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Are the GSEs Leading, and if So Do They Have Any Followers?

An Analysis of the GSEs' Impact on Home Purchase Lending to

Underserved Markets During the 1990s.

Richard Williams and Carolyn Bond

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Final Report for HUD

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Are the GSEs Leading, and If So Do They Have Any Followers? An Analysis of the GSEs' Impact on Home Purchase Lending to Underserved Markets During the 1990s

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Abstract

Because of the significant benefits they receive, the Government Sponsored Enterprises (Fannie Mae and Freddie Mac) are expected to "lead the mortgage finance industry in making credit available for low- and moderate-income families." This study examines GSE leadership in two ways. First, are the GSEs doing relatively more of their business with underserved markets than are financial institutions that do not enjoy the GSEs' special privileges and benefits? Second, does the GSEs' leadership help narrow the gap in home mortgage lending that exists between served and underserved markets? Using HMDA and GSE data sets, we conduct descriptive and multivariate analyses of nationwide lending between 1993 and 2000. We conclude that the GSEs are not leading – but they are not as far behind as they have been. They do not purchase relatively more underserved market loans than the primary market makes. Many of the gains they have made may have come from the purchase of loans that have limited impact on underserved markets. But, there have been signs of progress. In 1999 and 2000, GSE purchases of underserved market loans significantly increased. A very low income went from being the greatest barrier to GSE purchase in 1993-1998 to being almost no barrier at all in 1999-2000. The lenders who do the most business with the GSEs made relatively more loans to underserved markets in 1999-2000 than they had been earlier. Nonetheless, by the year 2000 there continued to be significant racial, economic, and geographic disparities in the distribution of GSE benefits.

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Executive Summary

Chapter I: Conceptual Overview and Study Design

- The Government Sponsored Enterprises (Fannie Mae and Freddie Mac) are privately owned, for-profit corporations. But, because they receive significant government benefits, they are expected, indeed mandated, to "lead the mortgage finance industry in making credit available for low- and moderate-income families" (Lind, 1996a).
- Historically, most studies show that the GSEs have not led the market. Not surprisingly, the GSEs disagree. Recent empirical studies have provided mixed results.
- Conflicting claims and findings concerning the GSEs may reflect differing definitions of "leadership" and differing methodologies for assessing performance. The Government Accounting Office said in 1998 that HUD defined the term "lead the industry" to mean that the enterprises should provide technical and financial assistance to mortgage lenders to encourage additional mortgage lending to targeted borrowers. The GAO concluded that HUD's interpretation of the term "leading the industry" had not required the GSEs to substantially increase their targeted mortgage purchases.
- In 2000, HUD itself said that "Obviously, the GSEs are not leading the industry in financing units that qualify for the housing goals" and that "A wide variety of quantitative and qualitative indicators demonstrate that the GSEs have ample, indeed robust, financial strength to improve their affordable lending performance."
- Given the billions of dollars in federal benefits that Fannie Mae and Freddie Mac receive, given that current goals have been easy to meet, given that there is no evidence that higher standards would necessarily endanger the financial soundness of the GSEs, and given the benefits of promoting greater rates of homeownership in underserved markets, we think it is relevant to examine whether the GSEs are "leading the market" in another, and we think more intuitive sense: namely, are the GSEs doing relatively more of their business with underserved markets than are other types of financial institutions that do not enjoy the GSEs' special privileges and benefits?
- However, even this definition may not be totally adequate for capturing what should be meant by "leadership." Implicit in this definition – and for that matter, in the goals that HUD set in 1995, and the higher goals HUD adopted in 2000 – is that more GSE purchases of underserved market loans will result in more such loans being made. This assumption is certainly reasonable. A primary market lender may be unwilling or unable to make a loan unless some other entity is willing to buy it. *Nevertheless, the assumption is not necessarily correct*. The GSEs could increase their purchases of underserved market loans without

causing more such loans to be made. GSE purchases could shift the ownership of underserved market loans around without necessarily increasing their number. Or, the types of purchases GSEs make may be ineffective in stimulating new lending.

- We therefore argue that leadership should also be assessed in a second way: Namely, does the GSEs' "leadership" encourage primary market activity that narrows the gaps in home mortgage lending that exist between served and underserved markets? Do they influence primary market lenders to make more loans to underserved markets than they would otherwise? Or, do the GSEs' activities simply cause the ownership of underserved market loans to get redistributed?

- Five types of underserved markets are examined in this study: Very low income families, low income families in low to moderate income areas, targeted (underserved) areas, Blacks, and Hispanics.

- The period 1993-2000 is studied. Home Mortgage Disclosure Act for metropolitan areas is examined. The Public Use Data Base that HUD compiles from GSE data (File B) is also employed for analyses of the entire nation. Separate analyses are done that include and exclude loans from subprime and manufactured housing lenders.

- Several factors affect the primary and secondary mortgage markets, many of which cannot be measured with the data used here. We therefore do not claim that any single piece of analysis can provide definitive proof one way or the other of GSE leadership. Rather, we employ a variety of analytic techniques. We ask, if the GSEs are leading, how is this manifested in the real world? While there may be alternative explanations for any single finding, the body of evidence as a whole should at least provide suggestive evidence.

- In Chapter II, we profile nationwide lending trends between 1993 and 2000. We compare the underserved market performance of the two GSEs with the primary market, other secondary market lenders, and with each other. In chapter III, we examine the factors that contributed to whatever progress the GSEs made. We look at the changing sources and characteristics of their loans, and we examine whether the determinants of their purchases changed in ways that were favorable or unfavorable to underserved markets. In chapter IV, we conduct multivariate analyses to see whether the GSEs appeared to encourage or discourage underserved market lending by the primary market lenders they did the most business with. In our fifth and final chapter, we offer our conclusions concerning what these analyses tell us about GSE leadership during the 1990s.

Chapter II: Nationwide Trends in Underserved Market Lending, 1993-2000

- Underserved markets received more loans from traditional lenders in 2000 than in 1993. But, between 1993 and 2000, most borrowers from underserved markets did not experience any consistent gains or declines in terms of their share of primary market loans from traditional lenders or GSE purchases.

- Similarly, between 1993 and 1998 there was no consistent pattern of the GSEs either gaining ground or losing ground relative to the primary market. However, the trends for the two most recent years, 1999 and 2000, were positive, with underserved markets making gains among traditional primary market lenders and even greater gains in GSE purchases.

- The mixed record with traditional lenders, however, disguises the gains that underserved markets made thanks to subprime and manufactured housing lenders, whom the GSEs do very little business with. Once these lenders are considered, underserved markets made steady and clear gains.

- Very low-income borrowers constitute the one group that has made consistent progress during the 1990s, among both traditional primary market lenders and the GSEs. Their share of all traditional primary market loans increased from 10.93% in 1993-1996 to 11.99% in 1997-2000. Their share of GSE purchases improved even more, rising from 8.15% of all purchases in 1993-1996 to 10.32% in 1997-2000.

- Most measures from both HMDA and the GSEs' own data indicate that the GSEs have never been "leading the market." The percentage of loans they purchase from underserved markets has almost always been lower than the percentage of such loans that were made in the primary market. Indeed, the gap between the GSEs and the primary market has actually increased when subprime and manufactured housing loans are considered.

- The GSEs have also consistently trailed behind their secondary market competitors. Underserved market loans that others were willing to buy or hold in portfolio included types of loans that the GSEs were either unwilling or unable to purchase.

