						
GSE loans	18.3	12.6	18.7	17.7	19.5	17.4
Non-GSE loans	31.9	31.7	28.7	26.1	30.6	29.8
Ratio of GSE to non-GSE	0.57	0.40	0.65	0.68	0.64	0.58
Elkhart-Goshen						
GSE loans	17.8	20.9	24.3	16.7	21.9	20.1
Non-GSE loans	31.1	25.4	25.3	24.5	22.5	25.6
Ratio of GSE to non-GSE	0.57	0.82	0.96	0.68	0.97	0.79
Evansville						
GSE loans	19.0	19.3	24.4	25.1	21.5	20.9
Non-GSE loans	20.5	23.6	27.7	30.8	25.7	26.0
Ratio of GSE to non-GSE	0.93	0.82	0.88	0.81	0.84	0.80
Ft. Wayne						
GSE loans	15.2	18.8	27.6	22.8	22.4	21.5
Non-GSE loans	26.1	27.8	31.6	32.8	32.4	30.6
Ratio of GSE to non-GSE	0.58	0.68	0.87	0.70	0.69	0.70
Gary						
GSE loans	13.1	12.9	18.8	16.7	15.6	15.4
Non-GSE loans	15.4	19.3	20.6	18.5	17.4	18.4
Ratio of GSE to non-GSE	0.85	0.67	0.91	0.90	0.90	0.84
Indianapolis						
GSE loans	14.3	18.2	22.6	21.6	20.0	19.4
Non-GSE loans	20.7	23.3	26.3	26.8	23.9	24.5
Ratio of GSE to non-GSE	0.69	0.78	0.86	0.81	0.84	0.79
Kokomo						
GSE loans	25.9	24.9	28.5	27.6	27.7	26.9
Non-GSE loans	34.3	33.3	36.2	32.8	32.5	33.9
Ratio of GSE to non-GSE	0.76	0.75	0.79	0.84	0.85	0.79

Exhibit 15 (continued)

Percentages of Loans Going to Final Rule Underserved Markets: GSE Loans Compared With Non-GSE Loans, All Indiana MSAs, 1992–96

Location	1992	1993	1994	1995	1996	Total
Lafayette						
GSE loans	11.9	16.3	19.2	18.4	18.2	16.7
Non-GSE loans	13.6	17.7	20.0	19.5	19.3	18.1
Ratio of GSE to non-GSE	0.88	0.92	0.96	0.94	0.94	0.92
Louisville-New Albany						
GSE loans	20.7	21.2	26.5	22.9	22.5	22.7
Non-GSE loans	31.9	30.9	34.0	33.5	39.3	34.2
Ratio of GSE to non-GSE	0.65	0.69	0.78	0.68	0.57	0.66
Muncie						
GSE loans	18.0	19.3	26.2	32.9	35.7	27.6
Non-GSE loans	29.6	29.7	28.8	28.7	26.0	28.5
Ratio of GSE to non-GSE	0.61	0.65	0.91	1.15	1.37	0.97
South Bend						
GSE loans	13.3	17.8	23.4	26.7	23.5	20.0
Non-GSE loans	30.1	36.2	33.0	32.5	27.6	31.9
Ratio of GSE to non-GSE	0.44	0.49	0.71	0.82	0.85	0.63
Terre Haute						
GSE loans	18.3	13.4	29.3	14.6	21.5	18.3
Non-GSE loans	29.7	29.3	28.1	29.3	29.7	29.2
Ratio of GSE to non-GSE	0.62	0.46	1.04	0.50	0.72	0.63

Exhibit 16

Percentages of Loans Going to Final Rule Underserved Markets: GSE Loans Compared With Mortgage Company Loans, All Indiana MSAs, 1992–96

Location	1992	1993	1994	1995	1996	Total
All of Indiana						
GSE loans	15.4	17.8	23.0	21.6	20.8	19.6
Mortgage companies	14.9	18.3	23.1	22.0	21.0	20.2
Ratio of GSE to mortgage companies	1.03	0.97	1.00	0.98	0.99	0.97
Bloomington						
GSE loans	17.5	19.1	20.5	16.3	22.6	19.3
Mortgage companies	16.8	19.7	22.3	25.6	23.7	22.1
Ratio of GSE to mortgage companies	1.04	0.97	0.92	0.64	0.95	0.87
Cincinnati						
GSE loans	18.3	12.6	18.7	17.7	19.5	17.4
Mortgage companies	15.5	9.3	16.5	10.2	13.2	12.9
Ratio of GSE to mortgage companies	1.18	1.35	1.13	1.74	1.48	1.35
Elkhart-Goshen						
GSE loans	17.8	20.9	24.3	16.7	21.9	20.1
Mortgage companies	18.5	21.9	23.3	19.9	20.1	20.8
Ratio of GSE to mortgage companies	0.96	0.95	1.04	0.84	1.09	0.97
Evansville						
GSE loans	19.0	19.3	24.4	25.1	21.5	20.9
Mortgage companies	19.3	22.4	29.3	22.9	16.5	21.7
Ratio of GSE to mortgage companies	0.98	0.86	0.83	1.10	1.30	0.96
Ft. Wayne						
GSE loans	15.2	18.8	27.6	22.8	22.4	21.5
Mortgage companies	13.8	21.6	29.5	21.8	22.6	22.8
Ratio of GSE to mortgage companies	1.10	0.87	0.94	1.05	0.99	0.94
Gary						
GSE loans	13.1	12.9	18.8	16.7	15.6	15.4
Mortgage companies	14.0	15.4	22.4	19.9	17.7	18.3
Ratio of GSE to mortgage companies	0.94	0.84	0.84	0.84	0.88	0.84
Indianapolis						
GSE loans	14.3	18.2	22.6	21.6	20.0	19.4
Mortgage companies	14.3	18.4	21.8	22.1	20.2	19.7
Ratio of GSE to mortgage companies	1.00	0.99	1.04	0.98	0.99	0.98

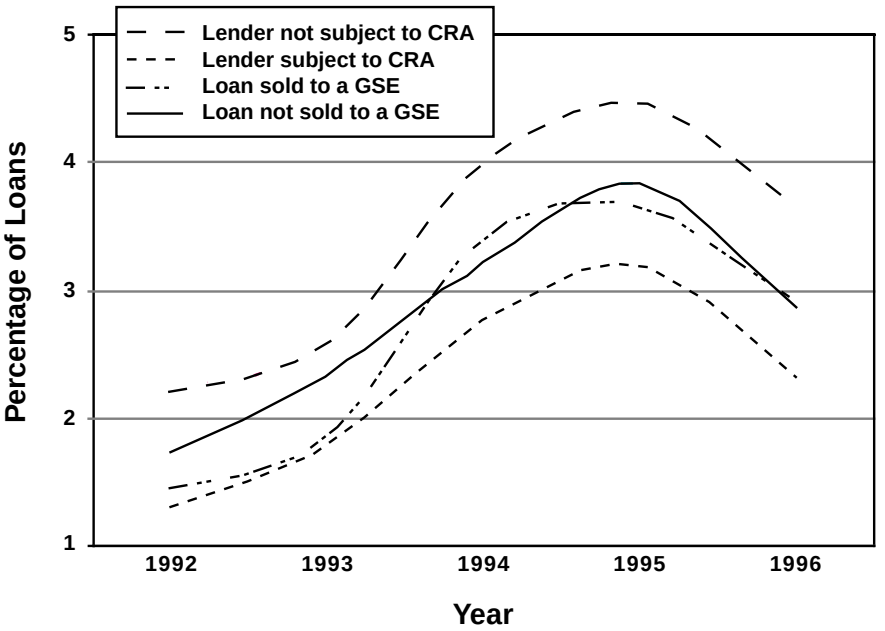
Exhibit 16 (continued)

Percentage of Loans Going to Final Rule Underserved Markets: GSE Loans Compared With Mortgage Company Loans, All Indiana MSAs, 1992–96

Location	1992	1993	1994	1995	1996	Total
Kokomo						
GSE loans	25.9	24.9	28.5	27.6	27.7	26.9
Mortgage companies	13.8	7.7	30.3	25.5	25.0	24.2
Ratio of GSE to mortgage companies	1.88	3.23	0.94	1.08	1.11	1.11
Lafayette						
GSE loans	11.9	16.3	19.2	18.4	18.2	16.7
Mortgage companies	12.7	16.0	18.2	16.0	13.4	15.6
Ratio of GSE to mortgage companies	0.94	1.02	1.05	1.15	1.36	1.07
Louisville-New Albany						
GSE loans	20.7	21.2	26.5	22.9	22.5	22.7
Mortgage companies	18.3	19.7	24.3	25.9	28.4	24.2
Ratio of GSE to mortgage companies	1.13	1.08	1.09	0.88	0.79	0.94
Muncie						
GSE loans	18.0	19.3	26.2	32.9	35.7	27.6
Mortgage companies	17.6	20.1	25.2	32.2	40.3	29.7
Ratio of GSE to mortgage companies	1.02	0.96	1.04	1.02	0.89	0.93
South Bend						
GSE loans	13.3	17.8	23.4	26.7	23.5	20.0
Mortgage companies	15.8	17.4	22.6	25.1	24.3	20.4
Ratio of GSE to mortgage companies	0.84	1.02	1.04	1.06	0.97	0.98
Terre Haute						
GSE loans	18.3	13.4	29.3	14.6	21.5	18.3
Mortgage companies	14.3	6.0	30.4	10.4	26.4	17.4
Ratio of GSE to mortgage companies	1.28	2.23	0.96	1.40	0.81	1.05

Exhibit 17

Percentage of Loans Going to Blacks: GSE Versus CRA Comparisons, Indiana MSAs, 1992–96

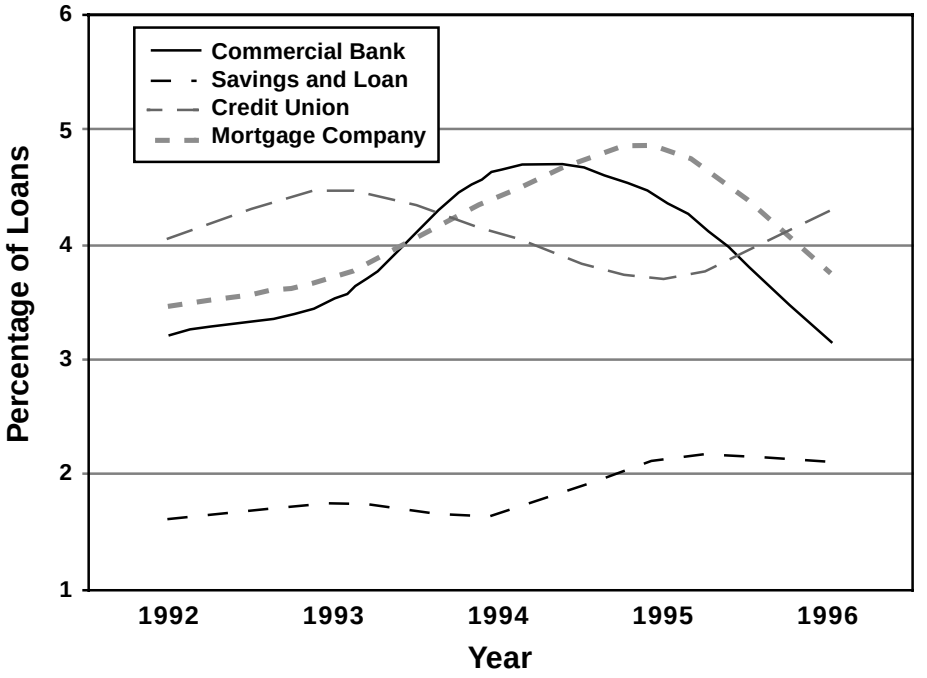


Why do mortgage companies fare better here than elsewhere? We have no hard evidence, but we offer the following speculations.

- Blacks and minorities may feel alienated from the banking system. Having developed only weak relationships with depository institutions in other areas (for example, checking, savings, other types of loans), they may be less motivated than Whites to do their home mortgage lending there.
- In St. Joseph County, Indiana, during the early 1990s, Williams and Nesiba (1997) found that lending institutions had no branches in heavily minority areas. If this is true statewide, then minorities and those living in minority neighborhoods may see little incentive for choosing a depository institution over a mortgage company.
- As Bunce and Scheessele (1996) note, Blacks nationwide receive a much higher proportion of FHA loans than they do conventional loans. We find that the same is true in Indiana. As shown in our tables, Blacks received 2.8 percent of all the conventional loans made by nonsubprime lenders during 1992–96. However, in separate analyses we find that Blacks obtained 8.5 percent of the FHA loans. Furthermore, while Indiana nonsubprime mortgage companies made 41.8 percent of the conventional loans during 1992–96, they made 72.9 percent of all FHA loans. This suggests that, because of FHA loans, mortgage companies have made strong inroads into Black markets, an advantage that sometimes gets carried over into their conventional loans as well.

Exhibit 18

Percentage of Loans Going to Minority Neighborhoods: Primary Market Lender Comparisons, Indiana MSAs, 1992–96



The weak performance of S&Ls in all types of underserved markets is also puzzling. Kim and Squires (1995) found that S&Ls performed better than commercial banks in Milwaukee. They argue that this was because commercial banks have many ways they can invest their money, but S&Ls are more heavily dependent on home mortgage markets. However, Williams and Nesiba (1997) found just the opposite in St. Joseph County, Indiana. They warn that the county may be atypical, because the largest S&L is located far from the county's minority neighborhoods. However, the current findings show that this weaker performance exists statewide, making it less plausible to attribute the inferior performance of S&Ls to factors unique to St. Joseph County.

One difference between S&Ls and commercial banks is that S&Ls do much more business in the secondary market and with the GSEs in particular. However, this does not explain why S&Ls also trail so far behind mortgage companies. Another important difference is that S&Ls rely much more on FHA loans than do commercial banks. During 1992–96, 21.4 percent of S&L loans were FHA, compared with only 5.3 percent of commercial bank loans.[19] It may be that S&Ls rely heavily on FHA loans to meet their CRA obligations to underserved markets, whereas commercial banks are much more dependent on their conventional loans for doing so. Although this might explain the weaker performance of S&Ls in conventional markets, we repeat our earlier contention that we do not think it justifies the performance. Just because a lender makes many Government-backed loans to underserved markets does not mean it could not make more conventional loans to those markets as well.

Exhibits 8 through 12 provide more details on the specific types of underserved markets. With regard to GSE and CRA comparisons, we find that the general patterns that exist for Final Rule underserved markets pooled together also exist for each of those markets separately. Thus we will not elaborate on them here.

Indirect Measures of GSE Influence

Exhibits 7 through 12 also provide measures that allow us to examine the possible indirect influence the GSEs may be having by affecting either the lenders they work with or the areas in which they buy varying amounts of first-time homebuyer loans. As noted earlier, approximately 70 percent of all loans are made by lenders who do at least some business with the GSEs; on average these lenders have much lower denial rates than the lenders who do not do any business with the GSEs. It could be that the GSEs have some effect on the denial rates of the lenders they deal with, or it could be that GSEs do more of their business with lenders who deal in lower risk markets.

If the GSEs do have any positive effects on the lenders they work with, those benefits do not seem to trickle down to underserved markets (or at least not as much as they do for served markets). As exhibit 7 shows, in 1992 lenders who sold no loans to the GSEs made 26.7 percent of their loans to Final Rule underserved markets, compared with 18 percent for lenders who did work with the GSEs. This 8.7-percentage-point gap fluctuated a bit during the next few years, but by 1996 the differential was actually 10.2 percentage points higher (31.5 percent versus 21.3 percent). A look at the specific types of underserved market in exhibits 8 through 12 reveals that GSE lenders did gain a little ground with very low-income borrowers but stayed the same or lost ground in every other underserved market. Our hypothesis that the GSEs might exert a positive influence on all the loans made by the lenders they work with does not seem to be supported.

We also hypothesized that GSE activity in an area might have beneficial effects even for the loans they do not buy: If the GSEs are active in an area, other lenders might be more willing to do business there. We operationalize GSE activity in an area by the percentage of loans purchased there that come from first-time homebuyers. Looking at the Final Rule underserved markets in exhibit 7, we see that loans from census tracts in which the GSEs have no first-home activity come disproportionately from underserved markets. In other words, the census tracts in which GSEs do the least are among the neediest with regard to underserved markets. After that, however, the more first-time home loans the GSEs purchase in an area, the more loans there are in that area that go to underserved markets. This suggests that, when the GSEs are more aggressive in an area (as evidenced by their first-home purchases), they may have beneficial effects on underserved markets.[20] However, as the earlier frequencies showed, most loans come from tracts in which the GSEs are only moderately aggressive; hence, any benefits that GSE aggressiveness may have are limited to relatively few borrowers.

Fannie Mae Versus Freddie Mac

In most of the above discussion, we have not focused on the differences between Fannie Mae and Freddie Mac. Exhibit 19 directly compares the Final Rule underserved market performance of the two GSEs, both statewide and in individual MSAs.[21] After initially trailing Freddie Mac in 1992, Fannie Mae did better with Final Rule underserved markets in every subsequent year. With the exception of 1994, when Fannie had an atypically good year, these differences were generally small, typically about 1 percentage point either way. Fannie's overall performance, with 20.2 percent of its loan purchases from underserved markets, was approximately 7 percent percent better than Freddie's total of 18.9 percent, although in most years besides 1994 the gap was smaller than that. Although

Exhibit 19

Percentages of Loans Going to Underserved Markets: Fannie Mae Compared With Freddie Mac, All Indiana MSAs, 1992–96

Location	1992	1993	1994	1995	1996	Total
All of Indiana						
Fannie Mae	15.0	18.2	24.7	21.8	21.3	20.2
Freddie Mac	16.1	17.3	20.3	21.1	20.2	18.9
Non-GSE loans	23.6	25.7	27.7	27.4	26.5	26.4
Ratio of Fannie Mae to Freddie Mac	0.93	1.05	1.22	1.03	1.05	1.07
Ratio of Fannie Mae to non-GSE	63.6	70.8	89.2	79.6	80.4	76.5
Ratio of Freddie Mac to non-GSE	68.2	67.3	73.3	77.0	76.2	71.6
Bloomington						
Fannie Mae	12.5	10.9	20.3	17.2	23.2	17.5
Freddie Mac	19.3	25.7	20.6	14.3	21.4	21.2
Ratio of Fannie Mae to Freddie Mac	0.65	0.42	0.99	1.20	1.08	0.83
Cincinnati						
Fannie Mae	15.9	9.8	23.4	16.2	21.2	17.6
Freddie Mac	22.2	14.7	15.0	19.4	17.7	17.2
Ratio of Fannie Mae to Freddie Mac	0.72	0.67	1.56	0.84	1.20	1.02
Elkhart-Goshen						
Fannie Mae	18.4	21.7	25.8	19.3	23.3	21.4
Freddie Mac	16.2	18.6	20.8	9.7	19.7	17.2
Ratio of Fannie Mae to Freddie Mac	1.14	1.17	1.24	1.99	1.18	1.24
Evansville						
Fannie Mae	23.7	20.8	27.5	27.6	17.1	22.5
Freddie Mac	17.2	18.4	23.1	19.8	25.5	19.8
Ratio of Fannie Mae to Freddie Mac	1.38	1.13	1.19	1.39	0.67	1.14
Ft. Wayne						
Fannie Mae	14.0	19.0	29.8	23.5	21.7	21.6
Freddie Mac	18.9	18.4	22.8	21.4	23.2	21.1
Ratio of Fannie Mae to Freddie Mac	0.74	1.03	1.31	1.10	0.94	1.02
Gary						
Fannie Mae	14.7	15.1	21.4	17.2	16.9	17.1
Freddie Mac	11.2	9.2	14.3	15.6	13.7	12.5
Ratio of Fannie Mae to Freddie Mac	1.31	1.64	1.50	1.10	1.23	1.37

Exhibit 19 (continued)

Percentages of Loans Going to Underserved Markets: Fannie Mae Compared With Freddie Mac, All Indiana MSAs, 1992–96

Location	1992	1993	1994	1995	1996	Total
Indianapolis						
Fannie Mae	14.6	19.0	23.8	21.8	21.2	20.1
Freddie Mac	13.5	16.3	20.2	21.1	18.3	18.1
Ratio of Fannie Mae to Freddie Mac	1.08	1.17	1.18	1.03	1.16	1.11
Kokomo						
Fannie Mae	11.1	5.7	28.2	24.6	24.8	22.8
Freddie Mac	27.2	26.9	28.6	29.0	30.2	28.1
Ratio of Fannie Mae to Freddie Mac	0.41	0.21	0.99	0.85	0.82	0.81
Lafayette						
Fannie Mae	14.1	10.0	18.4	14.3	12.9	13.8
Freddie Mac	10.8	18.6	19.8	23.0	24.3	18.8
Ratio of Fannie Mae to Freddie Mac	1.31	0.54	0.93	0.62	0.53	0.73
Louisville-New Albany						
Fannie Mae	18.8	18.4	28.0	24.5	23.2	22.6
Freddie Mac	22.7	23.8	24.7	20.5	21.7	22.7
Ratio of Fannie Mae to Freddie Mac	0.83	0.77	1.13	1.20	1.07	1.00
Muncie						
Fannie Mae	19.6	27.7	34.1	35.6	44.5	35.9
Freddie Mac	17.4	15.7	20.2	28.6	24.6	20.6
Ratio of Fannie Mae to Freddie Mac	1.13	1.76	1.69	1.24	1.81	1.74
South Bend						
Fannie Mae	13.2	19.2	27.5	26.7	23.9	20.3
Freddie Mac	13.9	13.4	15.0	26.8	22.7	19.1
Ratio of Fannie Mae to Freddie Mac	0.95	1.43	1.83	1.00	1.05	1.06
Terre Haute						
Fannie Mae	11.1	13.3	56.3	14.3	19.2	21.3
Freddie Mac	18.8	13.4	24.1	14.8	22.6	17.6
Ratio of Fannie Mae to Freddie Mac	0.59	0.99	2.34	0.97	0.85	1.21

both Fannie and Freddie improved between 1992 and 1996, their purchases of Final Rule underserved market loans trailed well behind loans not purchased.