- There are, however, indications that GSE performance has recently improved, and that it may have even occasionally matched or surpassed the performance of traditional primary market lenders. The GSEs made greater gains in 1999-2000 than did traditional primary market lenders. The Public Use GSE data suggests that their nationwide Final Rule underserved market performance was much stronger in 1998 than it had been in earlier years (although the data also indicates that this was an atypical year for them). The GSEs also made gains against their secondary market competitors between 1998 and 2000, and in 2000 they actually had a very slight lead with very low income borrowers.

- A factor contributing to GSE gains has been the improvement in Freddie Mac's underserved market performance. For much of the decade, Freddie Mac trailed Fannie Mae in most underserved markets. However, by 2000, Freddie was close to parity with Fannie Mae in most categories and actually had slight leads in a few others. The fact that Freddie Mac disproportionately contributed to GSE overall gains does not, of course, mean that Freddie Mac has outperformed Fannie Mae; rather, it just means that Freddie has narrowed or eliminated the gaps that existed in the past.

Chapter III: Secrets of Success

- Part of the GSEs' improvements in underserved market lending during the 1990s was due to their turning to different types of sources for their loans. Loans from Other Sellers were historically more likely to come from underserved markets. But, since the GSEs purchased so few of these (about 2% of the GSEs' overall total) they had little impact on the GSEs' overall performance.

- This changed dramatically in 1998, when Other Sellers accounted for more than 10% of the GSEs' overall business and as much as a fourth of their underserved market loans. However, the impact was short-lived. By 2000 the GSEs were purchasing substantially fewer loans from Other Sellers, and the loans they did purchase were much less likely to come from underserved markets than they had been in the past.

- As reported in the Public Use GSE data, seasoned loans have been a less dramatic but more consistent source of the GSEs' progress since the Final Rule was adopted. Before 1997, seasoned loans were sometimes more likely to come from underserved markets, and sometimes not. Since 1997, seasoned loans have had a modest but fairly consistent positive impact on the GSEs' gains in underserved markets. The trends show that an increasing proportion of the GSEs' underserved market loans were made in years other than when they were purchased. This has helped to raise the overall percentage of underserved market loans held by the GSEs.

- Besides turning to new sources of loans and seasoned loans, another way the GSEs could have achieved success would have been by purchasing more underserved market loans from existing sources. But, for most underserved markets, there was little change between 1993-1998 and 1999-2000 in the likelihood that the GSEs would purchase a loan from that market.

- However, underserved markets did make clear gains in one key area. Having a very low income went from being the greatest obstacle to the GSEs purchasing a loan in 1993-1998 to being almost no obstacle at all in 1999-2000. Unmeasured variables unrelated to anything the GSEs did, such as improved credit scores, might account for this. However, more flexible GSE underwriting guidelines and the implementation of programs aimed at very low income borrowers are also plausible explanations for the improvements that occurred.

Chapter IV: GSE Influence on Lenders

- Williams and Nesiba examined how characteristics of lenders were related to their underserved market performance. We expand their models to consider another type of lender characteristic: the amount of business a lender does with the GSEs.

- We hypothesize that, after controlling for other characteristics of lenders that may also affect their performance, those lenders who do the most business with the GSEs should also be the lenders that are most influenced by GSE policies and programs. If GSE policies and programs are beneficial to underserved markets, then the lenders who do the most business with the GSEs should be the lenders who make the most loans to underserved markets.

- We find that, between 1993-2000, just the opposite is almost always true: the more of its conventional home purchase loans a lender sells to the GSEs, the fewer of its loans go to underserved markets.

- But, for every underserved market, this negative effect of the GSEs is significantly smaller in 1999-2000 than it was in 1993-1998. Further, for very low income borrowers, the GSE effect is actually slightly positive in 1999-2000: the more of its loans a lender sells to the GSEs, the more likely it is to make loans to very low income borrowers.

- The exclusion of other relevant variables that can affect lenders means that these results must be treated with caution. Factors unrelated to anything the GSEs did could account for these findings. Nonetheless, one possible explanation for the improved performance of lenders across time is that GSE policies and programs became more beneficial (or at least less harmful) to underserved markets than they had been in the past.

Chapter V: Are the GSEs Leading?

- This report asks the question, "Are the GSEs Leading the Market?" Based on the evidence, we conclude, no, they are not – but they aren't as far behind as they have been.

- The GSEs clearly fail to meet our first criterion for leadership. They do not purchase relatively more underserved market loans than the primary market makes. They do not even purchase as many of these loans as do their secondary market competitors. The disparities between the GSEs and the primary market are even greater once the growing role of subprime and manufactured housing is considered.

- In addition, it is important to keep in mind how the GSEs have achieved their gains. As reported in their own data, some of their success has come from the purchases of loans from sellers other than lenders, e.g. investment funds. We do not know what these Other Sellers do with the proceeds from their sales, but it seems reasonable to assume that they will be less likely to reinvest in the home mortgage market than will lenders. In any event, whatever the effect of buying loans from Other Sellers is, it appears to have been short-lived and largely limited to 1998.

- GSEs have also made gains by purchasing seasoned loans from underserved markets. This helps to provide new resources for primary market lending. But again, it seems reasonable to question whether these purchases will be as beneficial to underserved markets as the purchase of same-year loans. By buying seasoned loans, the GSEs are buying the least risky loans from underserved markets. Before making a loan, primary market lenders must consider whether they are willing to assume risk until a loan eventually meets GSE standards for purchase.

- Other studies also suggest that the GSEs are purchasing the least risky and least underserved loans from underserved markets. For example, Bunce (2002) notes that low-income borrower loans purchased by the GSEs are dominated by loans with high down payments.

- But, there have been signs of progress, particularly in 1999 and 2000. In those years, primary market lending to underserved markets increased and GSE purchases of underserved market loans increased even faster. A very low income went from being the greatest barrier to GSE purchase in 1993-1998 to being almost no barrier at all in 1999-2000. The lenders who do the most business with the GSEs made relatively more loans to underserved markets in 1999-2000 than they had been earlier. There are many possible explanations for these changes, such as improved credit scores and other variables not measured in these data. But, greater GSE flexibility in underwriting guidelines and the implementation of GSE programs targeted at underserved markets are also plausible explanations.

- The fact that the GSEs have made gains, however, should not cause us to lose sight of the fact that there continue to be significant racial, economic, and geographic disparities in the way that the benefits of GSE activities are distributed. The fact that this may be less true than it was in the past does not mean that the GSEs have done everything that should be expected of them. By 2000, underserved market loans that other secondary market lenders were willing to purchase and that primary market lenders were willing to hold in portfolio included types of loans that the GSEs were unwilling or unable to purchase. Hence, the benefits of GSE activities still go disproportionately to members of served rather than underserved markets. Policy makers should monitor whether GSE progress continues. More critically, they should continue to ask the following: Given the significant benefits the GSEs receive, are they doing enough for underserved markets?

Chapter I: Conceptual Overview and Study Design

The history of racial, ethnic and geographic inequality in American homeownership has been well documented (Massey and Denton, 1993). Recently, however, there have been signs of apparent progress. A study by HUD (Bunce, 2002) notes that African-American borrowers received 122% more conventional home purchase loans in 2000 than they had in 1993. Similarly, there was a 147% increase in lending to Hispanics, a 97% increase in loans to low-income borrowers, and a 113% increase in loans to low-income census tracts. By way of contrast, the number of conventional home purchase loans to whites was only 35% higher in 2000 than in 1993. While whites continue to be far more likely than Blacks and Hispanics to own their own homes (HUD, 1999), the gains of the 1990s are striking.

Several explanations have been offered for these improvements. Some have pointed to the Community Reinvestment Act (CRA), which requires commercial banks and savings and loans to serve the entire community in which they do business (Schwartz, 1998). Others have pointed to the rise of subprime and manufactured housing lenders, who focus on markets that have often been ignored by others (Williams, McConnell and Nesiba, 2001). Still others have noted the effect of the strong economy, which has made it possible for many to accumulate the resources required for home ownership (HUD, 2000A).

In this particular study, we will focus on a fourth possible cause of these improvements: the activities of the secondary mortgage market, and, in particular, the Government Sponsored Enterprises (GSEs) who dominate it. The 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 "lead the mortgage finance industry in making credit available for low- and moderate-income families" (Lind, 1996a).

Historically, most studies show that the GSEs have not led the market. Drawing on work from Canner and colleagues (1996), Blalock (1996) observes that GSEs take no more risks with loans to low income or minority homebuyers than do private companies. Likewise, Lind (1996a) finds that, for most types of underserved markets, the GSEs are not leading the home mortgage industry. Manchester and colleagues (1998) found that between 1992-1995 GSE-related gains in home ownership opportunities to low income and minority households were modest. In testimony before Congress, HUD's Ira G. Peppercorn (Peppercorn, 1998) noted that only a small portion of the GSEs' 1997 purchases supported minorities, and that in 1996 the GSEs lagged behind commercial banks in funding affordable housing loans for very-low income borrowers and underserved neighborhoods. Peppercorn further noted that, between the GSEs, FHA, depositories and private mortgage insurers, Fannie Mae and Freddie Mac together provided only 4-5 percent of the credit support for lower-income and minority borrowers and their neighborhoods. Williams and colleagues (2001) found that, in Indiana during 1992-1996, rather than leading the market, GSE performance for conventional home purchase lending to underserved markets almost perfectly mirrored that of mortgage companies, the primary market lenders that consistently trailed the rest.

Not surprisingly, the GSEs disagree. For example, Franklin Raines (2000), CEO of Fannie Mae, asserts that Fannie Mae has helped to break down the barriers to homeownership. During the 1990s, Fannie Mae pledged to do a trillion dollars in business with underserved markets, launched the largest home buyer information and education campaign in corporate history, initiated a series of low down payment mortgage products, and worked with the NAACP and others to develop unique mortgage financing products to reach underserved markets. Raines claims that, as a result, Fannie Mae leads the market in minority lending.

A study by Lind (2000) suggests that GSE performance may indeed have improved in recent years. Lind looks at the GSEs' nationwide performance relative to primary market lenders during the years 1996-1998. Among other things, Lind (p. 14) finds that

> The GSEs had achieved or exceeded the primary market levels through their overall purchases in 1998 in the categories of concern of borrower-income and tract-income categories. Both GSEs were slightly below but within 5% of the primary market for loans to Black borrowers. For loans to Hispanic borrowers, Fannie Mae had exceeded the primary market level for loans to Hispanic borrowers in all three years, while Freddie Mac was at about 10% below that level in 1998.

A recent study from HUD (Bunce, 2002, Abstract), however, argues that,

> …while both GSEs improved their affordable lending performance during the 1990s, they continued in the year 2000 to underperform the conventional conforming market in funding mortgages for lower-income borrowers and for properties located in low-income and high-minority census tracts (i.e., underserved areas).

Conflicting claims and findings concerning the GSEs may reflect differing definitions of "leadership" and differing methodologies for assessing performance. In this study we offer multiple definitions for leadership and clearly define the methodology by which leadership is assessed. We then answer the following questions:

- Did GSE performance in underserved markets improve during the 1990s? Did it improve so much that the GSEs can now be said to be "leading the market?"
- If the GSEs did improve, how did they achieve their success?
- Is their success making any difference? That is, is lending to underserved markets increasing as a result of the GSEs' actions? Are disparities in home mortgage lending between served and underserved markets diminishing as a result of the GSEs' activities?

This latter question is particularly critical and also the most difficult to answer. Studies which evaluate the GSEs by looking at the amount of their business that comes from underserved markets, and government policies which mandate that GSEs meet certain goals with regard to underserved markets, all share a common, implicit assumption: namely, that if the GSEs buy more loans from underserved markets, more such loans will get made. This assumption is certainly reasonable, *but it may or may not be correct.* For example, it could be that increased GSE purchases of underserved market loans results in their ownership being redistributed without any more such loans being made. Or, it might be that GSE purchases are done in such a way that they are ineffective in encouraging more loans (e.g. the purchasing of seasoned loans may not have as much of an effect as the purchasing of non-seasoned loans). Or, increased efforts by the GSEs to promote home ownership in underserved markets could be accompanied by a lessening of the efforts made by others. If the GSEs make it easier for primary market lenders to meet their own legal obligations to underserved markets, they may feel less incentive to come up with programs of their own. Finally, even if the GSEs are benefiting borrowers, those benefits could go disproportionately to members of served rather than underserved markets. If so, the GSEs would be widening the gaps between served and underserved markets, rather than narrowing them.

This study therefore argues that the leadership of the GSEs needs to be evaluated in two ways. First, are the GSEs "leading the market" in the sense that they do as much or more business with underserved markets as do other types of lending entities? Second, and even more critically, do the GSEs lead in the sense that their activities narrow the gap between served and underserved markets? To put the question another way, if the GSEs are leaders, is anybody following them?

In the remainder of this section, we justify our rationale for these definitions of "leading the market." We then outline the analytical strategy that will help us determine whether the GSEs are providing this leadership.

Leading the Market[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 raise mortgage funds from deposits and, increasingly, by selling their loans on the secondary market. By way of contrast, nondepository lenders also originate loans, but they almost always sell them immediately. They make their money from fees for originating and servicing mortgages.

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.

It is important to realize that the primary and secondary markets are interdependent. While primary market lenders make the loans, the policies and underwriting guidelines of secondary market lenders can have a major influence on their decisions. As Canner and his colleagues (1996) point out,

> …the 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.

Hence, if the secondary market will not buy a loan, the primary market may be unwilling or unable to take the risk of making it. Lenders who wish or need to sell their loans must be careful that they meet the standards of the secondary market.

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 Government

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[1] Part of this discussion is adapted from Williams, McConnell, and Nesiba (2001). For additional details on the American housing finance system, see Freddie Mac (1995, 1996), Canner et al (1996), and Weicher (1994).

Sponsored Enterprises (GSEs) – the Federal National Mortgage Association and the Federal Home Loan Mortgage Corporation, more commonly known as Fannie Mae and Freddie Mac. The GSEs are stockholder-owned, for-profit entities. But, Congress established them with the public purposes of providing stability in the secondary market for residential mortgages, responding appropriately to the private capital market, providing ongoing assistance to the secondary market (including activities related to mortgages on housing for low- and moderate-income families) and promoting access to mortgage credit throughout the Nation. Toward that end, they were given both special restrictions and privileges. As we elaborate later, these benefits are estimated to be worth billions of dollars a year to the GSEs (Congressional Budget Office, 1996; O'Neill, 1998; Crippen, 2001).