Fannie's small advantage did not hold throughout the State. In three MSAs (Bloomington, Kokomo, and Lafayette) Freddie did better overall, and there were individual years in other MSAs when Freddie outperformed Fannie.

In short, Fannie Mae tended to do modestly better than Freddie Mac, although this advantage was not consistent across all years and all MSAs. Furthermore, as we discussed earlier, it is possible that the HMDA data slightly understate Fannie's performance while overstating Freddie's; hence, Fannie's lead may have been slightly larger than it appears here. In any event, the differences between Fannie and Freddie were much smaller than the differences between the loans they purchased and the loans they did not.

Institutional Characteristics

Exhibits 7 through 12 contain information on the assets, as well as the headquarters and branch locations for lenders. As noted earlier, there has been concern about the increasing trend toward large lenders headquartered far from local communities. For lender size as measured by assets, though, we do not find any compelling evidence to support this concern. Exhibit 7 shows that for all Final Rule underserved markets for the entire period 1992–96, small, medium, and large lenders finish in a virtual dead heat, with each making about 24 percent of its loans to underserved markets. However, exhibits 8 through 12 show some variability across different types of markets. Large lenders did the best with very low-income applicants and low-income applicants in low-income areas. They also did noticeably better with Blacks and minority neighborhoods. Only for targeted areas did smaller lenders have a small lead. Most differences are fairly small, though, and there is also a fair amount of year-to-year fluctuation. In short, the evidence we have does not support a fear that larger lenders are worse. For the most part, asset size is not very closely related to underserved market performance, and, if anything, the larger lenders often do better than the smaller ones.

The story is not quite the same, though, for locations of headquarters and branches. Our data quality is best for 1995 and 1996, so we focus on those 2 years. For the three Final Rule underserved markets combined (exhibit 7) and for each of those markets separately (exhibits 8 through 10), lenders headquartered in Indiana made the highest proportion of loans to underserved markets, whereas those with no branches in Indiana made the smallest. However, for Blacks (exhibit 11) the pattern is reversed (although differences are small). For minority neighborhoods (exhibit 12) the differences are small and inconsistent.

As we noted earlier, nonsubprime lenders with no branches in Indiana have been increasing their share of the Indiana conventional home mortgage market. As we now see, these lenders are not as active as local lenders in most of the underserved markets. We show later that underserved markets are also drawing upon new credit sources. However, in their case, the subprime lenders with their higher interest rates are the source. This suggests an interesting possibility about the effect that increasing competition among lenders is having on underserved and served markets. Members of served markets are increasingly finding the means to go beyond their local lenders when seeking to purchase a house. Presumably they do so because they can get a better deal elsewhere. Hence, members of served markets may be benefiting from increased competition for their business, perhaps through lower interest rates or better loan terms.

For members of underserved markets, there is also increased competition for their business, but in their case it comes from the subprime lenders. This may enable many people to buy a house who otherwise would not be able to, but they probably do so at much higher interest rates than members of served markets. Unfortunately, without information on interest rates and loan terms, we cannot test whether what we have just described is actually true, but this may be an important topic for future research.

The Post-1994 Decline

One mystery not addressed by any of the above analyses is the decline in lending to underserved markets that occurred after 1994. Recall that our sample is limited to conventional, nonsubprime loans. Hence, one possibility is that there was not a decline, but rather a shift: Conventional loans were replaced by Government-backed loans (FHA, VA, and FmHA) and subprime loans. For that matter, the gains up to 1994 could also have been caused by shifts in the other direction. Exhibit 20 examines this possibility. For each type of underserved market we again show the percentage of loans from our current sample of conventional loans from nonsubprime lenders. We then add FHA loans to our sample and show how the percentages change. Finally, we add subprime lenders to the mix. Exhibit 21 displays the results for the three Final Rule underserved markets combined.

As we would expect, the percentage of loans going to underserved markets increases once Government-backed loans are added to our conventional loans/nonsubprime sample. Even with Government-backed loans, there is still a decline in lending to underserved markets after 1994. However, the decline is not as great. For conventional nonsubprime lenders, there was a 2-percentage-point drop between 1994 and 1996 (26.2 percent in 1994 versus 24.2 percent in 1996). Once the Government-backed loans were added to the mix, the drop was only 1.1 percent (29.9 percent versus 28.8 percent). Hence, about half of the decline in lending to underserved markets that occurred in the conventional loan market was compensated by increases in FHA and other Government-backed loans.

When subprime loans are factored in, an even more striking result occurs: From 1994 on, there was virtually no change in the amount of lending going to the combined Final Rule underserved markets (although as exhibit 20 shows, there were some small fluctuations among the markets individually).

Therefore, the changes in lending to Final Rule underserved markets that occurred after 1994 were not so much declines as they were shifts: Conventional loans from regular lenders were replaced by FHA and VA loans and loans from subprime lenders. However, these changes probably were not for the better. For borrowers who can qualify for a conventional loan, an FHA loan is generally less desirable because FHA relies on insurance premiums paid by lower risk borrowers to cross-subsidize the costs imposed by those who are higher risk (Canner, Passmore, and Surette, 1996). Furthermore, some critics claim that abuses and mismanagement of the FHA program have led to White flight, high concentrations of abandonment and foreclosure, and the driving out of conventional lenders from markets (Bradford and Cincotta, 1992; Bradford, 1998). In addition, subprime loans have been a subject of increasing controversy because of their high interest rates and the sometimes questionable practices of the lenders who make the loans. Indeed, exhibit 20 raises the disturbing possibility that subprime lenders may have stolen away borrowers who could have qualified for more favorable conventional loans. We discuss subprime lending in additional detail later in this article.

Even ignoring the less desirable aspects of the loans that replaced conventional lending, the fact remains that the substantial progress underserved markets were making early in the 1990s suddenly ground to a halt at mid-decade. Whether this will be only a temporary lull or a long-term development remains to be seen.

Summary

Underserved markets in Indiana made significant gains during the early to mid-1990s. For conventional home mortgage loans, their applications went up disproportionately while their denial rates went down, causing every underserved market to gain an increasing

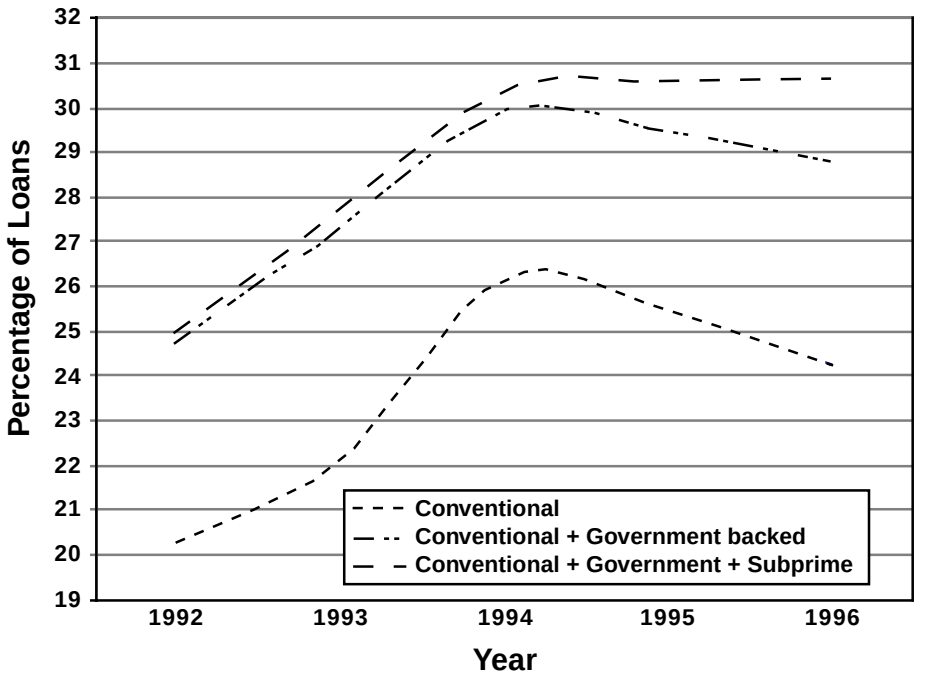
Exhibit 20

Percentages of Loans Going to Underserved Markets: Conventional, FHA, and Subprime Loans, All Indiana MSAs, 1992–96

	1992	1993	1994	1995	1996	All Years
Final Rule underserved markets						
Conventional	20.3	22.1	26.2	25.5	24.2	23.8
Conventional + government backed	24.7	27.3	29.9	29.5	28.8	28.1
Conventional + government + subprime	25.0	27.7	30.4	30.6	30.6	29.0
Very low-income borrowers						
Conventional	10.3	12.0	15.0	13.0	12.1	12.6
Conventional + government backed	12.0	14.7	16.5	15.0	14.8	14.7
Conventional + government + subprime	12.2	15.0	16.9	15.9	16.4	15.4
Low-income borrowers in low-income tracts						
Conventional	3.7	4.3	5.7	5.6	4.6	4.8
Conventional + government backed	5.3	6.3	7.1	7.1	6.5	6.5
Conventional + governmental + subprime	5.4	6.3	7.2	7.4	6.7	6.7
Targeted areas						
Conventional	13.6	14.4	17.4	18.1	16.9	16.2
Conventional + government backed	17.8	18.7	21.0	21.7	20.7	20.1
Conventional + government + subprime	17.9	18.9	21.1	22.3	21.4	20.5
Blacks						
Conventional	1.6	2.1	3.3	3.8	2.9	2.8
Conventional + government backed	2.9	3.5	4.7	5.6	4.8	4.4
Conventional + government + subprime	2.9	3.6	4.7	5.6	4.7	4.4
Minority neighborhoods						
Conventional	2.8	3.1	3.8	4.0	3.2	3.4
Conventional + government backed	4.3	4.6	5.2	5.6	4.8	4.9
Conventional + government + subprime	4.3	4.6	5.3	5.7	4.8	5.0

Exhibit 21

Conventional, FHA, and Subprime Lending to Final Rule Underserved Markets: Indiana MSAs, 1992–96



share of the home mortgage loans made. Unfortunately, the underserved markets began losing some of these gains in 1995, but in 1996 the markets were still ahead of where they had been in 1992.

Viewed in isolation, improvements by the GSEs might seem to be a major factor in these trends. For every underserved market, the GSEs were purchasing relatively more loans in 1996 than they had in 1992. However, a closer examination reveals that the loans they did not purchase were also showing significant improvements. Indeed, rather than leading the market, GSE performance almost perfectly mirrored that of mortgage companies, the primary market lenders that consistently trailed the rest. Because mortgage companies are so heavily dependent on the secondary market, perhaps it is not surprising that their underserved market performance is no better than that of the GSEs. However, given that the GSEs also buy loans from other primary market lenders, there does not seem to be any corresponding reason that GSE underserved market performance can be only as good as that of mortgage companies. Given the very close relationship between GSE and mortgage company performance, it might be that mortgage companies would make more loans to underserved markets if they were confident the GSEs would purchase them. Nonetheless, although the GSEs never led the market, they did at least narrow the gap, going from an 8.2-percentage-point difference in 1992 to a 5.7-percentage-point difference in 1996. Like others, we also found that Fannie Mae tended to do better than Freddie Mac, but the differences were usually small and not totally consistent across MSAs and years.

Furthermore, there was little evidence that the GSEs were exerting any positive indirect influence on the lenders with whom they worked. Lenders who sold loans to the GSEs

made relatively fewer loans to underserved markets than the lenders who did not work with the GSEs; this gap actually increased between 1992 and 1996. With regard to areas, there was evidence that GSE first-home activity at least had the potential to be beneficial. There were a few areas where the GSEs bought no first-home loans at all, and these areas were disproportionately composed of underserved markets. In the areas where the GSEs did do business, the higher the percentage of their loans from first-time homebuyers, the higher the percentage of all loans that came from underserved markets. This suggests more about the GSEs' potential for doing good than it does about their actual performance, however, because most loans come from areas where the GSEs are only doing a moderate amount of first-home business.

For CRA institutions, the picture was somewhat different. For Final Rule underserved markets, both individually and collectively, the CRA institutions consistently did better. However, their lead over non-CRA institutions declined across time. Furthermore, for race-related markets, the non-CRA institutions actually had the lead. The race reversal reflects, in part, the very weak performance of S&Ls; it may also reflect the fact that depository institutions do not do as well with Blacks as they do with non-Blacks. If Blacks are less inclined to use banks and S&Ls for their checking and savings accounts, they may also avoid them for their home purchases and instead turn to mortgage companies.

We also looked at how other lender characteristics were related to underserved market trends. Large lenders gained an increasing share of the Indiana conventional home mortgage market between 1992 and 1996, but we saw no evidence that this was producing detrimental effects. Differences in underserved market performance between small and large lenders were generally small and inconsistent; if anything, large lenders often did better than small ones. This does not mean that the trend toward increasingly large lenders is not a matter of concern; it could be that the expressed concern has led large lenders to be careful that their underserved market performance is not inferior. But, at least in Indiana, the fears of some do not seem to have been realized.

With regard to locations of headquarters and branches, we did see evidence that more distant lenders were increasing their share of the Indiana conventional home mortgage market and that these lenders were less oriented toward serving underserved markets. We speculate, but lack the evidence to prove, that outside lenders are helping to create increased competition for the business of served markets and that one possible consequence is that these borrowers are receiving lower interest rates or better loan terms as a result. By way of contrast, there is also increased competition for lending in the underserved markets, but it is coming from subprime lenders, and just how beneficial their activities actually are is a matter of controversy and dispute.

Finally, we saw that much of the decline that occurred in underserved market lending after 1994 was not so much a decline as it was a shift: Conventional loans from regular lenders were replaced by Government-backed loans and by loans from subprime lenders. This shift is a matter for concern because the replacement loans have less desirable qualities than the originals. Even if the replacements were just as good, the fact that the substantial progress underserved markets were making came to a sudden halt in mid-decade would be viewed by many as disturbing.

South Bend/St. Joseph County MSA, 1992–96

Exhibits 15, 16, and 19 compare MSAs across the State of Indiana. A few MSAs stood out because of their differences from the rest. One of these was the South Bend/St. Joseph County MSA, where the gap between GSE purchases and nonpurchases of underserved market loans narrowed dramatically in just a few years. St. Joseph County was also

unique because a citizen's group, Community Action for South Bend Housing Plus (CA$H PLU$), successfully lobbied area lenders to sign CRA agreements to improve their under-served market performance. In this section we describe in more detail how the changes in GSE purchases came about. We then take a closer look at CRA institutions in the area, particularly those that negotiated with CA$H PLU$. We speculate on how CRA obligations and community activism may have affected them. Finally we show how official statistics may have understated the impact CRA had on the area. Specifically, we profile how a number of CRA lenders joined together to create a program for underserved markets whose benefits are not reflected in HMDA or any other widely available data set.

GSE Changes

As exhibit 15 shows, in the South Bend/St. Joseph County MSA in 1992, there was a tremendous gap between loans sold to the GSEs and those not sold to the GSEs with regard to underserved markets. Only 13.3 percent of GSE purchases were from underserved markets, compared with more than 30 percent of the loans not bought by the GSEs. This was approximately double the GSE/non-GSE gap that existed statewide. By 1996, however, things had changed dramatically: Underserved markets comprised 23.5 percent of the GSE loans, compared with 27.6 percent of the non-GSE loans—a gap that was actually 1.6 percentage points less than existed statewide. Thus, in a 4-year period, a difference in underserved market lending of nearly 17 percentage points between the GSEs and non-GSEs was reduced to just slightly more than 4 points. St. Joseph County went from having an exceptionally large gap between GSE and non-GSE purchases to a gap that was actually a little below the State average.

Exhibit 22 provides insight on how this happened. The table shows, by type of lender, the percentage of loans that were made to Final Rule underserved markets in 1992 and 1996 in St. Joseph County. The table also shows the differences between loans bought by the GSEs and the loans they did not buy.