Research on the secondary market, and on GSEs in particular, has, at least until recently, been limited. This is no doubt because so little data has been available, and because the secondary market has only recently grown in importance. However, this inattention may also reflect a lack of clarity as to how the GSEs should be evaluated, and why. Hence, it will be helpful to begin by understanding why Congress mandated in 1992 that the GSEs should "lead the mortgage finance industry in making credit available for low- and moderate-income families" (Lind, 1996a). We will also consider what that mandate does (and what it arguably should) mean in practice.

As noted before, if the secondary market will not buy a loan, the primary market may be unwilling to make it. Thus, to encourage and promote homeownership, Congress gave the GSEs several special privileges. They are exempt from 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. Treasury. As June E. O'Neill, Director of the Congressional Budget Office (1998) points out, these privileges, particularly those pertaining to credit, have great value to the GSEs. Investors perceive that the government would, if necessary, act to prevent the GSEs from defaulting on their obligations. This enables the GSEs to borrow at lower interest rates than could comparable private firms. As O'Neill further points out, the benefits received by the GSEs could otherwise be sold to private investors and the proceeds used to finance other government programs. That is, while the government does not provide direct cash benefits to the GSEs, it foregoes income that could be used for other purposes. Counter to claims that GSE benefits cost the government nothing, O'Neill argues that the costs of subsidizing the GSEs are as real as the costs that would be incurred if the government gave away free permits to harvest timber in national forests.

To estimate the value of these subsidies, the Congressional Budget Office (CBO, 1996) compared the yields of debt and mortgage-backed securities issued by the GSEs with the yields of similar obligations issued by private firms. The CBO estimated that the GSEs received benefits worth at least $6.5 billion in 1995. Two-thirds of this subsidy was passed on to consumers in the form of lower mortgage rates, but the other third ($2.1 billion) was retained by the GSEs. The retained federal subsidy accounted for more than 40 percent of the pre- and post-tax earnings of the GSEs in 1995. A more recent CBO study (Crippen, 2001) puts the value of the GSE benefits even higher, at $13.6 billion, $3.9 billion of which was retained by the GSEs.

Given these substantial federal benefits, it is not surprising that, since 1968, Fannie Mae has been required to have a reasonable portion of its mortgage purchases serve low- and moderate-income families (US GAO, July 1998). However, when Congress reviewed the performance of the GSEs in 1992, it concluded that their mortgage purchase activities were not adequately serving low- and moderate-income and minority borrowers. Congress further concluded that, because of the financial benefits the GSEs enjoyed from their federal charters, they have a public responsibility to reach out to targeted borrowers. Hence, Congress mandated that GSEs should "lead the market" in financing the mortgages of targeted groups (US GAO, July 28, 1998). However, Congress did NOT define exactly what this meant or how it was to be achieved. It was left to the HUD Secretary to set final housing goals towards this end. Further, HUD was also directed to come up with goals that maintained the enterprises' financial soundness.

A study by the General Accounting Office (US GAO, July 28, 1998) examined how HUD had responded to its Congressional directives. HUD did impose higher affordable housing goals on the GSEs, goals that the GSEs have subsequently met. However, the GAO concluded that the HUD secretary had adopted a conservative approach to setting housing goals for 1996 through 1999, placing a high priority on maintaining the GSEs' financial soundness. The GAO study noted that HUD had set goals that were below HUD's estimates of targeted mortgage lending that was already occurring in the primary mortgage market. Further, June O'Neill from the Congressional Budget Office (1998) argued that the goals set for the GSEs were not difficult to achieve, and it was not clear how they had affected the GSEs' actions.

How, then, was compliance with such modest goals deemed to be consistent with the Congressional mandate that GSEs should "lead the market?" In testimony before Congress, Nancy Kingsbury of the GAO (Kingsbury, July 30, 1998) stated that

> HUD defined the term "lead the industry" to mean that the enterprises should provide technical and financial assistance to mortgage lenders to encourage additional mortgage lending to targeted borrowers, rather than adopting alternative definitions that could have required the enterprises to substantially increase their targeted mortgage purchases.

The GSEs have met the goals set for them by HUD. However, whether this truly constitutes "leading the market" is, we think, highly debatable. Claims that affordable housing goals need to be low to maintain the financial soundness of the GSEs seem suspect. Certainly, the current goals do not seem to be excessively burdening the GSEs, as both Fannie Mae and Freddie Mac have reported record profits (Associated Press Online, 1/13/2000, 1/18/2000). As the GAO study (US GAO, July 28, 1998) noted, HUD did not assess the potential financial consequences for the GSEs of housing goals higher than those that were established.

HUD's own recent analysis (HUD, 2000B) concurs that the GSEs have not been doing enough for underserved markets. In proposing new and higher standards for the GSEs that were adopted in 2000, HUD said that "…the GSEs play a much smaller role in the goals-qualifying markets than they do in the overall market… Obviously, the GSEs are not leading the industry in financing units that qualify for the housing goals." (HUD 2000b, p. 65126.) HUD further argued that

> A wide variety of quantitative and qualitative indicators demonstrate that the GSEs have ample, indeed robust, financial strength to improve their affordable lending performance. For example, the combined net income of the GSEs has risen steadily over the last decade, from $677 million in 1987 to over six billion dollars in 1999. This financial strength provides the GSEs with the

resources to lead the industry in making mortgage financing available for families and neighborhoods targeted by the housing goals. (p. 65054)

Given the billions of dollars in federal benefits that Fannie Mae and Freddie Mac receive, given that current goals have been easy to meet, given that there is no evidence that higher standards would necessarily endanger the financial soundness of the GSEs, and given the benefits of promoting greater rates of homeownership in underserved markets, we think it is relevant to examine whether the GSEs are "leading the market" in another, and we think more intuitive sense: namely, are the GSEs doing relatively more of their business with underserved markets than are other types of financial institutions that do not enjoy the GSEs' special privileges and benefits? [2]

The above definition of "leading the market" seems to have been used, either implicitly or explicitly, in a variety of studies evaluating GSE performance (e.g. Williams et al, 2001; Lind, 2000). Further, some of the GSE's own statements suggest that they may be defining leadership in much the same way. In response to studies critical of the GSEs, Barry Zigas (Inside Mortgage Finance, 12/17/99), senior vice president and executive director of Fannie Mae's national housing impact division, stated that the GSE has "consistently" led the market in owner-occupied purchase mortgage business in metro markets. To prove his point, he claimed that, in 1998, 39.4 percent of the overall market qualified for HUD's affordable housing targets, compared to 41.3 percent of Fannie Mae's business.

Regardless of how widely used, even this definition may not be totally adequate for capturing what should be meant by "leadership." Implicit in this definition – and for that matter, in the goals that HUD set in 1995, and the higher goals HUD adopted in 2000 – is that more GSE purchases of underserved market loans will result in more such loans being made. This assumption is certainly reasonable. As noted before, a primary market lender may be unwilling or unable to make a loan unless some other entity is willing to buy it. *Nevertheless, the assumption is not necessarily correct*. The GSEs could increase their purchases of underserved market loans without causing more such loans to be made. There are various ways in which this might happen.

First, spurred by the congressional mandate to "lead the market" or by other factors, the GSEs may be purchasing underserved market loans that otherwise would have been bought by other entities in the secondary market or else held in portfolio by primary market lenders. This could shift the ownership of such loans around without necessarily increasing their number. For example, as Lind (2000) notes, in 1998, for the first time ever, the GSEs purchased significant

[2] A recent study by Ambrose, Thibodeau and Temkin (2002) suggests a further rationale for focusing on GSE purchases of underserved market loans. Ambrose et al explicitly state that they are not addressing the controversy over whether or not the GSEs are "leading the market," but they do examine the conditions under which GSE purchases affect underserved markets. They find (p. 61) that "While the statistical results are weak, they provide some indication that *only* GSE purchases of low- and moderate-income loans reduce the spread between rates of homeownership for all households and for low- and moderate-income households. GSE purchases of non-low- and moderate-income loans have no influence on the homeownership rate of low- and moderate-income households, over and above the influence that these purchases have on homeownership rates for all households." [Emphasis added.]

numbers of loans from non-HMDA sources (e.g. insurance companies, investment banks, finance companies, housing finance agencies, etc.) which were not included in the HMDA primary market database. The international financial crisis of Southeast Asia and Russia forced these entities to sell assets. According to Lind, the GSE purchases provided needed liquidity at a critical point in time. But, while the GSEs may have provided a valuable service with their purchases, whether or not this reshuffling of ownership resulted in more loans to underserved markets is unclear.

Second, GSE purchases of underserved market loans may or may not be effective in stimulating new lending. For example, the GSEs might purchase "seasoned" loans from underserved markets. These are loans made in previous years, where borrowers have established that they are capable of reliably making payments. Knowing that the GSEs might be willing to purchase a loan in a few years may not provide enough incentive for a primary market lender to make that loan now.

Third, GSE willingness to buy underserved market loans may make it easier for commercial banks and savings and loans to meet their legal obligations under the Community Reinvestment Act. These lenders might then have less incentive to make additional efforts on their own, such as lower interest loans, easier down payment requirements, and more flexible underwriting criteria. That is, increased efforts by the GSEs to foster lending to underserved markets could be accompanied by less effort and innovation on the part of primary market lenders.

In short, discussions of "leading the market" should assess leadership in at least two ways. First, are the GSEs doing as much or more of their business with underserved markets as are other lending entities that do not enjoy the GSEs' special benefits? As we will see, this type of leadership is fairly easy to assess. But second, and even more critically, does the GSEs' "leadership" encourage primary market activity that narrows the gaps in home mortgage lending that exist between served and underserved markets? Because of the many factors that can affect home mortgage lending, this type of leadership is much more difficult to assess, but we will later outline a number of analyses which we think can shed insight into this matter.

Study design /Methods and data

This section describes the data, methods and variables used in this report.

Types of Underserved Markets

The December 1995 Final Rule (Federal Register No. 60 pages 61846-62005) laid out goals for GSE lending with regards to owner-occupied housing for three types of underserved markets[3]:

1. Very low income families – income is not in excess of 60 percent of area median income;

[3] Our past research (Williams et al, 2001) found that lending patterns and trends for one of the underserved markets were often similar for the others. Hence, we combined the following into a single category we 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, was considered a member of a Final Rule Underserved Market. Our current national analysis finds greater variation across time and markets so we have decided not to use this summary measure.

2. Low income families in low to moderate income areas – family income is not in excess of 80 percent of area median income; and the median income of the census tract does not exceed 80 percent of the area median income;

3. Targeted (or underserved) areas – central cities, rural areas, and other underserved areas. More specifically, 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[4].

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:

4. Blacks – the definition of which is not straightforward. We define a loan application as "Black" if the applicant is black and the co-applicant (if any) is not white[5].

5. Hispanic – similar to Blacks, we define a loan application as "Hispanic" if the applicant is Hispanic and the co-applicant (if any) is not white.

Data

Several data sets will be used in this analysis. Following are key highlights:

1. Data are used for the years 1993-2000. Nineteen-ninety-three is the first year for which the GSE Public Use Data bases (described below) are available. In addition, the coverage of the HMDA data was greatly improved in 1993 when additional lenders were required to file for the first time. The time period covered is also appropriate because it allows us to see what effect, if any, the passage of the Final Rule in December 1995 had on GSE performance.

2. The HMDA loan application registers are one of the two main data sets used. Starting in 1990, most lenders were required to provide information on every home mortgage application they received from metropolitan areas. The information included the type of loan (conventional, FHA or VA), the requested amount, the final disposition of the application (e.g., 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 (e.g. not sold, sold to Fannie Mae or Freddie Mac, or sold somewhere else). The HMDA data also include key

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[4] In metropolitan areas the definition is based on census tracts but in rural areas the definition of underserved 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 the State nonmetropoitan 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.

[5] Previous analyses of ours have shown that, with regards to denial rates and other important factors, "joint" applications (black and white co-applicants) are much more similar to "white" applications (both applicants white) than they are to "black" applications (black applicant and black or other minority co-applicant). Our decision to code race in this way is also influenced by a desire to make results from the HMDA and GSE data sets as comparable as possible. As explained below, GSE File B limits the ways in which race and national origin variables can be operationalized.

information on census tracts, making it possible to determine whether a neighborhood is low-income or minority. HMDA is primarily a metropolitan data set and has limited usefulness for studying non-metropolitan areas (Scheessele, 1998), hence analyses using HMDA will be limited to MSAs.

3. The other main data set used is the GSE PUDB File B. The GSEs have been providing HUD with loan-level data on each of their mortgage transactions since the beginning of 1993. This data has several strengths but also has major weaknesses that limit its usefulness.

- The GSE data sets include a few key pieces of information not otherwise available from HMDA. These include additional information on sellers of loans as well as information on whether the loan was purchased in the same year in which it was originated.

- For proprietary reasons, the GSE data sets are divided into three unlinkable data sets. Only one of the GSE PUDBs, the Census Tract file, has information that makes it possible to distinguish between metropolitan and non-metropolitan loans[6]. Unfortunately, the Census tract file does not make the critical distinction between home purchase and refinance loans, which makes it inappropriate for our purposes. Hence, analysis using the GSE PUDBs (specifically File B) will have to be for the entire nation rather than metropolitan areas alone. Luckily, HUD, which has access to less restricted versions of the GSE data, has recently released tables describing GSE activity in metropolitan areas. Two of these tables are reproduced in Appendix A.

- The GSE data sometimes lack key variables that are available in HMDA. For example, HMDA includes information on the race and national origins of both the applicant and co-applicant (if any). This allows the concept of race to be operationalized in various ways. For example, the race of the application can be defined based on the race of the primary applicant only, or it can be defined based on the race of both applicants (e.g. if either applicant is black, the entire application can be coded as black.) GSE File B, on the other hand, offers only a single race and national origins variable for both applicants. One of the categories of this variable is "Borrower/co-borrower of different race/national origin." When purchases are so coded, it is impossible to tell whether either co-applicant was Black or Hispanic. Also, the GSE data sets do not include information on targeted tracts before 1996, and since file B does not include census tracts that information cannot be added like it can be with HMDA.