Exhibit 22 shows:

- For every type of primary market lender in St. Joseph County in 1992, loans purchased by the GSEs were much less likely to be from underserved markets than the loans not purchased by the GSEs. For example, in 1992, 27.9 percent of all bank loans were made to underserved markets; of bank loans purchased by the GSEs, only 10.1 percent were from underserved markets, and for loans not sold to the GSEs the rate was 38.8 percent. Similarly, in 1992, 18.1 percent and 15.8 percent of the loans made by S&Ls and mortgage companies, respectively, went to underserved markets. The corresponding figures for GSE purchases were only 13.2 percent and 14.4 percent; for GSE nonpurchases figures were 21.3 percent and 25 percent. The GSEs bought no loans at all from credit unions, which made more than 40 percent of their loans to underserved markets.[22] Hence, even though underserved markets received nearly 21 percent of all St. Joseph loans made in 1992, only a little more than 13 percent of all loans bought by the GSEs were from underserved markets.
- By 1996, however, there were major changes. In that year 24.8 percent of loans the GSEs bought from S&Ls were from underserved markets, nearly double the 1992 figure of 13.2 percent. Likewise, the percentage of underserved market loans the GSEs bought from banks and mortgage companies also increased significantly. At the same time that the GSEs were getting a higher percentage of underserved market loans from each type of lender, the loans not bought by the GSEs saw only modest increases, or even declines, in the percentage of loans coming from underserved

Exhibit 22

GSE Purchases of Loans from Final Rule Underserved Markets by Type of Primary Market Lender: St. Joseph County, Indiana, 1992 and 1996

	1992			1996		
Type of Lender	**All Loans**	**Loans Sold to GSEs**	**Loans Not Sold to GSEs**	**All Loans**	**Loans Sold to GSEs**	**Loans Not Sold to GSEs**
Bank						
Number of loans made or purchased	678	258	420	622	193	429
Percentage loans to Final Rule underserved markets	27.9	10.1	38.8	35.0	16.6	43.4
Savings and Loan						
Number of loans made or purchased	752	296	456	1,053	331	722
Percentage loans to Final Rule underserved markets	18.1	13.2	21.3	21.2	24.8	19.5
Credit Union						
Number of loans made or purchased	86		86	130		130
Percentage loans to Final Rule underserved markets	40.7		40.7	30.0		30.0
Mortgage Company						
Number of loans made or purchased	900	784	116	700	485	215
Percentage loans to Final Rule underserved markets	15.8	14.4	25.0	24.3	25.4	21.9
Total						
Number of loans made or purchased	2,416	1,338	1,078	2,505	1,009	1,496
Percentage loans to Final Rule underserved markets	20.8	13.3	30.1	25.9	23.5	27.6

markets. In fact, for S&Ls and mortgage companies, 1996 GSE purchases actually included a higher percentage of underserved market loans than did the loans not purchased by the GSEs, a major reversal from 1992. However, a very large gap of approximately 27 percentage points (16.6 percent versus 43.4 percent) remained between GSE purchases and nonpurchases of bank loans. The GSEs still did not buy any loans from credit unions, but the percentage of credit union loans going to underserved markets declined between 1992 and 1996.

- In short, between 1992 and 1996 the GSEs substantially increased the percentage of underserved market loans they purchased from every type of primary market lender with whom they did business. The changes in loans bought by the GSEs were far greater than the changes in loans they did not buy. As a result, the 16.8-percentage-point gap that existed between GSE and non-GSE loans in 1992 (13.3 percent versus 30.1 percent) shrank to a 4.1-percentage-point gap (23.5 percent versus 27.6 percent) by 1996.

- To place this in perspective: Comparing this to our earlier statewide results, we see that in St. Joseph County in 1992, GSE purchases of loans from underserved markets were a little below the statewide average (13.3 percent in the county, 15.4 percent in the State). Conversely, the county loans not purchased by the GSEs were well above the statewide average (30.1 percent in the county, 23.6 percent in the State). By 1996, county GSE underserved market purchases were a little above the State average (23.5 percent in the county, 20.8 percent in the State) and the county GSE nonpurchases lost most of their lead (27.6 percent in the county, 26.5 percent in the State). In short, in St. Joseph County, GSE purchases of underserved market loans improved somewhat more than was the case statewide, whereas GSE nonpurchases of underserved market loans actually declined a bit. As a result, with regard to GSE versus non-GSE purchases, the differences between the State and the county diminished over time.

In summary, no single factor accounted for the gains the GSEs made in St. Joseph County. Rather, the GSEs increased the proportion of underserved market loans they purchased from every type of primary market lender with whom they did business. As a result, St. Joseph County caught up with the rest of the State and even went a little ahead. Exactly why this occurred is unclear. Perhaps the GSEs simply realized they could do much better in St. Joseph County than they had been. Or, perhaps primary market lenders decided to take better advantage of GSE opportunities.

CRA Activity

In 1991 CA$H PLU$ was formed to promote banking investment in South Bend's inner-city neighborhoods.[23] At a June 1991 press conference, CA$H PLU$ released statistics showing there was little mortgage-lending activity on the city's west side. At a July 1991 hearing of the South Bend Human Rights Commission, the head of CA$H PLU$'s research committee claimed that many lending institutions were unwilling to make mortgage loans for low-cost homes even when potential borrowers had the ability to pay. CA$H PLU$ subsequently announced that it planned to enter into CRA negotiations with each of the area's major banks during the next 3 years. CA$H PLU$ called on lenders to set goals for home purchase loans in low-income areas, adopt minority outreach programs, and offer loan products with more flexible terms.

In 1992 Society Bank (now Keybank) was the first to sign an agreement with CA$H PLU$. NBD Bank and Mortgage Company followed early in 1993. NBD Bank and Mortgage Company actually report separately in HMDA, but the Mortgage Company makes nearly all of the home mortgage loans. The third and final lender to sign a deal with CA$H PLU$ was Valley American Bank in late 1994.

CA$H PLU$ also negotiated with two other area lenders. Off-and-on discussions with Norwest Bank and Mortgage never resulted in a final agreement. It is unclear exactly when those discussions began, but they ended in August 1994. On the other hand, 1st Source Bank negotiated a CRA agreement in 1992 but then refused to sign it. 1st Source did not say that it objected to the agreement; rather, it simply claimed it had a policy of not signing such agreements with anyone. Nevertheless, as Williams and Nesiba (1997) point out, 1st Source made many changes in its practices and programs. For example, 1st Source had its employees canvass low-income neighborhoods, conducted bilingual homebuyers' workshops, translated brochures into Spanish, held credit counseling seminars, and established Credit Starter/Credit Builder loan products. Also, both 1st Source Bank and Norwest were founders of the Community Homebuyer's Corporation, which we will soon discuss in more detail.

Besides the fact that each of these institutions negotiated with CA$H PLU$, several other factors make them interesting for study.

- Most of these lenders had below-average underserved market performance early in the decade. In their study of home mortgage lending in St. Joseph County during 1990–92, Williams and Nesiba (1997) found that 1st Source and Norwest Bank were the major area lenders with the weakest community reinvestment performance. Both had relatively low numbers of applications from underserved markets and above-average denial rates. Nevertheless, a few years later each received the Master Locksmith Award from the South Bend Human Rights Commission for their efforts to promote fair housing throughout the community. As we will see, these awards were not without justification.

  Williams and Nesiba also found that NBD's community reinvestment performance was weak in many respects during the early 1990s. It was below average in lending to low-income areas, to areas that were 50 percent or more minority, and to low-income individuals. It was, however, above average in lending to Blacks. Valley American was actually a little above average in lending to low-income and minority areas but below average in lending to low-income borrowers and Blacks. Its 1994 negotiations and agreement with CA$H PLU$ may have been motivated in part by a "Needs to Improve" rating on its CRA evaluation by Federal regulators. Society was above average in its lending to most underserved markets, but its very high denial rates gave it a slightly below-average score in the Community Reinvestment Performance Index that Williams and Nesiba developed.

- Society, Norwest, and NBD all have parent institutions actively engaged in widespread merger and acquisition activity. As we asserted earlier, these are the types of institutions for which CRA may be most important. CRA is enforced primarily by denying applications for mergers and acquisitions. Because delayed and prohibited mergers are potentially expensive, lenders engaged in merger activity have a stronger regulatory incentive to make a higher share of loans to underserved areas. By way of contrast, a locally owned lender such as 1st Source Bank does not have the same sort of CRA incentives.

- Norwest is unique among local lenders in that both the Bank and the Mortgage Company report making a significant number of home mortgage loans, even though both have the same local address. Despite several conversations with various officials at Norwest, we have never been able to determine the conditions under which the Bank makes the loan instead of the Mortgage Company. Mortgage company affiliates of banks are exempt from CRA; however, banks have the option of requesting that Federal regulators include their mortgage company's performance in their CRA evaluation. When Reynold Nesiba, consultant for this study, interviewed an official from Norwest a few years ago, he was told Norwest Bank does not ask for the Mortgage Company to be included in its evaluations. It is therefore interesting to see, then, if the Bank and Mortgage Company differ in their underserved market performance.

Exhibit 23 shows the Final Rule underserved market lending of these institutions between 1992 and 1996. The exhibit gives the number of conventional owner-occupied home mortgage loans the lender made each year and the percentage of those loans that went to Final Rule underserved markets. The exhibit also gives the figures for all other CRA institutions that were active in the area and the total for all CRA institutions combined.

Society was a strong performer even before it signed its 1992 agreement with CA$H PLU$. However, it did even better afterwards. Its impact on underserved markets was

Exhibit 23

Lending to Final Rule Underserved Markets by CA$H PLU$ Negotiatees and by Other CRA Lenders: St. Joseph County, Indiana, 1992–96

Lender	1992	1993	1994	1995	1996	Total
Society/Keybank						
Number of home purchase loans	114	252	316	261	146	1,089
Percentage to underserved	50.9	53.2	58.9	61.3	59.6	57.4
NBD Bank and Mortgage						
Number of home purchase loans	32	43	74	50	34	233
Percentage to underserved	12.5	39.5	28.4	38.0	26.5	30.0
1st Source Bank						
Number of home purchase loans	327	230	216	201	216	1,190
Percentage to underserved	14.1	32.2	31.5	21.9	20.4	23.2
Norwest Bank						
Number of home purchase loans	1	52	68	69	72	262
Percentage to underserved	100.0	65.4	66.2	40.6	52.8	55.7
Norwest Mortgage						
Number of home purchase loans	155	137	73	64	74	503
Percentage to underserved	21.3	15.3	12.3	12.5	14.9	16.3
Valley American Bank						
Number of home purchase loans	194	191	194	137	107	823
Percentage to underserved	33.0	36.1	26.3	22.6	27.1	29.6
CRA lenders that didn't negotiate						
Number of home purchase loans	794	730	859	834	1,134	4,351
Percentage to underserved	19.6	21.8	22.8	26.0	21.4	22.3
Total-All CRA lenders						
Number of home purchase loans	1,617	1,635	1,800	1,616	1,783	8,451
Percentage to underserved	22.4	31.1	32.0	31.4	25.9	28.6

further enhanced by the substantial increase in the number of loans it made in 1993–95 compared with 1992. Once it became Keybank in 1996, its number of loans declined, but the share of those loans going to underserved markets remained very high and continued to be higher than it had been prior to the CA$H PLU$ agreement[24]—an 8.7-percentage-point improvement (50.9 percent in 1992 and 59.6 percent in 1996).

In early 1993, NBD Bank and Mortgage was the next to sign a CA$H PLU$ agreement. As exhibit 23 shows, in 1992 NBD had a very weak record, making only about half as many of its loans to underserved markets as did all the CRA lenders in the area (12.5

percent NBD, 22.4 percent for all CRA lenders). After its CA$H PLU$ agreement, its performance soared. In 1993 NBD tripled its share of lending that went to underserved markets. In subsequent years it continued to do much better than it had in 1992 and was generally average or above average relative to other CRA lenders. In 1996 NBD was making 14 percent more of its loans to underserved markets than it had been before the CA$H PLU$ agreement (26.5 percent versus 12.5 percent).

1st Source Bank was also well below average in 1992. Although it refused to sign an agreement with CA$H PLU$, its share of loans going to underserved markets more than doubled in 1993 and stayed high in 1994. The share of loans going to underserved markets then declined in 1995 and 1996 but still remained higher (6.3 percentage points) than it had been earlier in the decade. This decline may also be a little deceptive because, as we note in a moment, it occurred at about the same time that 1st Source became a major backer of the Community Homebuyer's Corporation.

For unclear reasons, in the early 1990s Norwest went from having most of its loans made by the Bank, to having most of the loans made by the Mortgage Company, to having both the Bank and the Mortgage Company making loans. Even though Williams and Nesiba (1997) found that Norwest Bank made 125 loans in 1990–91, in 1992 it made only one. As already noted, the loans Norwest Bank made in 1990–91 were among the area's weakest from a community reinvestment standpoint. By the time the Bank reemerged as a home mortgage lender, the story was very different: In both 1993 and 1994, Norwest Bank made almost two-thirds of its loans to underserved markets. These figures dropped somewhat in 1995 and 1996 but still remained well above average. Interestingly, the Mortgage Company (which is not included in Norwest's CRA evaluation unless Norwest wants it to be) showed a decline in its underserved market performance after 1992. We have no information as to whether the division of loans between the Mortgage Company and Bank in any way reflected CRA evaluation concerns. Even if it did, the Bank's improvement was not simply a function of shifting "good" loans over from the Mortgage Company, because even if you combine the two, Norwest still did better after 1992. In 1992, 21.8 percent of Norwest Bank and Mortgage loans went to underserved markets; it was 29.1 percent in 1993, 38.3 percent in 1994, 27.1 percent in 1995, and 33.6 percent in 1996. In short, although Norwest never signed an agreement, in 1996 it was doing 11.8 percentage points better with underserved markets than it had been before CA$H PLU$ began its area CRA activities.

Valley American Bank's performance with underserved markets was actually well above average in 1992 and 1993 but then declined substantially in 1994 and 1995. Initially its performance was weaker after the CA$H PLU$ agreement than it had been before. Its share of loans going to underserved markets then rebounded, increasing from 22.6 percent in 1995 to 27.1 percent in 1996. Although this is a fairly modest gain compared to that experienced by the other lenders with whom CA$H PLU$ dealt, it appears more impressive once one considers that CRA institutions as a whole decreased their lending to underserved markets during this same time. Thus, Valley went from being 8.8 percentage points below average in 1995 (22.6 percent for Valley versus 31.4 percent for all CRA lenders) to being 1.2 percentage points ahead in 1996 (27.1 percent Valley, 25.9 percent all CRA). It is probably too soon to assess what long-term impact, if any, the CA$H PLU$ agreement will have on Valley, but after a weak start in 1995, the 1996 changes were positive.

Finally, we note that other CRA lenders with whom CA$H PLU$ did not negotiate also did better over time. Overall, their improvements with underserved markets were very modest. Other than the exceptionally good year of 1995, the share of loans going to

underserved markets from other CRA institutions was approximately 2 or 3 percentage points higher each year than in 1992.

It is, of course, impossible to know whether CA$H PLU$ actually influenced the institutions with whom they negotiated, or whether these institutions merely did things they would have done anyway. In particular, the Norwest improvements may have begun even before its CA$H PLU$ discussions (but after CA$H PLU$ had called on it to have such negotiations). Nevertheless, we think the above findings have important implications for how and when CRA affects lenders.

- CRA may have the greatest impact on institutions engaged in merger activity. The two lenders who fall into this category who signed agreements—Society and NBD—were, in fact, the ones who saw the greatest and most sustained improvements after their negotiations with CA$H PLU$. It is unclear whether the other lender (Norwest), who falls into this category but who did not sign, was actually influenced by CA$H PLU$, but it was certainly doing much better after CA$H PLU$ began lobbying area lenders than it was before.
- The improvements of the CRA lenders with whom CA$H PLU$ did not negotiate were far more modest than the gains of the ones with whom they did. Furthermore, we saw that statewide, CRA lenders actually lost ground relative to non-CRA lenders. If all CRA lenders had made the kinds of huge gains that CA$H PLU$ signees Society and NBD did, the story would have been very different. This suggests that the *potential* of CRA is not fully realized unless citizens' groups take advantage of its provisions. The National Community Reinvestment Coalition (NCRC) estimates that, as of July 15, 1998, banks and savings and loans have made CRA commitments of more than $1 trillion since CRA was enacted in 1977. However, according to information provided to us by NCRC, the only CRA agreements in Indiana since 1991 have been those negotiated by CA$H PLU$.[25] Hence, the weaker-than-expected performance of CRA in Indiana may reflect the fact that the kind of community activism that makes CRA effective was, for the most part, not present in the State. A study of other areas where CRA activity was more prevalent would be useful for testing this hypothesis.

We also wish to point out that the official HMDA statistics may understate the impact CRA had in St. Joseph County—or at least, the statistics do not fully represent all the activities on behalf of underserved markets. Beginning in 1994, the Community Homebuyer's Corporation (CHC) began playing a small but important role in area lending. We discuss CHC next.

The Community Homebuyer's Corporation[26]

CHC is a nonprofit organization established in 1993 by a coalition of the Housing Development Corporation, the South Bend Mayor's Housing Forum, and various local financial institutions.[27] According to the CHC Program Summary, the mission of the organization is to "provide affordable housing opportunities to low- and moderate-income residents of St. Joseph County with emphasis upon providing housing opportunities in neighborhoods considered at housing risk." Key characteristics of the program include a low downpayment on a home (3 percent) and a higher than average debt-to-income ratio (41 percent). CHC loans do not require PMI.

There are four criteria for participation in the CHC mortgage-lending program. First, potential homeowners must purchase an owner-occupied, single-family dwelling within St. Joseph County. Second, the purchase price for the home may not exceed $60,000.

Third, household income must not exceed 120 percent of the county median income, depending on household size. For example, a household composed of three members must not earn more than $45,900 annually. Finally, potential homebuyers must have at least 3 percent of the purchase price in savings to apply to the purchase of the home.

Options available to potential homebuyers depend on their household income. For example, people who earn 65 percent of the area median income or less and plan to purchase a home within the Mishawaka and South Bend city limits are eligible for the 80/20 program. This program involves a grant that forgives 20 percent of the home mortgage after 5 years of on-time payments. If necessary, homebuyers at this income level can take out a mortgage that includes home improvements. However, the repair budget is limited to 40 percent of the total loan. Those who earn 80 percent of the median income are also eligible for loans both to purchase a home and to make repairs on the home before moving in. First-time homebuyers who earn 120 percent of the county median income are eligible for a conventional loan only. Options available to all participants regardless of income level include the financing of all closing costs and a reduced application fee.

Seven institutions currently participate in CHC: 1st Source, Keybank, NBD/1st Chicago Bank, Norwest Bank, Teacher's Credit Union, Indiana Federal Bank for Savings, and Valley American Bank. All of these lenders, except for Teacher's Credit Union, have CRA obligations. Trustcorp Mortgage services the loans. According to the corporation's loan officer, the participating lenders do not "own" a portion of the loans, although they do fund them. These lenders share the credit risk for the CHC loans. 1st Source Bank is the largest contributor, donating approximately $1 million per year. Norwest Bank, Valley American Bank, and Indiana Federal Bank for Savings each donate approximately $500,000 on an annual basis. Keybank donates approximately $200,000 per year, whereas both the Teacher's Credit Union and NBD/1st Chicago Bank donate $100,000 annually. The total financial commitment every year is approximately $3,050,000. A committee composed of representatives from every participating lender votes to approve or deny every CHC loan. Each lender receives one vote.

CHC has had a significant impact on the underserved portion of the St. Joseph County mortgage market. Exhibit 24 supports this claim by illustrating the percentage of CHC loans going to various components of St. Joseph County's underserved market. As one might suspect from its mission statement, the corporation makes the vast majority of its loans to underserved individuals and neighborhoods. From 1994 to 1996, CHC made an average of 90.2 percent of its loans to Final Rule underserved markets. Very low-income borrowers received an average of 77.5 percent of the loans. On average for the period, 41.2 percent of CHC loans went to low-income applicants in low-income areas, and 61.8 percent went to targeted census tracts. CHC made approximately 30 percent of its loans to Blacks and minority tracts during the 3-year period. To place these numbers in perspective, recall that, at the time of the 1990 census (see exhibit 1), fewer than 10 percent of county residents were Black; only 28 percent were very low income; less than 22 percent lived in targeted areas; and approximately 15 percent of the population was in minority tracts. Thus underserved markets typically made up two to three times as large a proportion of CHC loans as they did the general population.

Exhibit 24 also shows that CHC has increased the percentages of loans made to traditionally underserved persons and areas in St. Joseph County over time. For example, the share of CHC loans to very low-income borrowers and low-income applicants in low-income tracts doubled between 1994 and 1996. Its record has improved (albeit less dramatically) with respect to all underserved categories over the time period.

Exhibit 24

Percentage of CHC Loans Going to St. Joseph County Underserved Markets, 1994–96

Underserved Market Categories	1994	1995	1996	All Years
All Final Rule underserved markets	79.2	91.1	100.0	90.2
Very low-income borrowers	50.0	80.4	100.0	77.5
Low-income borrowers in low-income areas	25.0	44.6	50.0	41.2
Targeted tracts	58.3	62.5	63.6	61.8
Blacks	20.8	32.1	31.8	29.4
Minority tracts	25.0	30.4	36.4	30.4
Total number of loans made	**24**	**56**	**22**	**102**

When CHC loans are not taken into account, measures of performance for CRA lenders (that is, commercial banks and S&Ls) are understated. CHC serves the underserved market almost exclusively, yet the loans CHC makes are not reflected in the HMDA data. This is because participating lenders do not actually own or service the mortgages they underwrite through CHC, so they do not report these loans to HMDA. Furthermore, because CHC is not a bank or savings and loan, it is not required to submit HMDA reports either.[28] Fortunately, CHC provided its data to us in HMDA form so we could use it for this analysis. All of the participating lenders (except for Teacher's Credit Union, which contributes only a very small portion of the total CHC funds) have CRA obligations, so CHC loans are basically CRA loans that are not included in any official statistics.

Although the total number of loans CHC makes is small relative to all conventional loans made by CRA lenders, CHC loans constitute a disproportionately large component of CRA-related lending to underserved markets. Exhibit 25 demonstrates the impact in different ways. The first column lists the various underserved markets. The second column indicates, based on the HMDA data, the percentages of CRA loans that go to underserved markets. The third column gives the percentages when the CHC loans are included. The last column shows how much the HMDA data alone underestimate CRA activity in underserved markets.[29]

As exhibit 25 shows, HMDA alone provides small but noticeable underestimates of CRA lending to underserved markets. Using only HMDA data reports of CRA lenders underestimates CRA originations to Blacks by 7.7 percent over the period. Similarly, HMDA data alone underestimate CRA lenders' originations to very low-income borrowers, low-income borrowers in low-income tracts, and minority tracts by 4 percent or more. The impact of CHC on CRA underserved market lending in St. Joseph becomes clearer in exhibit 26, which shows the percent of all CRA underserved market loans that are made by CHC. CHC has a significant portion of the market for many of the categories. For example, during 1994–96 CHC made 12 percent of all CRA conventional loans to Black homebuyers and 7.7 percent or more of the CRA loans that went to minority tracts, low-income borrowers in low-income areas, and very low-income families.

There is one last way of viewing CHC's importance. Based on the 102 loans it originated between 1994 and 1996, if CHC was a regular bank, it would be the area's 19th largest maker of conventional loans (in a region where the top 18 lenders hold nearly 80 percent of the market). But, it would also be:

Exhibit 25

HMDA Underestimates of CRA Underserved Market Lending St. Joseph County, Indiana, 1994–96

	CRA Loan Percentages		
Underserved Market Categories	**HMDA Data for CRA Lenders**	**HMDA CRA Data Plus CHC Data**	**HMDA Underestimate of CRA Lending**
All Final Rule underserved markets	29.3	30.1	2.7
Very low-income borrowers	17.7	18.4	4.0
Low-income borrowers in low-income areas	9.0	9.4	4.4
Targeted tracts	21.1	21.6	2.4
Blacks	3.9	4.2	7.7
Minority tracts	7.0	7.3	4.3
Total number of loans made	**4,837**	**4,939**	**2.1%**

Exhibit 26

CHC Share of CRA Loans to Underserved Markets in St. Joseph County, Indiana, 1994–96

Underserved Market Categories	**CHC Percentage of CRA Loans Made**
All Final Rule underserved markets	5.9
Very low-income borrowers	8.2
Low-income borrowers in low-income areas	8.0
Targeted tracts	5.5
Blacks	12.0
Minority tracts	7.7
Total number of loans made	**102**

- The eighth largest lender to targeted tracts.
- The fifth largest lender to low-income borrowers in low-income areas.
- The fifth largest lender to minority neighborhoods.
- The fourth largest lender to very low-income borrowers.
- The second largest lender to Blacks.

In conclusion, CHC has become a significant and increasingly important institution to borrowers in St. Joseph County's underserved mortgage market since 1994. All but one of the seven area lenders funding and underwriting loans through CHC have CRA obligations. However, since CHC's loans are omitted from the HMDA data set, the performance of area CRA lenders is understated by HMDA data analysis alone. This insight highlights the usefulness of supplementing HMDA data with additional lending information as well as the value of indepth studies of smaller geographic areas.

Summary

From the standpoints of both GSE and CRA activity in 1992–96, St. Joseph County differed substantially from the rest of the State. In just a few years, the county went from being far below average with respect to GSE purchases of underserved market loans to being slightly above average. No one factor alone accounted for this change. Rather, GSEs significantly increased the percentage of underserved market loans they purchased from every type of primary market lender with whom they did business.

The county also was unusual in its level of CRA-related community activism. Statewide between 1992 and 1996, CRA institutions increased their lending to underserved markets by only 3.1 percentage points (22.9 percent versus 26 percent) and actually lost ground relative to non-CRA institutions. But this was not true for the handful of CRA institutions with whom the citizens' group CA$H PLU$ negotiated. In 1996 these lenders were making as much as 14 percent more of their loans to underserved markets than they had been before CA$H PLU$ became active. The gains were particularly large and long-lasting among the agreement signers involved in mergers, the very ones who have the most reason to be concerned about CRA. If CRA institutions did not perform as well as might be expected statewide, it may be because there was so little community CRA activism to prod them.

Finally, the influence of CRA in the county may have been understated by official statistics; the amount of lending to underserved markets certainly was. During 1994–96 the CHC, an entity backed largely by area CRA lenders, made a small but highly important number of loans. Indeed, if CHC was a regular lender, the HMDA data would show it to be one of the area's leading providers of conventional loans to underserved markets. As it is, its contributions are hidden from official statistics. The magnitude and activities of such programs needs to be more widely assessed if we are to fully understand what is happening in underserved markets and the role that CRA is playing in those markets.

Subprime and Manufactured Housing Loans in Indiana, 1992–96[30]

Although subprime and manufactured housing loans are important parts of the home mortgage-lending scene, they are excluded from our primary analysis. This section briefly explains why these forms of lending are excluded, distinguishes subprime lending from nonsubprime lending, and describes recent trends in subprime lending in the State of Indiana.

Nonconforming loans (such as subprime and manufactured housing loans) are excluded from our primary analysis for two main reasons. First, the GSEs buy very few subprime or manufactured housing loans.[31] Many argue that it is therefore unfair to compare the loans the GSEs buy with the loans made by subprime and manufactured housing lenders. This is because subprime and manufactured housing loans are based on different underwriting standards, embody different levels of risk, and differ significantly with regard to fees and interest rates charged compared with the loans purchased by the GSEs. Second, in many respects, the performance of subprime and manufactured housing lenders looks deceptively better than other lenders and the GSEs based on the numbers and shares of loans made to low-income and minority residents and areas. Although subprime and manufactured housing lenders have higher denial rates than nonsubprime lenders, a higher proportion of these nonconforming loans is made to low-income and minority borrowers and areas. Unfortunately for these borrowers, sometimes these loans come at an enormous price. Subprime lenders charge much higher interest rates than nonsubprime lenders and have been accused of engaging in questionable and even unscrupulous lending practices

(Keest, Langer, and Day, 1995; Apgar, 2000). For these reasons, it would be highly misleading to directly compare subprime lenders with the GSEs when information on interest rates and loan terms is unavailable. As a result we have been careful to omit the loans of subprime lenders from our data sets and analysis in the body of our report.

Nevertheless, the number and dollar amounts of nonconforming loans have grown rapidly over the past few years. To fully understand the Indiana home mortgage market, one needs to have a basic understanding of the market for nonconforming loans. For this reason the next two sections briefly define subprime and manufactured housing and describe their relative importance in the United States, Indiana, and St. Joseph County.

Subprime and Manufactured Housing

Subprime mortgage lending and refinancing involves either the extension of mortgage credit to persons who would not normally qualify for nonsubprime (conventional, FHA, or VA) mortgages or the extension of refinancing credit to persons who have poor credit histories but have home equity to use as collateral. Subprime lending is also referred to as "B&C" lending, which refers to lenders' classification of a borrower's creditworthiness. Lenders classify borrowers in declining order based on credit quality. According to Davidson (1995), excellent credit histories, long-term stable employment, and sufficient income typically characterize A-rated borrowers. In general these borrowers meet standard underwriting criteria and therefore qualify for nonsubprime loans. Loans are characterized as B&C when these loans have a greater likelihood of delinquency than do ones borrowed by the traditional A borrower. Persons with B-rated credit are characterized by a few delinquencies of 30 days or more during the past year. A C-rated borrower has more severe delinquencies. Approval of D-rated credit applicants is based on the amount of equity in a property rather than on the applicant's credit history.

In general, subprime loans are regarded as having a greater likelihood of delinquency and/or default. This is because the borrowers have more blemished credit histories and higher debt-to-income ratios (Davidson, 1995). When comparing securitized pools of A versus B&C loans, however, one finds that A loans actually have higher loan-to-value (LTV) ratios. B&C loans average LTV ratios of 65 percent, whereas A loans average 75 percent (Davidson, 1995). This lower level of LTV is used to offset the greater perceived credit risk associated with B&C loans. Lenders have been eager to enter this market because B&C loans generate higher yields (up to 10 percentage points higher in the early 1990s) than standard mortgages. The typical interest rate is between 11 to 16 percent (because, roughly 4 to 9 percentage points above the nonsubprime rate). The rate charged depends on whether the applicant's credit is rated as B or C (Peattie, 1997). Fletcher (1997) reports that profit margins for most mortgages to subprime borrowers are three to four times greater than to mortgages to persons with regular A credit. The B&C home mortgage market volume is currently estimated at approximately $600 billion. An additional benefit to subprime lenders is that subprime borrowers are less likely to prepay their loans. This means the lender receives a higher yield for a longer period of time. The main disadvantage for lenders is that these loans are more expensive to service, more difficult to resell or securitize, and expose the lender to greater credit risk (Davidson, 1995; Peattie, 1997). This risk will become particularly poignant if the next business cycle downturn leads to decreases in real estate prices and therefore decreases the collateral value supporting the subprime lending industry (Apgar, 2000).

Manufactured housing loans are another form of subprime credit targeted to low-income and minority borrowers. According to the Manufactured Housing Institute (as reported on the American Homeowners Association Web page at http://www.ahahome.com), manufactured housing "includes homes and dwellings that aren't 'stick-built.' These include

so-called 'modular' homes as well as mobile homes built to the HUD Code. In fact, most manufactured homes are built off-site (usually in a factory) and trucked to the site where they are installed." Federal law regulates the home's design, construction, strength, energy efficiency, quality control, and so on. A manufactured home may qualify for a regular loan if it is securely fixed to the foundation of the property. However, in many cases manufactured and/or mobile homes are not securely attached to the foundation. As a result, these types of homes do not meet the underwriting standards for a standard loan.

Unlike B&C mortgage loans, which have increased sharply since their recent advent, the trend in manufactured housing shipments and loans is slightly more complicated. In 1970, according to the Manufactured Housing Institute (http://www.mfghome.org/home.html), 401,190 manufactured homes were shipped nationwide. By 1991 manufactured homes shipments fell to 170,713, a decline of 57 percent in a little more than two decades. However, from 1991 to 1996, shipments of manufactured houses steadily increased. They reached 363,411 shipments in 1996, an increase of 113 percent in 5 years. Thus from the 1970s to the 1990s, the number of manufactured housing shipments and loans declined. However, if one examines the shorter time period of 1991 to 1996, the trend is to move steadily upward. Exhibits 27 through 29 describe the recent increases in the subprime mortgage market. For ease of exposition, subprime and manufactured housing data are combined in the exhibits. The term subprime refers to both B&C mortgage credit, as well as manufactured housing loans, through the rest of this chapter.[32]

Trends in United States, Indiana, and St. Joseph County Subprime and Manufactured Home Lending

Just as shipments of manufactured houses increased during the 1990s, so has subprime lending volume. The volume of subprime lending in the United States has increased from approximately $100 billion in 1993 to $600 billion in 1997 (Davidson, 1995; Fletcher, 1997). The causes of this increase result from both greater demand and supply. The increase in the demand for subprime housing loans is due to higher rates of employment, growing income levels, and lower interest rates combined with increasing levels of credit card use and abuse over the past 5 years. Many of these potential borrowers have poor credit ratings and fail to meet Fannie Mae's and Freddie Mac's standard underwriting criteria. As a result, they are ineligible for regular (nonsubprime) loans. At a November 1997 meeting of the Colorado Mortgage Lenders Association, mortgage banking experts estimated that up to 30 percent of all mortgage applicants fail to meet GSE underwriting guidelines (Heilman, 1997). On the supply side, new subprime lenders have entered the market so they can reap higher returns by charging higher risk borrowers higher interest rates and fees. In addition, some traditional banks are initiating subprime lending operations of their own or purchasing subprime mortgage companies to enter this highly profitable segment of the mortgage market.

Exhibits 27 through 32 summarize the recent trends (1992–96) in subprime loan applications, originations, and denial rates in the State of Indiana. The data include both subprime and manufactured housing data. The data were coded using a list provided by Scheessele at HUD (U.S. Department of Housing and Urban Development, 1997). As he says in footnote 1 of the third quarter *U.S. Housing Market Conditions,* "Subprime loans include a mix of loans, most of which are characterized by imperfection in the borrower's credit or have terms that do not meet the conforming standards of Fannie Mae or Freddie Mac." Because subprime loans are defined as those coming from subprime lenders, the data include prime applications made to subprime lenders and prime loans originated by subprime lenders. However, the data set omits subprime applications made to and loans made by standard lenders. Because the number of subprime loans made by conventional lenders is likely

Exhibit 27

Shares of Subprime, Regular, and Total Lending Applications From Various Underserved Market Categories

Type of Application and Lender	1992	1993	1994	1995	1996	1992–96
Lending applications received						
Subprime	620	2,062	2,773	7,233	11,248	23,936
Regular	37,129	41,212	45,765	42,712	46,665	213,483
Total	37,749	43,274	48,538	49,945	57,913	237,419
Percentage of lender's applications from Final Rule underserved markets						
Subprime	60.3	65.7	61.6	58.6	60.2	60.3
Regular	23.5	24.0	28.4	27.6	26.9	26.2
Total	24.1	26.0	30.3	32.1	33.4	29.7
Percentage of lender's applications from very low-income applicants						
Subprime	43.9	51.1	45.5	41.3	42.5	43.3
Regular	12.9	13.5	16.7	14.6	14.2	14.5
Total	13.4	15.3	18.4	18.5	19.7	17.4
Percentage of lender's applications from targeted areas						
Subprime	31.1	29.7	30.8	32.0	33.0	32.1
Regular	15.5	15.6	18.7	19.5	18.4	17.6
Total	15.8	16.3	19.4	21.3	21.2	19.1
Percentage of lender's applications from low-income applicants in low-income areas						
Subprime	13.7	12.5	11.9	12.7	11.7	12.2
Regular	4.8	5.1	6.5	6.4	5.5	5.7
Total	5.0	5.4	6.8	7.3	6.7	6.3
Percentage of lender's applications from Black applicants						
Subprime	2.3	1.1	3.1	2.7	2.7	2.6
Regular	2.0	2.4	3.7	4.1	3.2	3.1
Total	2.0	2.3	3.6	3.9	3.1	3.1
Percentage of lender's applications from minority census tracts						
Subprime	4.5	3.9	4.9	5.6	4.5	4.8
Regular	3.2	3.5	4.2	4.5	3.5	3.8
Total	3.2	3.5	4.3	4.6	3.7	3.9

Exhibit 28

Shares of Subprime, Regular, and Total Lending Originations Made to Various Underserved Market Categories

Type of Origination and Lender	1992	1993	1994	1995	1996	1992–96
Lending originations						
Subprime	289	901	1,025	3,398	4,415	10,028
Regular	33,182	37,789	41,846	39,044	42,066	193,927
Total	33,471	38,690	42,871	42,442	46,481	203,955
Percentage of lender's originations to Final Rule underserved market applicants						
Subprime	55.7	59.9	54.6	52.9	54.0	54.3
Regular	20.2	22.1	26.2	25.5	24.2	23.8
Total	20.6	23.0	26.9	27.7	27.1	25.3
Percentage of lender's originations to very low-income applicants						
Subprime	34.3	45.8	38.5	35.5	36.1	37.0
Regular	10.3	12.0	15.0	13.0	12.1	12.6
Total	10.5	12.8	15.6	14.8	14.4	13.8
Percentage of lender's originations to targeted areas						
Subprime	33.5	25.4	28.8	30.6	30.4	29.9
Regular	13.6	14.4	17.4	18.1	16.9	16.2
Total	13.8	14.6	17.6	19.1	18.1	16.9
Percentage of lender's originations to low-income applicants in low-income areas						
Subprime	13.5	8.9	10.0	11.4	9.5	10.3
Regular	3.7	4.3	5.7	5.6	4.6	4.8
Total	3.8	4.4	5.8	6.1	5.1	5.1
Percentage of lender's originations to Black applicants						
Subprime	3.8	1.8	4.7	3.6	3.2	3.4
Regular	1.6	2.1	3.3	3.8	2.9	2.8
Total	1.6	2.1	3.3	3.8	2.9	2.8
Percentage of lender's originations to minority census tracts						
Subprime	5.9	4.1	5.8	6.6	4.5	5.3
Regular	2.8	3.1	3.8	4.0	3.2	3.4
Total	2.8	3.2	3.8	4.2	3.3	3.5

greater than the number of standard loans made by subprime lenders, we would expect the tables to *understate* the relative importance of subprime loans. Given that the HUD coding was done in 1996, one can surmise that its application to previous years may have a higher likelihood of being miscoded than do the more recent data.[33] Despite these caveats, we are confident that the primary trends and conclusions discussed are not materially influenced by any of the shortcomings in the data.[34]

Exhibits 27 and 28 show that the number of subprime applications and originations increased dramatically between 1992 and 1996 in the State of Indiana. In 1992 only 620 applications were received. This increased to 11,248 by 1996—a more than 18-fold increase in just 5 years. Although not directly shown, one can easily calculate that the share of total applications and originations made by subprime lenders in Indiana has increased dramatically. In 1992 subprime loans comprised only 1.6 percent of all mortgage applications and less than 1 percent (.8 percent) of total originations. By 1996 subprime applications constituted 19.4 percent of all applications and 9.5 percent of all originations. Clearly, subprime lenders are playing a significant and growing role in the Indiana mortgage market. Analysis done by the authors shows that St. Joseph County, Indiana, has experienced a similar trend. In 1992 subprime lenders received 17 applications and originated 5 loans. By 1996 this increased to 609 applications and resulted in 265 subprime loans. Thus the number of subprime applications has increased more than 35-fold, and the number of loans has increased 53-fold in just 5 years.

The influence of subprime lenders is even more pronounced when one examines their effects on low-income and minority borrowers and areas. As one might suspect, subprime applications are more likely to come from lower income applicants and neighborhoods than is the case for nonsubprime (regular) lenders. Exhibit 27 shows that on average 60.3 percent of subprime mortgage applicants meet our definition of being in a Final Rule underserved market. In contrast, only 26.2 percent of applicants to regular lenders are similarly characterized. By examining the rows in exhibit 27, one can examine various subcategories of underserved. For instance, 43.3 percent of applicants for subprime mortgages are characterized as very low income, whereas only 14.5 percent of applications taken by regular lenders are similarly characterized. For subprime lenders, 32.1 percent of applicants in this period are from HUD-defined targeted (low-income) areas and 12.2 percent are from low-income people living in low-income neighborhoods. The relevant comparisons for applicants to regular lenders are 17.6 percent and 5.7 percent.