- Both the HMDA and GSE data sets have some missing data on race, income, and other variables. In general, we deleted cases with missing data. Based on published reports, we believe our handling of missing data is similar to HUD's (e.g. see Bunce 2002), and, where our analyses overlap, our estimates are generally quite consistent with HUD's. We note, however, that there are a few major inconsistencies in how Fannie Mae and Freddie

[6] These regional limitations of the GSE data are in marked contrast to the HMDA data, which have often been used by citizen groups to assess the performance of lenders in their communities. Given that HMDA provides similar but supposedly flawed data compared to that provided by the GSEs, we find it puzzling that Fannie Mae and Freddie Mac data cannot be released by HUD in a more usable form that would presumably make it possible for others to validate claims that the GSEs are "leading the market."

Mac handle missing data in the data that they provide which HUD releases in PUDB File B. For example, on one key income variable, "affordability category" (field 15 in File B), Freddie Mac reports that income data are "Not Available" for almost 90% of its purchases. Fannie Mae, on the other hand, reports that 81% of its purchases are "Other" (i.e. are not from low income borrowers) while data are "Not Available" for another 8%. Apparently, Fannie Mae distinguishes between cases where data are missing and cases where the loan did not fall into an underserved market category. Freddie Mac, on the other hand, combines these two and codes them all as "Not Available." Since Freddie Mac's coding makes it impossible to distinguish between cases that are missing data on income and cases whose income does not place them into an underserved market, we treated all cases coded as "Not Available" as NOT being low or very low income. Assuming that, like Fannie, the true number of "Not Available" cases for both GSEs is around 8%, including these cases produces slightly lower estimates of underserved market lending than would occur if those cases were excluded from the calculations.

- The GSEs have been critical of studies that relied on HMDA rather than GSE data to assess GSE performance (Inside Mortgage Finance, 12/17/1999). Given the severe limitations of the GSEs' own data, it is not surprising that more researchers have not made use of it. Luckily, various studies by HUD (Bunce, 2002; Bunce and Scheessele, 1996) have found that, nationwide, both GSE-based and HMDA-based reports of GSE activity tend to give similar results. Similarly, in our previous study of Indiana (Williams, et al, 2001) we found that in most cases differences between the HMDA and GSE data sets were small and tended to offset each other across time. Indeed, when we changed our sample selection criteria to make the HMDA and GSE data sets as comparable as possible, HMDA showed 20.3% of GSE purchases coming from underserved markets, while the GSEs' own data showed 20.4%. Further, for some underserved markets, such as blacks, the small HMDA biases that did exist were often in the GSE's favor. The appendix of Williams et al (2001) elaborates further.

4. HUD has compiled lists of lenders specializing in subprime lending and manufactured housing loans. Using these lists, we will either exclude such lenders from our analyses, or explicitly consider their effects. Our two-pronged strategy is justified by the fact that there is an ongoing debate about whether manufactured housing and subprime loans should be included in analyses. The GSEs have historically refused to buy loans from these sources and have argued that such loans should not be considered when evaluating GSE performance. For several reasons, we think it would be a mistake to completely exclude these loans from our analysis.

- As we will see, subprime and manufactured housing loans were key contributors to gains made by underserved markets during the 1990s[7]. To simply ignore these loans would miss this critical influence.

[7] HUD estimates that home mortgage subprime lending went from $20 billion in 1993 to $150 billion in 1998. Since the HMDA data do not specifically identify loans as being either subprime or manufactured housing, HUD's list of lenders specializing in such loans provides only an approximation of the number of such loans made. However, sources independent of HMDA confirm the dramatic growth of this lending during the 1990s. Indeed, Davidson (1995) and Merrick (1999) provide even higher estimates of subprime lending growth than HUD does.

- The GSEs themselves admit that many of these loans go to qualified buyers. For example, Franklin Raines, CEO of Fannie Mae, estimates that about half the borrowers in the high-cost subprime market could qualify for lower-cost conventional financing (Raines, 2000). HUD (2000b) similarly notes that there are many creditworthy borrowers in the subprime market.

- GSE involvement in the subprime market could help to alleviate abuses that sometimes exist there. For example, Lind (2000) argues that the entry of the GSEs into subprime markets should be beneficial because the GSEs attach conditions to their purchases that curb predatory lending.

- While, historically, most subprime loans have been for refinance, subprime lenders are starting to focus more and more on home purchase loans. As Bunce (2002) notes, the share of subprime lender loans that were for home purchase went from 20% in 1998 to 33% in 2000.

- HUD (2000b) suggests that greater GSE involvement in subprime markets could help standardize mortgage terms and could possibly lower interest rates.

- The GSEs' absence from the manufactured housing market is also highly debatable. Congressman Barney Frank (Mortgage Marketplace, 9/7/98) argues that manufactured housing owners are generally not wealthy, and they deserve the same sorts of benefits that the GSEs provide to other segments of the American housing finance system.

- HUD (2000b) notes that the manufactured housing market includes a high concentration of underserved market loans. HUD suggests (p. 65053) that "goal performance could be enhanced substantially if the GSEs were to play an increased role in the manufactured housing mortgage market."

- Given these facts and this controversy, we think the fairest strategy is to evaluate GSE performance both with and without subprime and manufactured housing loans being included in the comparisons.

5. Several other minor data sets provide valuable information that can be merged with the above. For years prior to 1997, a supplementary HMDA data set, the Expected Reporter Panel, makes it possible to code each lender as being either a commercial bank, credit union, mortgage company or savings and loan. For later years this information is already incorporated into the HMDA data. The FFIEC provides free annual listings of MSA median family income, which can be used to classify applicants as low income, moderate income, etc. The GSE data include information on targeted tracts from 1996 on (but not earlier). We merged listings of these tracts with the HMDA data. Since targeted tracts were not defined before 1996, we used the 1996 listings for earlier years.

Similarly, the Manufactured Housing Institute (2000) estimates that shipments of manufactured homes increased 113% between 1991 and 1996.

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. The following criteria were therefore used when selecting loans for inclusion in our sample.

1. Only conventional loans are selected; government-backed loans (FHA, VA, FMHA) are excluded. This is a very common criterion in home mortgage studies, particularly those involving GSEs. GSEs almost exclusively buy conventional loans. Since 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.

2. Subprime and manufactured housing lenders will receive special treatment in our analyses. Their loans will be excluded from some of the analyses, while their effects will be explicitly considered in others.

3. Records with high loan to income ratios (6 or above) will be excluded. Bunce (2002) and Bunce and Scheessele (1996) make the same restrictions in their studies, noting that high loan-to-income mortgages appear to be data errors in HMDA (e.g. lenders reporting monthly rather than yearly income).

4. All loans will be for owner-occupied home purchases. This is a very common restriction. While refinancing and home improvement loans are important, the most critical concern for most people is whether they can get a home at all. Further, the factors that affect a home purchase are likely very different from the factors affecting home refinance and home improvement.

5. When using HMDA, cases selected will be from MSAs. HMDA is primarily a metropolitan data set and has limited usefulness for studying non-metropolitan areas (Scheessele, 1998). Unfortunately, when using the GSE data sets, limitations of the data make it necessary to analyze the entire nation. Tables from HUD are reproduced in Appendix A in which the GSE data have been limited to metropolitan areas.

6. "Jumbo" loans are excluded. There are dollar limits on the size of the loans GSEs can purchase ($252,700 in 2000).

7. Due to the large size of the data sets, we use a 10% random sample of the HMDA data. No sampling is done with the GSE data sets. Our analyses suggest that it makes little difference whether one uses a 1%, 10%, or 100% sample, which is not surprising given the millions of records contained in HMDA.