Exhibit 28 shows similar yet slightly reduced gaps between subprime and regular lenders based on originations. Over the 5-year period, 54.3 percent of subprime originations were from applicants from Final Rule underserved markets. Regular lenders boast a share of only 23.8 percent. Examining underserved markets in more detail reveals that 37.0 percent of originations are from very low-income applicants, compared with 12.6 percent for regular lenders. Similarly, 29.9 percent of subprime originations go to targeted areas versus 16.2 percent for regular lenders. In terms of low-income applicants in low-income areas, 10.3 percent of subprime originations go to this segment of the market. In contrast, regular lenders originate only 4.8 percent of their mortgages to low-income people in low-income areas. Because the number of loans made by subprime lenders has increased dramatically over time, the inevitable conclusion is that subprime lenders have begun playing a large, growing, and disproportionate role in Indiana's low-income applicant and neighborhood mortgage market.

Perhaps surprisingly, the success subprime lenders have made in gathering applications and making loans to low-income individuals and neighborhoods has not carried over to Black applicants and minority areas. In terms of applications, exhibit 27 shows that the

Exhibit 29

Percentage Denial Rates of Subprime, Regular, and Total Lenders for Various Underserved Market Categories

Type of Applicant and Lender	1992	1993	1994	1995	1996	1992–96
All applicants						
Subprime	53.4	56.3	63.0	53.0	60.7	58.1
Regular	10.6	8.3	8.6	8.6	9.9	9.2
Total	11.3	10.6	11.7	15.0	19.7	14.1
Applicants from Final Rule underserved markets						
Subprime	57.0	60.1	67.2	57.6	64.8	62.3
Regular	22.9	15.8	15.6	15.7	18.9	17.5
Total	24.3	21.1	21.6	26.8	35.0	26.7
Very low-income applicants						
Subprime	63.6	60.8	68.7	59.6	66.7	64.2
Regular	28.6	18.6	17.9	18.5	23.5	21.0
Total	30.5	25.3	25.1	31.8	41.6	31.9
Targeted areas						
Subprime	50.3	62.6	65.6	55.0	63.7	60.9
Regular	21.4	15.4	15.0	15.2	17.3	16.6
Total	22.3	19.6	19.6	23.9	31.4	24.2
Low-income applicants in low-income areas						
Subprime	54.1	68.9	69.2	57.8	68.3	64.7
Regular	30.4	22.2	19.9	19.3	24.8	22.8
Total	31.5	27.4	24.8	29.1	39.6	30.9
Black applicants						
Subprime	21.4	27.3	45.0	37.8	52.6	45.3
Regular	26.0	19.5	18.3	16.3	17.6	18.6
Total	25.9	19.7	19.5	18.3	23.5	20.8
Minority census tracts						
Subprime	39.3	54.3	56.6	44.0	61.4	53.8
Regular	22.2	18.1	19.0	17.5	19.2	19.0
Total	22.6	20.0	21.5	22.2	29.3	23.4

average share of applications from Black applicants is actually lower for subprime lenders (2.6 percent) than for regular lenders (3.1 percent) over the 1992–96 period. Although subprime lenders receive slightly more applications from those within minority census tracts (4.8 percent) than do regular lenders (3.8 percent), the gap is much less dramatic than those related to income. These trends change slightly for originations (exhibit 28). Subprime lenders make 3.4 percent of their loans to Black applicants, compared with regular lenders, who make 2.8 percent of their loans to Black applicants. With regard to minority areas (tracts with 30 percent or more minority residents), subprime lenders again

Exhibit 30

Percentage Shares of Underserved Market Applications Made to Subprime and Regular Lenders

Type of Application and Lender	1992	1993	1994	1995	1996
Number of applications received					
Subprime	620	2,062	2,733	7,233	11,248
Regular	37,129	41,212	45,765	42,712	46,665
Total	37,749	43,274	48,498	49,945	57,913
Final Rule underserved markets					
Subprime	4.1	12.0	11.6	26.5	35.0
Regular	95.9	88.0	88.4	73.5	65.0
Total	100.0	100.0	100.0	100.0	100.0
Very low-income applications					
Subprime	5.4	15.9	14.2	32.3	41.9
Regular	94.6	84.1	85.8	67.7	58.1
Total	100.0	100.0	100.0	100.0	100.0
Targeted areas					
Subprime	3.3	8.9	9.2	21.9	30.2
Regular	96.7	91.1	90.8	78.1	69.8
Total	100.0	100.0	100.0	100.0	100.0
Low-income applicants in low-income areas					
Subprime	4.5	11.0	10.0	25.3	34.0
Regular	95.5	89.0	90.0	74.7	66.0
Total	100.0	100.0	100.0	100.0	100.0
Blacks					
Subprime	1.9	2.2	4.6	9.4	16.8
Regular	98.1	97.8	95.4	90.6	83.2
Total	100.0	100.0	100.0	100.0	100.0
Minority tracts					
Subprime	2.3	5.3	6.6	17.4	23.7
Regular	97.7	94.7	93.4	82.6	76.3
Total	100.0	100.0	100.0	100.0	100.0

do slightly better than regular lenders: a 5.3-percent share versus a 3.4-percent share of their loan originations going to minority tracts. Thus subprime lenders make a slightly larger share of their loans to Blacks and residents of minority tracts. However, the extreme "improved" performance shown by subprime lenders over regular lenders for low-income individuals and neighborhoods is not as pronounced here for Blacks and minority neighborhoods. This is surprising given the disproportionate number of Blacks who are also characterized as lower income earners or from lower income areas.

We established earlier that subprime lenders charge higher rates, make riskier loans, and pursue the lower income segment of the market more vigorously than do regular lenders. Although these characteristics are distinctive, the biggest difference between subprime and regular lenders has to do with the rates at which they reject loan applicants. An examination of exhibit 29 shows that in the State of Indiana from 1992 to 1996, subprime lenders on average rejected about six times as many of their applicants compared with traditional lenders. Subprime lenders reject 58.1 percent of their applicants, whereas regular lenders reject only 9.2 percent. Especially noteworthy are the changes in the total

Exhibit 31

Percentage Shares of Underserved Market Originations Made by Subprime and Regular Lenders

Type of Origination and Lender	1992	1993	1994	1995	1996
Number of originations					
Subprime	289	901	1,025	3,398	4,415
Regular	33,182	37,789	41,846	39,044	42,066
Total	33,471	38,690	42,871	42,442	46,481
Final Rule underserved markets					
Subprime	2.3	6.1	4.9	15.3	18.9
Regular	97.7	93.9	95.1	84.7	81.1
Total	100.0	100.0	100.0	100.0	100.0
Very low-income originations					
Subprime	2.8	8.4	5.9	19.1	23.9
Regular	97.2	91.6	94.1	80.9	76.1
Total	100.0	100.0	100.0	100.0	100.0
Targeted areas					
Subprime	2.1	4.1	3.9	13.0	16.0
Regular	97.9	95.9	96.1	87.0	84.0
Total	100.0	100.0	100.0	100.0	100.0
Low-income applicants in low-income areas					
Subprime	3.0	4.7	4.1	15.1	17.8
Regular	97.0	95.3	95.9	84.9	82.2
Total	100.0	100.0	100.0	100.0	100.0
Blacks					
Subprime	2.0	2.0	3.1	7.2	10.4
Regular	98.0	98.0	96.9	92.8	89.6
Total	100.0	100.0	100.0	100.0	100.0
Minority tracts					
Subprime	1.8	3.0	3.6	12.5	12.9
Regular	98.2	97.0	96.4	87.5	87.1
Total	100.0	100.0	100.0	100.0	100.0

denial rates row over time. Although regular lenders decreased their overall denial rate from 10.6 percent in 1992 to 9.9 percent in 1996, subprime lenders increased their denial rates from 53.4 percent in 1992 to 60.7 percent in 1996. In 1992 the total denial rate for both subprime and regular lenders together was 11.3 percent, only 0.7 percentage points above the regular lender average. By 1996 this overall rejection rate was nearly 10 percentage points (exactly 9.8 percentage points) higher than the regular denial rate. This large increase is due to both the growing influence of the subprime lenders in the Indiana mortgage market as well as their increasing denial rate. Therefore, although in 1992 it made only a slight difference whether or not subprime lenders were included in computations of denial rates, in 1996 it made an enormous difference.

Exhibit 32

Percentage Shares of Denials for Subprime and Regular Lenders

Type of Application and Lender	1992	1993	1994	1995	1996
All applicants					
Subprime	7.7	25.3	30.8	51.1	59.8
Regular	92.3	74.7	69.2	48.9	40.2
Total	100.0	100.0	100.0	100.0	100.0
Final Rule underserved markets					
Subprime	9.7	34.2	36.1	56.9	64.8
Regular	90.3	65.8	63.9	43.1	35.2
Total	100.0	100.0	100.0	100.0	100.0
Very low-income applicants					
Subprime	11.2	38.2	38.8	60.7	67.2
Regular	88.8	61.8	61.2	39.3	32.8
Total	100.0	100.0	100.0	100.0	100.0
Targeted areas					
Subprime	7.5	28.3	30.7	50.5	61.4
Regular	92.5	71.7	69.3	49.5	38.6
Total	100.0	100.0	100.0	100.0	100.0
Low-income applicants in low-income areas					
Subprime	7.8	27.7	28.0	50.3	58.6
Regular	92.2	72.3	72.0	49.7	41.4
Total	100.0	100.0	100.0	100.0	100.0
Blacks					
Subprime	1.6	3.1	10.6	19.4	37.7
Regular	98.4	96.9	89.4	80.6	62.3
Total	100.0	100.0	100.0	100.0	100.0
Minority tracts					
Subprime	4.0	14.3	17.3	34.6	49.8
Regular	96.0	85.7	82.7	65.4	50.2
Total	100.0	100.0	100.0	100.0	100.0

Similar trends can be found for applicants categorized as belonging to underserved markets. In every single category, subprime lenders have increasing denial rates over the period. In contrast, regular lenders have decreasing denial rates for each category. Especially noteworthy is the subprime denial rate for Blacks. It increased from 21.4 percent in 1992 to 52.6 percent by 1996. For the period the average denial rate for Blacks by sub-prime lenders is 45.3 percent. It is interesting to note, however, that this is lower than the 58.1-percent average denial rate for all subprime applicants. That is, Black applicants to subprime lenders are less likely to get rejected than non-Black applicants. In contrast, regular lenders reject 9.2 percent of all applicants and twice as many (18.6 percent) of all Black applicants.

Given these results, if one does not distinguish subprime from regular lenders, one gets a very misleading picture of denial rates. *The large increase in overall denial rates over time is entirely due to the growth of subprime lenders.*

The discussion of trends so far has focused on the shares of applications, originations, and denial rates that subprime and regular lenders receive from and make to various segments of the borrowing community (that is, Final Rule underserved markets, very low-income applicants, targeted areas, low-income applicants in low-income areas, Black applicants, and minority areas). The exhibits show, for example, what share of subprime applications come from very low-income applicants. However, it is also useful to examine the corresponding relationship—what share of very low-income applicants applies for loans from subprime lenders? Rather than looking at the share of subprime and regular loans going to very low-income applicants like we did in exhibits 27 through 29, in exhibits 30 through 32 we examine the share of applicants who apply to, get loans from, and are rejected by subprime and regular lenders. That is, these exhibits directly show how subprime lenders have dramatically increased their share of the applications, loans, and denials from the market as a whole and from underserved markets in particular.

The results are striking. For example, exhibit 30 shows that of all applicants from Final Rule underserved markets in Indiana, only 4.1 percent applied for a loan from a subprime lender in 1992. By 1996, more than one-third (35 percent) of all applications from Final Rule underserved borrowers and areas were to subprime lenders. Similar results are found when specific types of underserved markets are examined. Consider very low-income applicants. In 1992 only 5.4 percent applied to a subprime lender. This share grew to 41.9 percent in 1996. Similarly, of all applications from targeted areas in 1992, 3.3 percent went to subprime lenders. By 1996, 30.2 percent of all applications from targeted areas were to subprime lenders. Of all low-income applicants in low-income areas, 4.5 percent applied to a subprime lender in 1992. By 1996, 34 percent of low-income applicants in low-income tracts applied to subprime lenders. The trends with respect to race are similarly impressive. In 1992, only 1.9 percent of Blacks and 2.3 percent of those living in minority tracts applied for a mortgage loan from a subprime lender. In 1996, 16.8 percent of all applications from Blacks and nearly one-quarter (23.7 percent) of applications from minority tracts went to subprime lenders.

Whereas exhibit 30 focuses on application share, exhibit 31 centers on actual originations. Because subprime lenders are receiving a growing share of total applications from underserved markets, it follows that their origination share is also increasing. However, given the higher denial rates of subprime lenders, it also follows that the shares of total originations made to various underserved markets will be smaller than the share of applications from those markets. Exhibit 31 illustrates these trends clearly. In 1992 subprime lenders made 2.3 percent of all loans to Final Rule underserved markets. By 1996 that figure had risen to 18.9 percent. Of all very low-income originations, subprime lenders made only

2.8 percent of those loans in 1992. By 1996 this share had increased to nearly one-quarter (23.9 percent). The shifts were similar for targeted areas (2.1 percent in 1992, 16 percent in 1996) and low-income applicants in low-income areas (3 percent in 1992, 17.8 percent in 1996). The trends for Blacks and minority areas were also upward. Subprime lenders made 2 percent of all loans going to Blacks in 1992. By 1996 they were making 10.4 percent. Similarly, subprime lenders made 1.8 percent of the loans to minority areas in 1992. By 1996 subprime lenders increased their share to 12.9 percent.

Exhibit 29 and its discussion explained the differing denial rates subprime and regular lenders had for various categories of borrowers—that is, what percentage of very low-income applicants were rejected by subprime and regular borrowers? In exhibit 32 we see the share of denials rejected by each lender type for each underserved category—that is, of all denials to very low-income applicants, how many were made by subprime as opposed to regular lenders? The main point of this exhibit is to illustrate that between 1992 and 1996, subprime lenders went from (1) being responsible for a small fraction of all Indiana mortgage rejections to (2) becoming the primary source of Indiana mortgage loan rejections. In 1992, of all conventional mortgage loans denied, subprime lenders accounted for only 7.7 percent. By 1996 this share had grown tremendously. Subprime lenders were responsible for 59.8 percent of all conventional mortgage loan denials in the State of Indiana! Of all underserved market applicants who were rejected, 64.8 percent were rejected by a subprime lender. Similarly, subprime lenders made 67.2 percent of very low-income denials, 61.4 percent of denials from targeted areas, and 58.6 percent of denials to low-income applicants in low-income areas. The subprime share of the denials for Black applicants and minority areas also trended steadily upward. Subprime lenders were responsible for 37.7 percent of all denials for loans in Black areas and 49.8 percent of denials for loans in minority areas. From exhibits 27 through 32 and their discussion, it is clear that subprime lenders are a significant and growing influence in underserved areas and that this influence is most powerfully witnessed by the effects on overall denial rates in the State of Indiana.

Clearly, adding subprime lenders to our main analysis would have greatly complicated the discussion. Hopefully this section convinces the reader that the behavior of subprime lenders is very different from lenders in the prime market. Without information on the interest rates charged, fees paid, and other loan terms, it is impossible to assess just how well subprime lenders serve underserved markets. Any future analysis of underserved lending markets must consider the role these new lenders play.

In conclusion, it is hard to believe that subprime lenders are simply meeting the needs of borrowers not serviced by traditional lenders. As we noted in section 2, although the share of total lending (conventional, Government-backed, and subprime) to underserved markets varied little between 1994 and 1996, the share of those markets held by subprime lenders increased. Given the steady increase in application and origination market share as well as their growing presence on television, newspaper, and direct mail advertising, subprime lenders appear to be moving beyond servicing markets unwanted by traditional lenders and are instead taking away market share from regular lenders. The magnitude of this market penetration is be-yond the scope of this research project. However, it does seem likely that the decreased underserved market performance of Indiana nonsubprime lenders in 1995 and 1996 was due at least in part to the growing influence of subprime lenders.

Discussion and Conclusions

The 1990s have been a time of progress and change in home mortgage lending. Both in the United States (Bunce and Scheessele, 1996) and in Indiana, the proportion of home

mortgage loans going to low-income families, minorities, and other underserved markets increased substantially between 1992 and 1995. In Indiana disproportionate increases in the numbers of applications from underserved markets and above-average drops in their denial rates contributed to this growth. Recent reversals and a shift to less desirable types of loans are a matter of concern, especially if they continue, but as of 1996 underserved markets were still faring better than they had earlier in the decade.

Who should get the credit for this change? This study began with the assumption that there were two prime contenders: the CRA, possibly reinvigorated by a change in Presidential administrations, and the GSEs, which were mandated by Congress in 1992 to "lead the mortgage finance industry in making credit available for low- and moderate-income families" (Lind, 1996a). We now review the case for each of these challengers.

Our own experiences as residents of St. Joseph County, Indiana, led us to strongly suspect that CRA would prove to be one of the major influences driving the changes of the 1990s. We had seen a community group, CA$H PLU$, enter into negotiations with major area lenders. Although not all eventually signed agreements, all showed signs of apparent improvement. It seemed reasonable to expect that similar developments would be occurring throughout the State and the Nation. A change in Presidential administrations may have led to stricter enforcement (or the fear of stricter enforcement) of the law. More detailed HMDA reporting requirements likely made it easier for citizen groups to monitor how well lenders were meeting the needs of their communities. Furthermore, as Williams and Nesiba (1997) argue, increased merger activity may have created more opportunities to bring CRA pressure to bear; because lenders want their merger plans to be approved by regulatory agencies, they may have modified their practices to keep CRA objections from standing in the way.

Surprisingly, at least to us, the evidence was not as strong as we expected. Certainly, as we hypothesized, throughout the period studied CRA lenders did better than non-CRA institutions with respect to the underserved markets specified in the Final Rule. Counter to what we had predicted, however, their lead over non-CRA institutions actually declined over the course of the decade. For the race-related underserved markets we added to our study, CRA lenders actually did worse. Furthermore, the very notion of classifying lenders as CRA or non-CRA was called into question when we discovered that commercial banks and S&Ls differed radically in their underserved market performance.

It would be wrong, however, to conclude that CRA has had no value in the 1990s. Given that CRA institutions generally improved their performance across time, it may just be that different influences caused other lenders to improve even more. And CRA, which has been around for many years, may have played an important role in maintaining gains made in the past even if it did not add to them.

It may also be that CRA has the potential to do much more and that that potential has been realized more in other parts of the country than it has in conservative Indiana. CRA could be primarily effective when citizens' groups use its provisions to encourage local lenders to do better. Nationwide, the National Community Reinvestment Coalition estimates that, as of July 15, 1998, banks and S&Ls have made CRA commitments of more than $1 trillion since CRA was enacted in 1977. However, in Indiana, CA$H PLU$ was apparently one of the few citizens' groups—perhaps the only—engaged in CRA lobbying during the period we studied. Whether CA$H PLU$ deserves the credit or not is hard to say, but there can be no denying that the handful of lenders it dealt with were doing much better in the middle of the decade than they had been at the beginning of it.

Regardless of the good that CRA has done in the past—and regardless of what good it may have done in other parts of the country, and the potential it may have to do good in the future—there does not seem to be any strong evidence to suggest it was the primary contributor to the gains underserved markets experienced in Indiana during the early to mid-1990s.[35]

What, then, is the case for the GSEs? Although CRA institutions lost ground relative to non-CRA lenders, the GSEs narrowed the gap between them and others. In 1992, the loans the GSEs purchased contained 8.2 percentage points fewer loans from underserved markets than the loans they did not purchase. By 1996 the gap was only 5.7 percentage points. Still, to say that the GSEs made gains is a long way from saying that they met their mandate to lead the market. At the same time that the GSEs were doing better, other primary and secondary market lenders improved nearly as much. Indeed, rather than leading the market, the GSEs almost perfectly mirrored the performance of mortgage companies—the primary market lender that consistently trailed all others in underserved market performance. This was true not only in the entire State of Indiana, but also in most Indiana MSAs for most years.

This very strong link between the GSE and mortgage company performance makes it difficult to tell who should get credit for the improvements the GSEs did make. Are GSEs influencing the home mortgage market, or are they merely reflecting it? If improvements in GSE performance had preceded improvements in mortgage company performance, there would be a strong case for believing the GSEs deserved the credit. If, on the other hand, GSE changes always trailed the changes in mortgage companies, it would be clear that the GSEs were simply responding to what others did. But, given that the changes in GSE and mortgage company performance were almost simultaneous, it is impossible to tell (at least with these data) which one was leading the other. Nevertheless, given that mortgage companies are so heavily dependent on selling their loans to others, it is not unreasonable to think they will be heavily influenced by their perceptions about what the GSEs will purchase. Hence, greater flexibility and new programs on the part of GSEs might very well have accounted for improvements in both mortgage company and GSE underserved market performance. If so, however, this suggests that if the GSEs were even more willing to buy loans from underserved markets, mortgage companies (and other primary market lenders) might be more willing to make them.

In any event, one thing is clear: Regardless of what caused the recent improvements in their performance, the GSEs still have a long way to go before they will be leading the market.

Like many other researchers, we found that, between the two GSEs, Fannie Mae's underserved market performance was somewhat better than Freddie Mac's. But the differences were small and inconsistent across years and MSAs. Whatever differences did exist between the GSEs were far smaller and less important than the differences between the loans the two GSEs together did and did not purchase.

We also considered some of the other influences that many think may be affecting the home mortgage market. There has been concern about the increasing domination of banking by large lenders headquartered far away. We found that for very low-income individuals and Blacks, large institutions seemed to do somewhat better than smaller ones. However, for targeted areas, the smaller lenders may do best. We found that lenders headquartered in Indiana did more with most underserved markets than lenders who only had branches or no apparent physical presence at all here. On the other hand, the more remote lenders did do a little more of their business with Blacks. We speculated that members of served markets might have benefited from increased competition from outside lenders for

their business. Overall, though, the differences between the small and large lenders, and between those who had a local presence and those who did not, did not seem to be as dramatic as some might have feared or expected. We caution that our measures of size and location of control are admittedly crude, and future developments in lender concentration and consolidation deserve to be studied closely.

One of the most important developments among lenders may be the one to which we gave only secondary attention: the rise of the subprime lender. As this study and others have shown, subprime lenders are playing an increasingly critical role in underserved markets. Given the questions and controversy concerning the practices of some of these lenders, these changes are not necessarily for the better. Indeed, trends in market share raise the disturbing possibility that subprime lenders may be stealing away borrowers who could have gotten better deals elsewhere. It will be increasingly important for future researchers to examine the role of subprime lenders when looking at developments in home mortgage markets.

If CRA, the GSEs, and lender characteristics cannot lay clear claim to the improvements in Indiana home mortgage lending during the 1990s, who can? It may just be that all of these were secondary players to the influence of an improved economy and enhanced competition among lenders. As interest rates fell and incomes rose, homeownership may have become a reasonable goal for many who could not afford it previously. It may be too that regular lenders, not just the subprimes, decided that underserved markets offered untapped opportunities for future profits.

Even if the economy does get the credit, its positive influence may be fleeting. Given the rapid pace of change in home mortgage lending and the recent adoption of new programs by the GSEs, the key findings of this study may soon need to be updated. The year 1996 may have been too soon to assess the effectiveness of recent GSE efforts to lead the market.[36] An economic downturn could give CRA and the GSEs increased importance. Even with recent improvements in home mortgage lending, there is still a long way to go. Blacks, very low-income families, and minority and low-income neighborhoods still receive far fewer loans than their population sizes would warrant. The GSEs, or any other institutions, laws, or programs that can close that gap, still have the opportunity to claim a lot of credit.

Acknowledgment

We thank Theresa DiVenti, Randy Scheessele, and the many other HUD staff who provided data and helpful comments. An anonymous reviewer offered valuable suggestions that have been incorporated into this work. Finally, we thank Richard Lamanna from Notre Dame, who alerted us to HUD's interest in funding this type of research.

Authors

Richard A. Williams, the principal investigator for this study, is an associate professor and a former chairman of the Department of Sociology at the University of Notre Dame. He received his Ph.D. from the University of Wisconsin in 1986. His work has appeared in the American Sociological Review, Demography, Sociology of Education, Journal of Urban Affairs, Journal of Marriage and the Family, *and* Sociological Methods and Research. *For the past few years, Williams has been doing intensive research on a project titled "Racial, Economic and Institutional Disparities in Home Mortgage Lending." His current work focuses on how rapid changes in the finance industry over the past decade have affected lending to underserved markets.*

Eileen McConnell received her Ph.D. from the University of Notre Dame in January 2001. Her dissertation is titled "The Influence of Context: Regional Analyses of the Mexican Immigrant Experience in the United States." She is currently a visiting assistant professor in the Latino Studies program at Indiana University-Bloomington. Her current research, funded by the U.S. Census Bureau, examines changes in the Hispanic population between 1990 and 2000.

Reynold Nesiba is an assistant professor of economics at Augustana College in Sioux Falls, South Dakota. Since receiving his Ph.D. at the University of Notre Dame in 1995, his original and co-authored work has appeared in the Journal of Economic Issues, *the* Journal of Urban Affairs, *and the* Encyclopedia of Political Economy. *His forthcoming text,* The Evolution of Financial Markets and Institutions in a Global Economy, *coauthored with Maureen Burton and Ray Lombra, will be published by South-Western College Publishing in 2002. Nesiba's research interests include discrimination in lending and the consumer effects of bank mergers and acquisitions, as well as related issues in money, banking, financial markets, and institutions.*

Notes

1. Details of this description of the American housing finance system are drawn primarily from reports by Freddie Mac (Federal Home Loan Mortgage Corporation, 1995, 1996); Canner, Passmore, and Surrette (1996), and Weicher (1994).

2. This section is adapted from Williams and Nesiba (1997).

3. As with most pathbreaking work, the Munnell et al. study has been the target of both criticism and praise. See Williams and Nesiba (1997) for a summary and critique of the arguments on both sides.

4. In practice, we will generally group the GSEs together and then note any important differences that may exist between them.

5. In metropolitan areas the definition of underserved is based on census tracts, but in rural areas it is based on counties. Nonmetropolitan areas are classified as underserved if they are located in counties where the median family income does not exceed 95 percent of the greater of either the State nonmetropolitan median income or the nationwide nonmetropolitan median income, or if minorities comprise 30 percent or more of the residents and the median family income does not exceed 120 percent of the State nonmetropolitan median income.

6. Previous analyses we have done have shown that, with regard to denial rates and other important factors, joint applications (Black and White coapplicants) are much more similar to White applications (both applicants White) than they are to "Black" applications (Black applicant and Black or other minority coapplicant).

7. Several of the MSAs can be considered college towns, which influences the racial/ethnic composition, median income, and median age of MSAs. Bloomington (Indiana University) and Lafayette (Purdue) are two examples. Smaller colleges located in other MSAs (Indiana State University, Indiana University-Purdue University Indianapolis) also add to the diversity within the State.

8. There is one other important way in which Indiana differs from the rest of the Nation that may enhance its value for this study. Indiana Lieutenant Governor Joe Kernan announced in early 1997 that Indiana's percentage of homeowners grew faster than

any other State in the Nation. The U.S. Census Bureau reported that 74.2 percent of occupied homes in Indiana were owner occupied in 1996, up from 71 percent in 1995. This 3.1-percent increase was more than four times higher than the national increase of 0.7 percent. The national homeownership rate is now 65.4 percent, up from 64.7 percent in 1995. Indiana's homeownership rate is now at its highest level since the U.S. Census Bureau began measuring State homeownership rates in 1984.

9. To further put these numbers in perspective, commercial banks made 6 percent of all FHA loans, S&Ls made 21.2 percent, and mortgage companies accounted for the 72.9 percent that remained.

10. Unfortunately, HMDA itself provides no way to distinguish between subprime and other loans. Although we can exclude all the loans of those lenders most heavily involved in subprime and manufactured housing lending, subprime loans made by other lenders will continue to be included in the analysis. As noted in section 4, some traditional lenders are now starting to move into the subprime market. Hence, future studies may find it more and more difficult to adequately control for subprime lending.

11. Withdrawals and nonacceptances may be worthy subjects for a study of their own. If a lender has a high withdrawal rate, it may indicate that it is doing something that drives would-be borrowers away. It may also be that after an initial screening, some lenders encourage applicants to withdraw (perhaps returning any fees that may have been received) rather than have their loan denied.

12. Because the GSEs do not deny loan applications, we only present information on the loans they purchased.

13. Exhibits 3 and 4 indicate when and where missing data are present. Missing data are not included when calculating percentages or other statistics. Again, most instances of missing data occur when a particular piece of data was not collected at all in a given year and there was no appropriate substitution or approximation.

14. As noted earlier, the Final Rule defines these as very low-income borrowers, low-income borrowers in low-income tracts, and targeted tracts (low income, rural, and other underserved).

15. Asset information is missing for many lenders prior to 1994, the first year in which the Expected Reporter Panel was released. Hence, asset information is not available for lenders who went out of business, merged with others, or changed their ID number after 1993. If the cases with nonmissing data are representative, the shift to large lenders was even greater for the entire 5-year period.

16. It must be remembered that only *conventional* loans from *nonsubprime* lenders are included in the analysis. If Government-backed or subprime lender loans were included, mortgage company performance would appear much stronger, and GSE performance would appear much worse. As noted earlier, we believe our approach is the most reasonable and fair one when examining the GSEs, but the selection criteria must be kept in mind when interpreting results.

17. The table also shows that there were much larger changes across time in some MSAs than in others. For example, in the South Bend/St. Joseph County MSA, an almost 17-percentage-point gap existed between GSE and non-GSE loans in 1992. This shrank to a 4.1-percentage-point gap by 1996. We examine this MSA in greater detail later in this article.

18. The most consistent exception is the Indiana portion of the Cincinnati MSA, which may be atypical because of its small size and its proximity to a large city in another State. Other than Cincinnati, large differentials in 1 year are often offset by smaller differentials in others.

19. We again caution that, when comparing primary market lenders, it makes a substantial difference whether or not FHA and other Government-backed loans are included in the sample. Much of the gap between S&Ls and commercial banks disappears if Government-backed loans are included.

20. Again, though, the GSEs could just be reflecting the market: Those areas more heavily composed of underserved markets could have more first-time homebuyers. Ideally, HMDA would include information on whether the loan was for a first-time homebuyer. We could then assess whether the GSEs were being any more aggressive in an area than any other lender was.

21. Exhibits 7 through 12 also contain detailed information on each GSE separately.

22. The strong 1992 performance of credit unions was due, in part, to just one lender, Teacher's Credit Union (TCU). As Williams and Nesiba (1997) also found, during the early 1990s TCU was the area's leading performer in underserved market lending.

23. We thank Jeff Gibney, one of the founding members of CA$H PLU$, for providing helpful information on the history and activities of the organization.

24. Society's reduced number of loans is one reason overall CRA performance in the county declined in 1996. Had Society made as many loans in 1996 as it did in 1995, CRA lenders as a whole would have made 27.9 percent of their loans to underserved markets instead of their actual total of 25.9 percent.

25. It is, of course, possible that NCRC's records are incomplete. Indiana might also have been covered by multistate agreements negotiated elsewhere.

26. Eileen McConnell and Reynold Nesiba are the primary authors of the CHC section.

27. Much of the information regarding CHC came from an interview with its loan officer, Mary Beth Thompson, at the CHC office on July 21, 1997.

28. Even though CHC loans do not show up in the official HMDA reports, individual lenders do receive statements from CHC about its loan activity. The lenders can then provide this information to investigators during CRA examinations.

29. The fourth column is computed by dividing the third column by the second.

30. Reynold Nesiba and Eileen McConnell are the primary authors of this section.

31. According to HMDA, the GSEs purchased 38.3 percent of the conventional loans made by regular lenders in Indiana during 1992–96 but only 2.5 percent of the conventional loans made by subprime and manufactured housing lenders. The 218 loans the GSEs acquired from subprime and manufactured housing lenders accounted for only 0.3 percent of their total purchases.

32. According to the U.S. Department of Housing and Urban Development, Office of Policy Development and Research's third quarter 1997 *U.S. Housing Market Conditions* (http://www.huduser.org/periodicals/ushmc/fall97/toc.html), the largest manufactured housing lenders reporting home purchase applications under HMDA are Greentree Financial Corporation and Bank of America, FSB. The largest B&C lenders reporting home purchase applications are Ford Consumer Finance Company and Access Financial Lending Corporation.

33. For example, as noted in the appendix, in our analysis manufactured housing lender Bank of America, FSB was initially misclassified in some years because of a change in its lender ID code. We did not come across any other lenders that seemed to be miscoded, but given that thousands of lenders report to HMDA every year, there is a small chance that other errors exist.

34. One other issue should be mentioned. As Scheessele (1998) points out, the rise in the reported number of subprime and manufactured housing loans nationwide may be partially because more subprime and manufactured housing lenders are reporting to HMDA than in the past. In separate correspondence, Scheessele indicates that he thinks increased popularity, rather than better HMDA coverage, is the main factor behind the reported increase. This is consistent with the industry statistics we cite, which also show huge increases in subprime and manufactured housing lending during the 1990s.

35. Various readers of this report have warned that our expectations for CRA may have been too high. CRA does not technically say that lenders must serve underserved markets; rather, it says lenders must serve those communities from which they take deposits. Nevertheless, over the years CRA has come to provide a forum through which community activists can assert their claims. Given the apparent success of CRA in St. Joseph County, NCRC claims of more than $1 trillion in CRA commitments nationwide, and the numerous other factors we cite, we do not think our optimistic projections for CRA were without merit. Furthermore, it remains to be seen whether Indiana, with its very limited CRA activity during this time, was typical of the Nation as a whole.

36. Image problems may be a factor in how quickly the GSEs can achieve success. Based on his or her own interviews with lenders, a reviewer of this report claims that "what often matters most is a lender's perception…. Many lenders simply did not believe that Fannie would purchase loans exceeding certain guidelines, regardless of what Fannie's literature stated. Other lenders seemed to be basing their practices on bad experiences … that happened several years ago … [for] several small institutions gearing up for their first batch of sales to the GSEs … knowledge of Fannie and Freddie policies was poorly developed." A key hurdle for the GSEs, then, may be convincing primary market lenders that they truly are interested in purchasing underserved market loans.

37. One minor problem with the longitudinal approach is that the boundaries of some Indiana MSAs were expanded after 1993. This accounts for some of the increase in the number of loans made in MSAs between 1993 and 1994 but appears to have no other meaningful impact on our results.

38. HUD's underserved area definition was introduced in 1996. Prior to that, the GSE data sets did not include information on targeted tracts; the HMDA data have never included this information. We therefore extracted the list of targeted tracts from the

1996 GSE data and matched them up with the 1992–96 HMDA data and the GSE data from earlier years. For approximately 2 percent of the HMDA loan applications, we were unable to determine whether the tract was targeted or not; we coded these tracts as missing on the targeted tract variable. Using the guidelines given in the Final Rule, we also tried to compute directly whether a tract was "targeted" or not. We found that our algorithm gave very close, but not identical, classifications to those contained in the 1996 GSE data.

39. HMDA lists the location of the parent institution, making it possible to code whether the bank was locally headquartered or not. We used Moody's Bank and Finance Manual and McFadden's American Financial Directory to look up the amount of assets held by lenders. By looking at the lender's name or by drawing on other knowledge we had, we could determine whether an institution was a commercial bank, credit union, savings and loan, or mortgage company.

40. The Office of the Comptroller of the Currency, the Federal Reserve System, and the Federal Deposit Insurance Corporation all deal with different kinds of banks. S&Ls report to the Office of Thrift Supervision, credit unions report to the National Credit Union Administration, and independent mortgage companies report to HUD.

41. We also found that an alternative coding scheme, which uses the agency code and looks for key terms in the lender's name, produces nearly identical results. Where possible, we used the Expected Reporter Panel to code lenders; when that was not possible (primarily for lenders in 1992–93 who had "disappeared" by 1994), we used our alternative scheme.

42. The measure we constructed has numerous limitations. For one thing, location of headquarters is not the same as location of ownership; for example, Norwest Bank of Indiana lists its headquarters as being in Fort Wayne, Indiana, although it is part of the much larger chain of lenders owned by Norwest nationwide. Still, given that much of the concern over increasing bank concentration has been over the possible loss of sensitivity to local needs caused by decisionmaking power concentrated far away (Campen, 1993), we thought a lender with a local headquarters might be better than a lender without one. We also thought that a lender who apparently had no physical presence at all in the State (perhaps doing business by phone, by mail, or through mortgage brokers that acted on behalf of several lenders) might be different than one who was physically present. There are also concerns about the quality of the measure's coding. Between the time lenders reported to HMDA and when we looked them up, there could have been changes in branches and headquarters. We made no attempt at all to look up lenders who were active in 1992–94 but disappeared after that. Such lenders are likely to have gone out of business, changed their names, or merged with others. We coded such lenders as not being active after 1994, with their headquarters and branches unknown. Hence, although we think our branch and location data are fairly good (but not perfect) for 1995–96, for earlier years the data are much more suspect.

43. Time constraints kept us from following through on our original plan to incorporate data from the Indiana Housing Finance Authority (IHFA), although we eventually hope to do so. Between 1989 and 1996, IHFA financed the purchase, development, or rehabilitation of 40,000 affordable homes. IHFA estimates that during this period it helped more than 125,000 Indiana residents, or approximately 2 percent of the State's population. IHFA generally works through "participating lenders," thus most of the loans it helps make are probably "hidden" among HMDA records. An important

implication of this is that the effects of other influences on lending to underserved markets (e.g., CRA, the GSEs) are potentially distorted. For example, if lenders subject to CRA are coincidentally more likely to participate in IHFA's programs, CRA may appear to have more impact than it really does. (Of course, it could also be the case that CRA obligations make lenders more willing to cooperate with IHFA.) Similarly, the GSEs may look better than they really are if they are buying loans that never would have been made without IHFA support. In general, we think future studies need to look more carefully at the role that Government and alternative lending programs are having on home mortgage lending.

44. Actually, one of the problems with the HMDA data is that the data can include loans made in earlier years—but if one tries to use them, one runs the risk of double counting the same loans. It is possible for one lender to make a loan and sell it to someone else—then that lender sells the loan to Fannie Mae or Freddie Mac (either in the same year or a later one). In HMDA, the first lender will be recorded as originating the loan and then selling it to another. The second lender will be recorded as purchasing the loan and then selling it to a GSE. We include only loan originations in this analysis. This avoids the very serious problem of double counting the same loans but also opens the possibility of creating greater discrepancies between HMDA and GSE data reports.

References

Apgar, William. May 24, 2000. Testimony of the Assistant Secretary for Housing and Federal Housing Commissioner William Apgar before the House Committee on Banking and Financial Services. Available at: http://www.hud.gov/cir/5-24Apgar.html.

Bartlett, S. 1989. "Bank Closings Discriminate, Report Asserts: Services for Minorities Decreasing in New York," *New York Times,* January 31, B–1.

Benston, G.J. 1979. "Mortgage Redlining Research: A Review and Critical Analysis Discussion," in *The Regulation of Financial Institutions: Proceedings of a Conference Held in October 1979,* pp. 144–195, sponsored by the Federal Reserve Bank of Boston and the National Science Foundation, Conference Series No. 21.