Analytic Techniques

Several factors affect the primary and secondary mortgage markets, many of which cannot be measured with the data used here. We therefore do not claim that any single piece of analysis can provide definitive proof one way or the other of GSE leadership. Rather, we employ a variety of analytic techniques. We ask, if the GSEs are leading, how is this manifested in the real world? While there may be alternative explanations for any single finding, the body of evidence as a whole should at least provide suggestive evidence. The following analytic strategies are therefore employed in this report.

Descriptive Comparisons of Nationwide Trends in Primary and Secondary Market Lender's Underserved Market Performance. This will involve a replication and extension of the Williams and colleagues (2001) analysis of Indiana. Williams compared the underserved market performance of both primary and secondary market lenders active in Indiana during the years 1992-1996. By examining primary and secondary market lenders simultaneously and across time, this approach determines which types of lenders were "leading the market" and which were merely following behind. There are several advantages to employing such an analysis.

First, such descriptive analyses show whether or not the GSEs "lead the market" in our first sense of the term, underserved market share. If the Williams and Lind studies are both correct, we might find that, nationwide at least, GSEs trailed the market in the early part of the 1990s and then took the lead sometime after 1996.

Second, while not definitive, these analyses also provide insights as to whether the GSEs lead in our second sense of the term: do their activities encourage primary market lenders to make more underserved market loans than they would have otherwise? There are several possible patterns that such charts may reveal, and each suggests something as to how the GSEs may have been influencing lending.

- GSEs could buy relatively more loans from underserved markets across time, yet the number of loans being made to such markets may not increase. This might suggest that the ownership of underserved market loans was simply being redistributed. Or, the GSE purchasing strategies may have been ineffective at stimulating new lending (e.g. the purchasing of seasoned loans may not have provided enough incentive for primary market lenders to make more loans to underserved markets). Or, increased efforts by the GSEs to stimulate underserved market lending may have been accompanied by lesser effort on the part of others.

- Improvements in GSE performance could be followed in later years by improvements in primary market performance. This might be particularly compelling evidence that the GSEs were having an impact. For example, if the GSEs purchased more underserved market loans in 1997, and the primary market then made more such loans in 1998, this would suggest that the primary market was following the lead set by the GSEs.

- Improvements in both GSE and primary market lending could be simultaneous. Such a pattern could have ambiguous implications for causality. Perhaps the GSEs influenced the primary market to make more underserved market loans; or, perhaps the GSEs bought more such loans because more were being made in the primary market.

Secrets of Success. Our second strategy is to analyze exactly where any progress by the GSEs in underserved markets came from. Understanding where the GSEs are getting their loans, and what the sellers of those loans are like, can yield several insights as to how the GSEs are achieving success (if they are) and whether the ways they achieved their success were likely to affect underserved markets. Again, there are several possibilities.

- The GSEs may be purchasing underserved market loans from new sources. Perhaps these lenders previously held such loans in portfolio or sold them elsewhere on the secondary market. For example, as noted before, Lind (2000) found that, in 1998, for the first time ever, the GSEs purchased significant numbers of loans from such sources as insurance companies, investment banks, finance companies, and housing finance agencies. To the extent that GSEs are getting their loans from new sources, it is possible that the ownership of underserved market loans is simply being shifted around without the number of such loans being increased. It is also possible that some types of sellers will be less likely to return funds to the primary market than are others.

- It is also possible that the GSEs have become more flexible when buying loans from their existing sources. We therefore employ multivariate logistic regression techniques to assess whether the determinants of GSE purchases have changed across time. There are several possible findings.

    - The effects of race and income could change. For example, we might find that, across time, borrower income becomes less of a factor in whether or not a loan gets purchased by the GSEs. This would suggest that GSEs are weighing income less heavily or have successfully developed programs that make a low income less of a barrier to GSE purchasing. More generally, changes in the effect of any variable across time may mean that, one way or another, barriers to purchase that existed in the past were now being surmounted.

    - Effects of variables may not change across time. This could suggest that the GSEs did not do anything differently across time, and that changes in the number of underserved market loans they purchased were due to changes in the number of such loans that primary market lenders made.

GSE Influence on Lenders. Finally, we try to directly examine the influence of the GSEs on lenders. Building on work by Williams and Nesiba (1997), we argue that characteristics of lenders affect their underserved market performance. For example, lenders have different legal obligations and financial interests, and these may affect their commitment to underserved markets. We extend the Williams-Nesiba models to consider another type of lender characteristic: the percentage of its conventional home purchase loans that the lender sells to the GSEs. The more of its loans that it sells, the more heavily influenced that lender should be by GSE policies and programs. Hence, if the GSEs encourage underserved market lending, we should see (after controlling for other variables) that those lenders who do the most business with the GSEs also make the most loans to underserved markets. Or, we may at least see that these lenders become more active with underserved markets across time, as GSE programs and policies designed to promote underserved market lending start to have an effect.

The next chapters present our results from each of the above analyses. In Chapter II, we profile nationwide lending trends between 1993 and 2000. We compare the underserved market performance of the two GSEs with the primary market, other secondary market lenders, and with each other. In chapter III, we examine the factors that contributed to whatever progress the GSEs made. We look at the changing sources and characteristics of their loans, and we examine whether the determinants of their purchases changed in ways that were favorable or unfavorable to underserved markets. In chapter IV, we conduct multivariate analyses to see whether the GSEs appeared to encourage or discourage underserved market lending by the primary market lenders they did the most business with. In our fifth and final chapter, we offer our conclusions concerning what these analyses tell us about GSE leadership during the 1990s.

Chapter II: Nationwide Trends in Underserved Market Lending, 1993-2000

This section profiles trends in conventional home mortgage lending in the United States during the years 1993-2000. Three types of comparisons are made: the GSEs versus the primary market, the GSEs versus the rest of the secondary market, and the GSEs versus each other. We use both the HMDA and GSE PUDB data sets and different sample selections to provide multiple perspectives on developments in the primary and secondary markets. As previously noted, because of limitations of the data sets, analyses using the HMDA data are limited to metropolitan areas while analyses using the GSE Public Use Data Bases are for the entire nation.

The GSEs Versus the Primary Market

Tables II-1 and II-2 use metropolitan HMDA data to describe the lending to underserved markets of primary and secondary market lenders. The numbers indicate, for any given year, the percentage of loans made to or purchases from a particular underserved market. In Table II-1, the sample is limited to traditional, i.e. non-subprime and non-manufactured housing, lenders. As we will see, the GSEs buy the vast majority of their loans from this group. In II-2, these alternative lenders are included. Charts II-1 through II-5 present highlights from these tables.

Table II-1 is a direct national replication of the work previously done by Williams, McConnell and Nesiba (2001). We use HMDA data to compare the across-time underserved market performance of the GSEs versus the primary market. Subprime and manufactured housing loans are excluded from the comparisons. Figures are presented for each year. Separate estimates are provided for loans that were not sold to the GSEs, loans that were sold to the GSEs, and for all loans (i.e. the total activity of Primary Market traditional lenders). Since there is some up and down fluctuation from year to year, we also present pooled figures for the years 1993-1996 and 1997-2000. Besides conveniently dividing the eight year period into two equal parts, this split makes substantive sense since the HUD Final Rule was adopted in December 1995. Hence, allowing some time for the GSEs to respond, the effects of the Final Rule adoption would presumably start to become apparent by 1997.