Berkovec, James, and Peter Zorn. 1996. "How Complete Is HMDA? HMDA Coverage of Freddie Mac Purchases," *Journal of Real Estate Research* 11, 1:39–55.

Blalock, J. 1996. "Symbiotic Business: GSEs and MIs," *America's Community Banker* 5, 4:36–38.

Blossom, T., D. Everett, and J. Gallagher. 1998. "The Race for Money," a four-part series. *Detroit Free Press,* July 24–27.

Bradford, Calvin. 1998. *The Two Faces of FHA: A Case of Government Sponsored Discrimination Against Minority and Racially Changing Communities.* Chicago, Illinois: Chicago Area Fair Housing Alliance.

Bradford, Calvin, and Gale Cincotta. 1992. "The Legacy, the Promise, and the Unfinished Agenda of the Community Reinvestment Act," in *From Redlining to Reinvestment: Community Responses to Urban Disinvestment,* Gregory D. Squires, ed. Philadelphia, Pennsylvania: Temple University Press.

Brady, A., A. Dubridges, and C. Klepper. 1980. *Lending Patterns and Race in Southern Suburbs: A Community Reinvestment Act Study.* Park Forest, Illinois: South Suburban Fair Housing Coalition.

Bunce, Harold L., and Randall M. Scheessele. 1996. *The GSEs' Funding of Affordable Loans,* Housing Finance Working Paper Series No. HF–001. Washington, DC: U.S. Department of Housing and Urban Development, Office of Policy Development and Research.

Campen, J.T. 1993. "Banks, Communities, and Public Policy," in *Transforming the U.S. Financial System: Equity and Efficiency for the 21st Century,* G.A. Dymski, G. Epstein, and R. Pollin, eds. Armonk, New York: M.E. Sharpe, 221–249.

Canner, Glenn B., Wayne Passmore, and Brian J. Surrette. 1996. "Distribution of Credit Risk Among Providers of Mortgages to Lower Income and Minority Homebuyers," *Federal Reserve Bulletin* 82:1077–1102.

Canner, G.B., and D.S. Smith. 1992. "Expanded HMDA Data on Residential Lending: One Year Later," *Federal Reserve Bulletin* 78:801–827.

——. 1991. "Home Mortgage Disclosure Act: Expanded Data on Residential Lending," *Federal Reserve Bulletin* 77:859–881.

Caskey, J. 1992. *Bank Representation in Low-Income and Minority Urban Communities.* Working Paper. RWP 92–10. Kansas City: Federal Reserve Bank of Kansas City.

Davidson, Steven. 1995. "Rating the B and C Secondary Market," *America's Community Banker* 4, 8:38–41.

Dedman, B. 1988. "The Color of Money," *Atlanta Journal & Atlanta Journal Constitution,* May 1–4.

Dunham, C.R. 1991. *The Unknown Lenders: The Role of Mortgage Bankers in the Chicago Metropolitan Area*. Chicago, Illinois: Woodstock Institute.

Dymski, G.A., and J.M. Veitch. 1991. *A Wonderful Life It's Not: Bank Lending for Affordable Housing in Los Angeles.* Unpublished Paper.

Dymski, G.A., J.M. Veitch, and M. White. 1990. *Taking It to the Bank: Poverty Race and Credit in Los Angeles.* A Report to the City of Los Angeles. Los Angeles, California: Western Center on Law and Poverty.

Evanoff, D., and D. Fortier. 1986. "Geographic Expansion in Commercial Banking: Inferences from Intrastate Activity," in *Toward Nationwide Banking: A Guide to the Issues,* H. Baer and S.F. Gregorash, eds. Chicago, Illinois: Federal Reserve Bank of Chicago, 39–58.

Federal Home Loan Bank Board, Office of Community Investment. 1981. *The Secondary Mortgage Market.* Washington, DC: U.S. Government Printing Office.

Federal Home Loan Mortgage Corporation. 1996. *Financing America's Housing.* McLean, Virginia: Federal Home Loan Mortgage Corporation.

———. 1995. *Financing Homes for a Diverse America.* McLean, Virginia: Federal Home Loan Mortgage Corporation.

Finn, C. 1989. *Mortgage Lending in Boston's Neighborhoods, 1981–1987: A Study of Bank Credit and Boston's Housing.* Boston, Massachusetts: Boston Redevelopment Authority.

Fletcher, June. 1997. "Grading System for a Price, Borrowers with Spotty Records Can Get Loans," *Chicago Tribune,* November 16, 5C.

Guskind, R. 1989. "Thin Red Line," *National Journal* October 28:2639–2643.

Heilman, Wayne. 1997. "Lenders Seek Borrowers with Bad Credit," *The Gazette,* Colorado Springs, Colorado, November 19, Bus–1.

Keest, Kathleen E., J.I. Langer, and M.F. Day. 1995. "Interest Rate Regulation Developments: High Cost Mortgages, Rent-To-Own Transactions, and Unconscionability," *Business Lawyer* 50, 3:1081–1091.

Kim, S., and G.D. Squires. 1995. "Lender Characteristics and Racial Disparities in Mortgage Lending," *Journal of Housing Research* 6:99–113.

Lind, John E. 1996a. *Community Reinvestment and Equal Credit Opportunity Performance of Fannie Mae and Freddie Mac from the 1994 HMDA Data.* San Francisco, California: CANNICOR.

———. 1996b. *A Comparison of the Community Reinvestment and Equal Credit Opportunity Performance of Fannie Mae and Freddie Mac Portfolios by Suppliers from the 1994 HMDA Data.* San Francisco, California: CANNICOR.

Lueck, T.J. 1992. "Banks Shut in Poor Areas Stir Worries," *New York Times,* August 17, B–1.

MacDonald, H. 1995. "Secondary Mortgage Markets and Federal Housing Policy," *Journal of Urban Affairs* 17:53–79.

Mengle, D.L. 1990. "The Case for Interstate Branch Banking," Federal Reserve Bank of Richmond, *Economic Review* (November/December):3–17.

Munnell, A., L.E. Browne, J. McEneaney, and G.M.B. Tootell. 1992. *Mortgage Lending in Boston: Interpreting HMDA Data.* Working Paper 92–7. Boston, Massachusetts: Federal Reserve Bank of Boston.

National Community Reinvestment Coalition. 1997. 1996 HMDA Analysis Press Release, August.

Peattie, Earl. 1997. "Your Mortgage—Mortgages Can Be Gotten with Bad Credit, but You Pay," *The Orange County Register,* D7.

Peterman, W. 1990. *Mesodynamics of Mortgage Lending in Chicago and Its Suburbs*. Chicago, Illinois: Chicago Fair Housing Alliance.

Peterman, W., and Q. Sanshi. 1991. "Lending Discrimination in Metropolitan Chicago: Continuing Connection Between Race, Racial Change, and Mortgage Credit," in *Credit by Color: Mortgage Discrimination in Chicagoland,* Chicago Fair Housing Alliance, eds.

Chicago, Illinois: Chicago Fair Housing Alliance.

Scheessele, Randall. 1998. *1997 HMDA Highlights.* Unpublished manuscript. U.S. Department of Housing and Urban Development, Office of Policy Development and Research.

Shlay, A.B. 1988. "Not in That Neighborhood: The Effects of Housing and Population on the Distribution of Mortgage Finance within the Chicago SMSA from 1980–1983," *Social Science Research* 17:137–163.

——. 1987a. *Maintaining the Divided City: Residential Lending Patterns in the Baltimore SMSA.* Baltimore, Maryland: Maryland Alliance for Responsible Investment.

——. 1987b. *Credit on Color: The Impact of Segregation and Racial Transition on Housing Credit Flows in the Chicago SMSA from 1980–1983.* Chicago, Illinois: Chicago Fair Housing Alliance.

——. 1987c. *The Underwriting of Community: Evaluating Federally Regulated Depository Financial Institutions' Residential Lending Performance within the Baltimore SMSA from 1980–1984.* Baltimore, Maryland: Maryland Alliance for Responsible Investment.

——. 1986. *A Tale of Three Cities: The Distribution of Housing Credit from Financial Institutions in the Chicago SMSA from 1980–1983.* Chicago, Illinois: Woodstock Institute.

Shlay, A.B., and S. Freedman. 1986. *Islands of Opportunities: Mortgage Banker Residential Lending within the Chicago SMSA from 1980–1983.* Chicago, Illinois: Woodstock Institute.

U.S. Department of Housing and Urban Development, Office of Policy Development and Research. 1997. *U.S. Housing Market Conditions,* Third Quarter. Washington, DC: U.S. Department of Housing and Urban Development, Office of Policy Development and Research.

U.S. Department of Housing and Urban Development. 1995. Appendixes to *The Secretary of HUD's Regulation of the Federal National Mortgage Association (Fannie Mae) and the Federal Home Loan Mortgage Corporation (Freddie Mac).* Final Rule. *Federal Register* 60, 231: 61, 846.

Weicher, J.C. 1994. "Housing Finance Fiefdoms," *The American Enterprise* 5, 5:62–67.

Williams, P., W. Brown, and E. Simmons. 1988. *Race and Mortgage Lending in New York City: A Study on Redlining.* Brooklyn, New York: Medgar Evars College, Center for Law and Social Justice.

Williams, Richard, and Reynold Nesiba. 1997. "Racial, Economic, and Institutional Differences in Home Mortgage Loans: St. Joseph County, Indiana," *Journal of Urban Affairs* 19, 1:73–103.

Appendix
Description of the Data, Data Issues, and Complications

In this appendix we describe in detail the various data sets that were used in the analysis and why. We also discuss several data issues and problems that required special attention. These include a comparison of the GSE versus HMDA data, a discussion of lenders

whose data needed unique treatment, and an explanation of the matching procedures used to combine data sets. The latter includes HUD's list of B&C and manufactured housing lenders and their ID numbers.

Description of the Data

Wherever possible, data were collected for each of the years from 1992 through 1996. By looking at trends over a 5-year period, it is much easier to assess whether the GSEs (and CRA lenders) were leading the market or simply following it.[37] Data were collected from several sources.

HMDA Loan Application Registers and Transmittal Sheets. Starting in 1990, most lenders were required to provide information on every home mortgage application they received. The information included the type of loan (conventional, FHA, or VA); the requested amount; the final disposition of the application (approved, denied, withdrawn, not accepted); the census tract in which the desired property was located; the income, race, and gender of the applicant(s); and the ultimate purchaser of the loan (not sold, sold to Fannie Mae or Freddie Mac). The HMDA transmittal sheets (one record per lender per year) indicate the lender's name, address, and parent company (if any).

GSE Data. The GSEs recently have begun providing HUD with loan-level data on each of their mortgage transactions since the beginning of 1993. This includes information on demographic characteristics of both the borrower and the census tract in which the property is located. In many ways, the GSE data provide a more accurate description of GSE purchases than do the HMDA data. For example, as various authors have pointed out (Canner, Passmore, and Surrette, 1996), loans made late in the year are especially likely to have their ultimate purchaser misclassified by HMDA. As we discuss later in this appendix, key features of the way the GSE data sets are constructed greatly limit their usefulness for the sort of regional analysis undertaken here. We therefore relied primarily on the HMDA data and, where possible, used the GSE data to doublecheck the accuracy of our results. We also extracted from the 1996 GSE data a list of census tracts defined as "targeted" under the Final Rule.[38] Furthermore, we computed from the GSE data the percentage of all GSE purchases in a census tract by first-time homebuyers, with the rationale that the higher this percentage was, the more aggressive the GSEs were being in helping needy markets.

Census Tract Data. The HMDA data include key information on census tracts, making it possible to determine whether a neighborhood is low income or minority. The St. Joseph County data also include other information gathered directly from published census reports for the county.

Manufactured Housing and B&C Loans. There is an ongoing debate about whether manufactured housing and B&C (below-investment-grade, or subprime) loans should be included in analyses. These are generally higher risk, higher interest loans that the GSEs will not buy. Various researchers (Lind 1996a, 1996b; Bunce and Scheessele, 1996) have therefore attempted to exclude such loans in their analyses. However, given the increasing importance of these loans to underserved markets, we were not sure it was right to exclude them; the GSEs' refusal to buy such loans does not mean that they could not. Indeed, in October 1997 Freddie Mac announced plans to move into the subprime market. Using a list of subprime lenders provided to us by HUD, we originally planned to include subprime loans throughout our analysis and apply appropriate controls for them. However, it quickly became apparent to us that this would greatly complicate the analysis and make a fair evaluation of the GSEs and CRA much more difficult. We therefore decided to leave subprime loans out of our main analysis and instead include a section in which we examined them separately. As our section on Subprime and Manufactured Housing

shows, subprime lending has risen dramatically in Indiana during the 1990s, and any analysis that does not somehow take this into account has the potential to be highly misleading.

Lending Institution Data. Information on lender characteristics comes from several sources, both local and national. In earlier studies (Williams and Nesiba, 1997) characteristics of lenders in St. Joseph County were hand coded.[39] Because such coding is very tedious, we developed means for automating much of this process on State and national levels. Using the HMDA data, we found that it is fairly easy to determine whether a lender is a commercial bank, credit union, or other entity. Different types of institutions report to different agencies.[40] The HMDA data include the agency to whom a lender reports. However, this information is not quite sufficient because nonindependent mortgage companies (for example, mortgage banking subsidiaries) also report to some of these agencies. Fortunately, mortgage companies can be distinguished from other types of lenders by using the lender code variable contained in the HMDA Expected Reporter Panel, which is available at additional cost for 1994–96.[41]

Other measures of institutional characteristics are more problematic. While lenders report their parent institution's name and address in the HMDA data, the measure seems to be riddled with errors. It may be that many lenders do not understand the question or do not know the answer. For example, hundreds of lenders claim that their parent institution is the Federal agency they report to (such as the Federal Reserve Board or the Office of Thrift Supervision). Therefore, we developed an alternative procedure that coded lenders by the location of their headquarters and branch offices in Indiana. The Web page of the Federal Reserve System's National Information Center (NIC) (http://www.ffiec.gov/nic/) contains detailed information on the ownership and organizational structure of many lenders. We looked up lenders who were active in Indiana during the years 1995 and 1996. If we failed to find the lender on the NIC pages, we performed statewide phone directory searches to see if the lender had any offices in Indiana. We then coded each lender as (a) having its headquarters in Indiana, (b) having branches in Indiana but headquarters elsewhere, or (c) having no branches that we could identify in Indiana.[42]

In addition, the HMDA Expected Reporter Panel (ERP) contains information on the assets of the lending institution. This measure seems fairly reliable (that is, it gives numbers similar to ours for most lenders in St. Joseph County), and Federal Reserve Board officials have told us they believe this information to be of high quality (with the main problem being that numbers are sometimes a year or so out of date). Unfortunately the ERP is not available before 1994. Thus lenders in 1992 and 1993 were assigned the assets from the earliest year in which they appeared in the ERP. However, if a lender was not active nationwide between 1994 and 1996, we were not able to code their assets for earlier years. Hence, while we have some asset data for 1992–93, the data for 1994–96 are much more complete and reliable. We coded lenders as (a) small—assets of $100 million or less, (b) medium—assets of $100 million to $1 billion, and (c) large—assets greater than $1 billion.

Median Income Data. The official HMDA reports (and this study) use the MSA median family income when classifying applicants as low income, moderate income, etc. These numbers are based on HUD estimates that change yearly. This information can be obtained for free from the Federal Financial Institutions Examination Council. In addition, information for selected years is available on the World Wide Web at http://www.ffiec.gov/hmda/hardcopy.htm.

Alternative Lending Programs. Some special programs aimed at low-income and minority borrowers are not reflected in the HMDA data. For example, during 1994–96 the Community Homebuyer's Corporation (CHC) made 102 loans in St. Joseph County. CHC

pools money from area lenders with Community Development Block Grant support from the Government to provide loans that make homeownership more affordable to low-income persons. Although CHC makes relatively few loans, the majority of these (90 percent) go to underserved markets. Because CHC is a nonprofit entity, its loans are not reported to HMDA, and because most of the lenders who back CHC are subject to CRA, exclusion of these loans runs the risk of understating the true impact of CRA in St. Joseph County. CHC has graciously provided us with HMDA-style information on its lending, which we incorporate in our analysis of St. Joseph County.[43]

Historical Events in St. Joseph County. As residents of St. Joseph County, we are familiar with important events during the 1990s that may have affected area lending. We know which lenders have engaged in mergers. We also know which institutions have entered into CRA agreements with community organizations and which ones were asked to do so but refused.

Advantages of a multilevel/multidata source approach. We see several advantages to combining a county case study approach with a statewide analysis using several data sets.

- As noted above, both Indiana and St. Joseph County share many similarities with the Nation as a whole. Indeed, they may be more representative of the entire country than many of the large urban centers previously studied. At the same time, there is considerable diversity among Indiana MSAs, allowing us to examine the determinants of home mortgage lending in a variety of settings. Studying multiple MSAs also reduces the risk that idiosyncratic or atypical factors are responsible for the results.
- All key concepts can be operationalized in both the State and county data.
- Using the HMDA data, we can determine characteristics of the loans made by primary market lenders and sold (or not sold) to the GSEs, and whether an institution sells any of its loans to the GSEs.
- Using the HMDA data and the ERP, we can also determine whether the lender is subject to CRA; the legal structure of the lender (commercial bank, mortgage company, S&L, or credit union); and the assets of the lender.
- Using the HMDA data in conjunction with the GSE data, we can further determine the percentage of GSE loans in an area involving first-time homebuyers.
- These data sets allow us to distinguish between Fannie Mae and Freddie Mac and to examine changes in primary and secondary market loan activity across time.
- Other data sets also play key roles in both the State and county analyses. The Subprime & Manufactured Housing Lender List helps identify loans that do not meet GSE underwriting standards, and the median income data help classify the income status of applicants.
- All of the above measures are, of course, also available for the St. Joseph County study. In addition, locally we can use more powerful operationalizations of concepts than we can with the State and national data alone. For example, at the State level, we can measure whether the institution was subject to CRA; at the county level, we can also measure whether the institution was pressured to sign a CRA agreement or was involved in merger activity that may have made it more susceptible to CRA pressure. We also have the data we collected on our own that describes local lending activity not reflected in HMDA.

- In the county case study, we can deal better with flaws and limitations in the data. We have come across instances where the HMDA data were either wrong or misleading. We discuss these problems in more detail shortly.
- Most primary market studies have been done on large urban areas, many of which have long histories of racial conflict and discrimination. The situation in other types of areas is unknown. To the extent possible, we can replicate and extend previous studies to see whether similar results can be found in a moderate-sized urban area. Conversely, most studies of GSEs have focused on the entire country. Several authors (such as Bunce and Scheessele, 1996) have cited the need for more disaggregated analyses both at the individual lender level and at the regional and metropolitan area level. This type of study can help to meet that need.
- Finally, by starting with a more manageable area, the analytic techniques and methods we develop for St. Joseph County and Indiana can serve as a template for a larger national study.

GSE Versus HMDA Data

Both the HMDA and GSE public use data sets provide information on GSE lending activities. Even though the GSE data sets have many advantages, we ultimately decided to rely primarily on the HMDA data. The GSE data were then used to check whether the HMDA results were plausible. There were several reasons for this.

First and foremost, it would have been impossible to test our hypotheses using only the GSE data. A key component of our argument is that the GSEs can be both a cause of primary market activity and a reflection of it. An improvement (or decline) in GSE performance could simply reflect changes in the markets from which the GSEs buy their loans. We therefore need to look at all home mortgage lending, not just the loans bought by the GSEs, to assess how the GSEs are doing. As our main analysis shows, the improvements that the GSEs made in the 1990s can be misleading if one does not take into account that similar improvements occurred throughout the home mortgage markets.

Ideally, then, we would have liked to use both data sets together, perhaps substituting records from the GSE data sets for the corresponding records from HMDA. Unfortunately, several characteristics of the GSE data sets greatly limited their usefulness to us. For proprietary reasons, the GSE data are divided into three unlinkable data sets. Key information appears in one data set but not another, or is missing altogether. Only the census tract data file makes it possible to select loans from Indiana; the other two data sets lack State identifiers.

Unfortunately, unlike some of the other GSE data sets, the census tract file does not indicate (a) whether the loan was for home purchase or refinance, (b) if the loan was bought in the current year, or (c) whether the loan was conventional or FHA insured. It is therefore impossible, with the GSE data, to make what we considered to be the reasonable and appropriate sample selection we used in our analysis. Although we appreciate the proprietary concerns of the GSEs, we hope that these sorts of crippling limitations can be reduced in future releases of the data. Given that similar information can be obtained from the HMDA data, it is not clear why the GSE data sets have to be so limited.

The more detailed information in the HMDA data sets is of little value, however, unless it is also accurate. A major advantage of the GSE data sets is that their coverage of GSE loans is more complete. Bunce and Scheessele (1996) found that, nationwide, because of reporting errors and other problems, HMDA reports include only 75 to 85 percent of GSE

purchases in metropolitan areas. Our own analysis of Indiana confirms that as much as one-third to one-half of all GSE purchases are not reflected in the HMDA data.

A critical question, then, is whether the GSE purchases not included in HMDA are missing more or less at random or whether there are systematic biases in the missing data. If GSE loans are randomly missing, then GSE/non-GSE comparisons will be more or less correct. If, however, there are systematic biases in the exclusions, then GSE performance will appear to be better or worse than it really is. For example, if the missing GSE loans are mainly going to underserved markets, then the HMDA data will understate how well GSEs are serving those markets. If, on the other hand, the missing loans are all from markets that are served, then HMDA will exaggerate how well the GSEs are doing.

Fortunately Bunce and Scheessele (1996) found that, nationwide, both GSE- and HMDA-based reports of lending to underserved markets gave similar results. To confirm that this is also true in our sample of Indiana, we compared, as closely as possible, the underserved market measures that exist in both the GSE and HMDA data sets. Our procedure was as follows.

- From the GSE data sets for 1993–96, we selected all loans from Indiana MSAs. We did not employ any of the other sample selection criteria used in our main analysis (such as, home purchase conventional loans) because the GSE census tract data set does not include the information needed to make these selections.
- From the HMDA data sets for 1993–96, we selected all originated loans from Indiana MSAs that were coded as being sold to Fannie Mae or Freddie Mac. Again, we did not employ our other sample restrictions, so this is a much broader sample than our main analysis uses.

Even though we tried to make our selections from both data sets as comparable as possible, there is still one important respect in which they differ. Unlike HMDA, the GSE data can include loans that were originated in a prior year.[44] Even if the HMDA data were completely unbiased, the figures from HMDA and the GSE could differ somewhat; in particular, we might reasonably expect that the GSE figures for a given year would be somewhere between the HMDA figures for that year and the previous year. This difference is because the HMDA data only include loans from 1 year, but the GSE data include loans from 2 years or more. Some year-to-year small differences between the GSE and HMDA are to be expected, but over the long run the two should give more or less comparable results if both are unbiased.

Exhibit A–1 gives the results of these comparisons. Several points stand out.

- For both GSEs together over the combined 4-year period, the GSE and HMDA data sets give very similar estimates of GSE lending to Final Rule underserved markets. HMDA reports that 20.3 percent of all GSE loans during this time went to Final Rule underserved markets; the GSE data report an almost identical 20.4 percent. For specific types of underserved markets, HMDA gives a slightly lower figure for lending to very low-income borrowers and a slightly higher number for low-income borrowers in low-income neighborhoods. For targeted areas and minority tracts, the GSE and HMDA numbers are again practically identical. Only with lending to Blacks is there a clear systematic bias, as the HMDA data consistently give higher figures than the GSE data.
- Between the GSEs, there is less consistency. For Fannie Mae, the HMDA data report that 21.1 percent of its loans went to Final Rule underserved markets, whereas the

Exhibit A–1

Comparison of GSE and HMDA Data Sets: Indiana MSAs, 1993–96

Percentage of Loans Going To	1993	1994	1995	1996	Total
Final Rule Underserved markets					
Fannie Mae					
HMDA data	16.6	25.9	24.8	22.6	21.1
GSE data	15.8	24.4	29.5	22.3	21.9
Freddie Mac					
HMDA data	15.0	22.3	22.7	22.0	19.1
GSE data	14.7	20.7	21.7	20.6	18.4
Both					
HMDA data	15.9	24.3	24.0	22.3	20.3
GSE data	15.3	22.7	26.7	21.6	20.4
Very low-income borrowers					
Fannie Mae					
HMDA data	7.2	14.6	11.5	10.1	9.9
GSE data	6.8	12.3	20.4	10.8	11.6
Freddie Mac					
HMDA data	6.8	11.6	10.3	9.9	8.9
GSE data	6.2	9.1	9.3	9.2	8.0
Both					
HMDA data	7.0	13.3	11.1	10.0	9.5
GSE data	6.5	10.9	16.3	10.1	10.1
Low-income borrowers in low-income areas					
Fannie Mae					
HMDA data	2.2	4.9	5.1	3.9	3.6
GSE data	1.9	4.1	4.4	3.6	3.3
Freddie Mac					
HMDA data	2.1	3.2	3.7	3.4	2.8
GSE data	1.7	2.8	2.9	3.1	2.4
Both					
HMDA data	2.2	4.2	4.6	3.7	3.3
GSE data	1.8	3.5	3.9	3.4	2.9
Targeted areas					
Fannie Mae					
HMDA data	11.4	16.7	18.4	16.5	14.8
GSE data	11.3	16.7	16.6	16.0	14.6
Freddie Mac					
HMDA data	10.1	14.3	16.6	15.4	13.1
GSE data	10.7	14.5	16.0	14.4	13.2
Both					
HMDA data	10.9	15.7	17.8	16.0	14.1
GSE data	11.1	15.7	16.4	15.4	14.0

Exhibit A–1 (continued)

Comparison of GSE and HMDA Data Sets: Indiana MSAs, 1993–96

Percentage of Loans Going To	1993	1994	1995	1996	Total
Blacks					
Fannie Mae					
HMDA data	2.1	4.0	4.1	3.2	3.1
GSE data	1.6	3.3	3.4	2.8	2.6
Freddie Mac					
HMDA data	1.2	2.2	2.7	2.4	1.9
GSE data	1.1	1.9	2.4	2.2	1.8
Both					
HMDA data	1.7	3.2	3.6	2.9	2.6
GSE data	1.4	2.7	3.0	2.6	2.2
Tracts > 30% minority					
Fannie Mae					
HMDA data	3.6	4.7	5.4	4.4	4.3
GSE data	3.4	4.7	4.8	4.2	4.1
Freddie Mac					
HMDA data	2.2	3.0	2.9	3.1	2.7
GSE data	2.2	3.1	2.8	3.3	2.7
Both					
HMDA data	3.0	4.0	4.6	3.9	3.6
GSE data	2.8	4.0	4.1	3.9	3.6

GSE data report a somewhat higher 21.9 percent. A closer examination of the data reveals, however, that in 3 out of 4 years, HMDA reports higher numbers than does the GSE; but in 1995 the GSE reports 5 percentage points more underserved market loans (29.5 percent versus 24.8 percent) than does HMDA. When underserved markets are looked at in more detail, it is apparent that the major reason the 1995 GSE/HMDA gap exists is because the GSE says Fannie made 20.4 percent of its loans to very low-income borrowers, whereas HMDA reports only 11.5 percent. However, this figure of 20.4 percent seems quite extraordinary: It is three times as high as Fannie's 1993 tally, twice as high as Fannie's 1996 figure, and about double what Freddie Mac did in the same year. All of this suggests that the 20.4 percent may be inaccurate, misleading, or at least atypical. Perhaps in 1995 Fannie bought many very low-income loans that had been made in previous years.

- For Freddie Mac, if the HMDA data are biased, they are biased in Freddie's favor. The HMDA data give modestly higher figures than does the GSE for Freddie Mac lending to very low-income borrowers and low-income borrowers in low-income neighborhoods. However, for targeted areas, Blacks, and minority neighborhoods, the GSE and HMDA figures for Freddie Mac are practically identical.
- There is also some fluctuation across years. For example, in 1994, the HMDA data say 24.3 percent of both GSEs' loans went to Final Rule underserved markets, but the GSE data only report 22.7 percent. However, in 1995, the HMDA figure drops to 24 percent, but the GSE data claim 26.7 percent. Most of the small year-to-year differences between HMDA and GSE offset each other during the 4-year period and could

be due to the fact that the GSE data sets include loans from earlier years and HMDA does not.

In conclusion, despite their differences, the HMDA and GSE data generally give very similar estimates of GSE activity in underserved markets. In most cases, differences between the data sets are small and tend to offset each other across time, and we would expect such patterns given that the GSE data include loans from more than 1 year. In the one instance where there is a very sharp difference between the GSE and HMDA data—Fannie Mae loans to very low-income borrowers in 1995—it is the figure from the GSE data that appears more problematic.

Furthermore, if there are any biases in the HMDA data, they generally seem to work in the GSEs' favor. As noted before, in 3 out of 4 years, HMDA reports slightly better underserved market lending by Fannie Mae than does the GSE; for Freddie Mac, the HMDA estimates of lending to very low-income borrowers and low-income borrowers in low-income areas are always slightly ahead of what the GSE claims. Furthermore, for both Fannie and Freddie, the HMDA data always report slightly more loans to Blacks than the GSE does. As Berkovec and Zorn (1996) note, lenders tend to disproportionately report their good loans in HMDA; it appears this bias benefits the GSEs as well.

Ideally, we would like HMDA to provide perfect coverage of GSE purchases. Barring that, we would like a GSE data set that was not so crippled by the proprietary restrictions placed on it. Given that neither of these is currently possible, and given that it is impossible to test our ideas with the GSE data alone, we believe our current strategy of relying primarily on the HMDA data and doublechecking it against the GSE data is the best possible course.

Special Problems With Lender Data

One of the advantages of working within a smaller geographic area is that problematic cases in the data can be more easily identified and addressed. We encountered three lenders that required special handling on our part.

Trustcorp Mortgage. According to official HMDA statistics, in St. Joseph County during the 1990s there was a dramatic increase in lending to heavily minority neighborhoods. Census tracts, which were more than 50 percent minority, went from receiving approximately 1 percent of all mortgage loans in 1992 to approximately 7 percent in 1996. Although there was a dramatic increase in lending to minority neighborhoods, very few of those loans were reported as going to minority individuals. We considered this highly suspicious. A closer examination revealed that all of these loans were going to a single census tract, #20; in fact, the tract was supposedly receiving more loans per year than it had houses. This was obviously an error, and because tract #20 is one of the poorest and most heavily minority tracts in the area, lending statistics for the entire county were being wildly distorted.

We discovered that a single lender was making all of the reported loans—Trustcorp Mortgage. When we pointed this out to Trustcorp, it investigated the matter and discovered that a programming error had caused most of its loans since 1994 to be reported as going to tract #20. Trustcorp graciously provided us with a corrected data set for the 3 years. The final data set Trustcorp provided us for 1996 still included an implausibly large number of loans for tract #20. Those records were discarded from our analysis, and the rest of the corrected records were substituted for the original Trustcorp reports.

1st Source Bank. 1st Source Bank is one of the largest lenders in the South Bend and neighboring Elkhart-Goshen MSAs. In 1992 and 1993, HMDA shows 1st Source selling a large portion of its loans to Fannie Mae. However, after 1993, the number of loans reported as sold to Fannie Mae plummeted to zero, and loans "sold to others" increased substantially. We thought it would be important to find out why one of the largest lenders in the area had made such a dramatic change. We learned, however, that when 1st Source acquired Trustcorp in the mid-1990s, it adopted a policy of selling its loans to Trustcorp, which then bundled them together and sold them to Fannie Mae. We therefore recoded 1st Source loans that were listed as "Sold to others" as "Sold to Fannie Mae." Statewide, this had virtually no effect on our results, changing most of the key statistics by 0.1 or 0.2 percentage points at most. Within the South Bend and Elkhart-Goshen MSAs the effect was somewhat larger, changing some statistics by 2 to 3 percentage points. In particular, the differences between loans bought by the GSEs and not bought by the GSEs are 2 to 3 percentage points smaller in the county when this change is not made.

Bank of America, FSB. As noted before, HUD generously provided us with a list of subprime and manufactured housing lenders, as well as their ID numbers. Among these was Bank of America, FSB. We noticed, however, that in 1995, Bank of America FSB was not being coded as a subprime lender in our data, even though it was in 1996. Furthermore examination revealed that the lender changed its ID number between 1995 and 1996, perhaps because of some sort of corporate restructuring (BA-FSB of Oregon was replaced by BA-FSB of California). To make sure this was the same S&L, we compared lending patterns across years and found that the "old" BA-FSB behaved practically the same as the new one; for example, it made many of its loans to underserved markets and had exceptionally high denial rates. We therefore added the old ID number for BA-FSB to our list of subprime lenders and treated it accordingly. Failure to make this change would not have dramatically affected our results; the main effect would have been to create a curious spike in underserved market loans made by S&Ls in 1995.

Matching and Combining Data Sets

The use of multiple data sets requires that information from different sources be combined somehow. Fortunately, this is not that difficult (although the number and size of the data sets make it a time-consuming process). Matching generally involves the following information and data:

- Lender ID codes—In HMDA, the respondent ID and the agency code uniquely identify each lender. With this information, one can match the HMDA loan application records (detailed information on each loan application), transmittal sheets (one record for each lender, including name and address), and Expected Reporter Panels (which offer additional information about the legal structure of the lender and the lender's assets). The HUD list of subprime lenders also includes lender ID codes. HMDA records for those lenders were excluded from the analysis. The complete list of lenders and their ID numbers appears in exhibit A–2. As noted earlier, subprime lenders actually fall into two categories, B&C lenders and manufactured housing lenders.
- Area ID codes—State, MSA, county, and census tract. HMDA has all of these, making it possible to match HMDA data with area-specific information from other sources. With the GSE census tract file, one can compute the level and type of GSE activity in a census tract (such as the number and percent of GSE loans that went to first-time homebuyers), then merge that information with HMDA. HUD and HMDA make available annual estimates of median family income by MSA; these also can be merged with HMDA, making it possible to compute whether or not an applicant should be coded as low income.

Exhibit A–2

B&C and Manufactured Housing Lenders

ID Number	Lender Name	Type of Lender
95–4438859–7	Aames Capital Corporation	B&C
95–4601683–7	Aames Capital Corporation of M	B&C
95–2622032–7	Aames Funding Corporation	B&C
95–4362095–7	Aames Home Loan	B&C
95–2591924–7	Aames Home Loan of America	B&C
88–0303373–7	Aames Home Loan of Nevada	B&C
6502700005–7	Access Financial Lending Corporation	B&C
13–3237773–7	Advanta Mortgage Corporation–NE	B&C
23–2159309–7	Advanta Mortgage Corporation–Mid-Atlantic	B&C
23–2532654–7	Advanta Mortgage Corporation USA	B&C
23–2434974–7	Advanta Mortgage Corporation–Midwest	B&C
7083400004–7	Alliance Mortgage Banking Corporation	B&C
59–2645397–1	Altegra Credit Company	B&C
0541664826–7	Approved Residential Mortgage	B&C
0000765578–2	Banc One Financial Services	B&C
0000012416–4	Bank of America, FSB	Manufactured housing
0000008939–4	Bank of America, FSB	Manufactured housing
88–0331093–7	Belgravia Financial Services	Manufactured housing
7766600004–7	Beneficial Mortgage Corporation	B&C
22–2630964–7	Champion Mortgage Co.	B&C
0001035698–2	CIT Group–Consumer Finance, Inc.	Manufactured housing
0001999138–2	CIT Group–Consumer Finance, Inc.	Manufactured housing
0001035401–2	CIT Group/Sales Financing	Manufactured housing
7496500002–7	Cityscape Corporation	B&C
52–0278530–7	Commercial Credit Consumer Services	B&C
52–0278534–7	Commercial Credit Consumer Services	B&C
52–0278491–7	Commercial Credit Corporation	B&C
52–0278514–7	Commercial Credit Corporation	B&C
52–0278518–7	Commercial Credit Corporation	B&C
52–1264637–7	Commercial Credit Corporation	B&C
52–1690525–7	Commercial Credit Corporation	B&C
51–0372905–7	Commercial Credit of AL	B&C
52–0609364–7	Commercial Credit Plan	B&C
52–0278529–7	Commercial Credit Plan	B&C
52–0799008–7	Commercial Credit Loans, Inc.	B&C
52–1494782–7	Commercial Credit Loans, Inc.	B&C
52–1008409–7	Commercial Credit Plan, Inc.	B&C
52–0808447–7	Commercial Credit Plan, Inc.	B&C
7511600000–7	Contimortgage Corporation	B&C
7568500004–7	Custom Mortgage Inc.	B&C
7069000008–7	Delta Funding Corporation	B&C
56–1977469–7	Deutsche Financial Capital	Manufactured housing

Exhibit A–2 (continued)

B & C and Manufactured Housing Lenders

ID Number	Lender Name	Type of Lender
54–1779092–7	Dynex Financial, Inc.	B&C
59–3324910–7	Emergent Mortgage Corporation	B&C
0002036450–2	Equicredit Corp. of America	B&C
6473009998–7	First Franklin Financial Corporation	B&C
0000022559–1	First Union Home Equity Bank, NA	B&C
6500200040–7	Ford Consumer Finance Co., Inc.	B&C
0000025653–3	Fremont Investment & Loan	B&C
2294709990–7	Greentree Financial	Manufactured housing
7566600002–7	Greentree Financial Corporation	B&C
7568300002–7	Greentree Mortgage Company, LP	B&C
7053300004–7	Imperial Credit Industries, Inc.	B&C
7883200007–7	Independent National Mortgage	B&C
0000007946–4	Life Savings Bank, F.S.B.	B&C
7756600001–7	Long Beach Mortgage Company	B&C
6480209999–7	Master Financial Inc.	B&C
0002142959–2	Nationscredit Home Equity Service	B&C
7506600003–7	Oakwood Acceptance Corporation	Manufactured housing
0000008327–4	Oceanmark Bank	B&C
33–0536622–1	Option One Mortgage Corporation	B&C
0000027415–3	Pacific T&LC	B&C
6487409995–7	Quality Mortgage USA, Inc.	B&C
23–2772890–7	Residential Money Centers, Inc.	B&C
0000020589–3	Sanwa Bank, California	B&C
7650700000–7	Saxon Mortgage, Inc.	B&C
6469509992–7	South Pacific Financial Corporation	B&C
63–0570060–1	South Trust Mobile Services	Manufactured housing
7893400007–7	Southern Pacific Funding Corporation	B&C
4864400009–7	The Money Store	B&C
0951428083–7	Transamerica Financial Corporation	B&C
7261100005–7	Unicor Funding, Inc.	B&C
7434800003–7	United Companies Financial Corporation	B&C
4856500006–7	Vanderbilt Mortgage	Manufactured housing
7751500009–7	Walsh Securities	B&C
0000011905–4	Washington Mutual Bank FSB	Manufactured housing
0458600405–7	Weyerhaeser Mortgage Company	B&C

Sources: All information was provided by HUD, except for the second listing for Bank of America, FSB, which was added by the researchers of this report.