Table II-1: Underserved Conventional Market Trends, HMDA Metropolitan Area Data, Traditional Lenders (No Subprime or MH)

		1993	1994	1995	1996	1997	1998	1999	2000	1993-1996	1997-2000	Total
Black	Not Sold to GSE	4.21%	5.23%	5.53%	5.05%	4.97%	4.64%	4.78%	5.04%	5.06%	4.86%	4.96%
	Sold to GSE	2.85%	4.20%	4.28%	3.78%	3.29%	2.79%	3.20%	3.80%	3.73%	3.25%	3.46%
	All Loans	3.57%	4.87%	5.11%	4.56%	4.31%	3.78%	4.14%	4.54%	4.55%	4.19%	4.35%
Hispanic	Not Sold to GSE	4.81%	5.43%	5.91%	5.25%	5.13%	5.17%	5.99%	6.87%	5.39%	5.84%	5.63%
	Sold to GSE	3.79%	5.60%	5.47%	5.25%	4.72%	4.23%	5.00%	6.57%	4.97%	5.12%	5.05%
	All Loans	4.33%	5.49%	5.77%	5.25%	4.97%	4.74%	5.59%	6.75%	5.23%	5.54%	5.40%
Very Low Income	Not Sold to GSE	12.80%	12.52%	12.31%	13.09%	13.15%	13.50%	13.47%	12.95%	12.67%	13.27%	12.99%
	Sold to GSE	7.27%	8.56%	8.17%	8.72%	8.55%	9.00%	11.23%	11.97%	8.15%	10.26%	9.37%
	All Loans	10.15%	11.13%	10.93%	11.38%	11.31%	11.39%	12.55%	12.55%	10.93%	11.99%	11.52%
Low Inc Borrower in	Not Sold to GSE	5.70%	5.85%	6.12%	5.69%	5.52%	5.32%	5.34%	5.40%	5.85%	5.39%	5.60%
Low/Mod Tract	Sold to GSE	2.80%	3.68%	3.54%	3.58%	3.06%	2.77%	3.13%	3.72%	3.37%	3.17%	3.25%
	All Loans	4.31%	5.09%	5.26%	4.86%	4.53%	4.13%	4.43%	4.71%	4.89%	4.45%	4.65%
Targeted Tract	Not Sold to GSE	24.00%	24.84%	26.10%	25.17%	25.29%	24.77%	24.95%	25.93%	25.11%	25.25%	25.19%
	Sold to GSE	18.13%	21.43%	21.06%	20.83%	19.90%	18.52%	19.84%	21.69%	20.28%	19.96%	20.09%
	All Loans	21.18%	23.65%	24.41%	23.47%	23.13%	21.84%	22.85%	24.19%	23.25%	23.01%	23.11%

As the table shows, Black borrowers' share of the market was higher in 2000 than in 1993 but in between there was no consistent pattern of gain or decline during this eight-year period[1]. As the "All Loans" row illustrates, Black market share peaked in 1995, declined afterwards, but was on the way back up again in 1999 and 2000. Blacks were consistently a smaller source of GSE purchases than they were of all loans originated in the primary market. Blacks were a higher portion of GSE loans in 2000 than they were in 1999 but not as high as they had been in some earlier years. In short, between 1993-2000 Black progress was inconsistent with both primary market lenders and among the GSEs, although the trends for the two most recent years were positive[2]. As we'll see in a moment, Blacks did make steady gains during the 1990s, but not among the traditional lenders reflected in this sample selection.

Hispanics did make some substantial gains during this period, going from a low of 4.33% of all loans made in 1993 to a high of 6.75% in 2000. They generally constituted a smaller percentage of the GSE purchases, but the gaps were smaller than they were for Blacks. While across-time patterns were inconsistent, it is again worth noting that Hispanics did much better with the GSEs

[1] Blacks (and also other underserved markets) also gained because the total number of home mortgage loans was greater in 2000 than in 1993. Bunce (2002) reported that Blacks received 89% more conventional and government-insured loans in 2000 than they had been in 1993. This occurred because more loans were made in 2000 than in 1993, and blacks received a higher percentage of the loans that were made. Our analysis, which currently excludes FHA, subprime and manufactured housing loans, and which uses a narrower definition of race than does Bunce, shows an increase of 72%. For blacks, most of these gains were achieved early in the decade. Separate analysis reveals that the number of loans to blacks actually declined slightly after 1994 and was only 10.2% higher in 2000 than it had been in 1994.

[2] We also note that in 1998, Blacks declined as a percentage of both primary market loans and GSE purchases, but the decline was smaller for the GSEs. Hence, the GSEs slightly narrowed the gap between themselves and the primary market in 1998. For similar reasons (the GSEs declining less than the primary market did), the GSEs also made small gains relative to the primary market for low income borrowers in low income tracts and borrowers from targeted tracts.

in 2000 than they had in 1999. However, when looking at Hispanic gains, it is important to keep in mind that the Hispanic population grew almost 60% between 1990 and 2000 (Cohn & Fears, 2001), much more than any other major demographic group. Hence, the increased percentage of all loans going to Hispanics was about proportionate to the increased number of Hispanics in the entire population.

We note that neither Blacks nor Hispanics were explicitly targeted in the HUD Final Rule. The next three types of underserved markets were. Very low income borrowers went from 10.93% of primary market loans in 1993-1996 to 11.99% in 1997-2000, a gain of more than one percentage point. But, their gains were even greater among the GSEs, where they went from 8.15% of all purchases to 10.26%. Hence, very low income borrowers made clear gains in the primary market and even greater gains among the GSEs.

For the final two underserved markets, low income borrowers in low to moderate income tracts, and targeted tracts, there was no consistent pattern of gain or decline in either the primary market or among GSEs. But, looking only at the last two years of 1999 and 2000, we again see that these markets made some gains among primary lenders and even greater gains among the GSEs.

It is also important to note that, for the most part, there was no clear and consistent pattern of the GSEs either losing or gaining ground relative to the primary market. For most underserved markets (except very low income borrowers), the gap between the GSEs and the primary market was about the same in 1998 as it had been in 1993. Improvements and declines in both GSE and primary market performance were generally more or less simultaneous. However, the GSEs did make gains on the primary market after 1998; except for Blacks, the gaps between the primary market and the GSEs were less in 2000 than they had been in 1993.

In short, for four of the five underserved markets studied there are no clear and consistent patterns across time. Underserved markets were better off in 2000 than they had been in 1993, but in between there were no consistent patterns of gains or declines. Also, for most of the 1990s there was no clear and consistent patterns of the GSEs either gaining or losing ground relative to the primary market. However, between 1999 and 2000 underserved markets did make gains among primary lenders and even greater gains among the GSEs. It may be that GSE programs targeted at underserved markets did not become really effective until 2000, or it could just be that 2000 was an atypically good year for underserved markets. We will need to see whether this becomes a consistent trend or simply reflects the year to year variation that other time periods have shown. The trends for the fifth underserved market, very low income borrowers, are much clearer and more consistent. Those borrowers made fairly steady gains across time and even greater gains among GSE purchases. Nonetheless, in 2000 the GSEs continued to trail primary market lenders with this group, purchasing relatively fewer loans than the primary market made.

In Table II-2, we again use HMDA data, but we expand the sample to include subprime and manufactured housing loans[3]. There are several similarities but also some key differences from Table II-1.

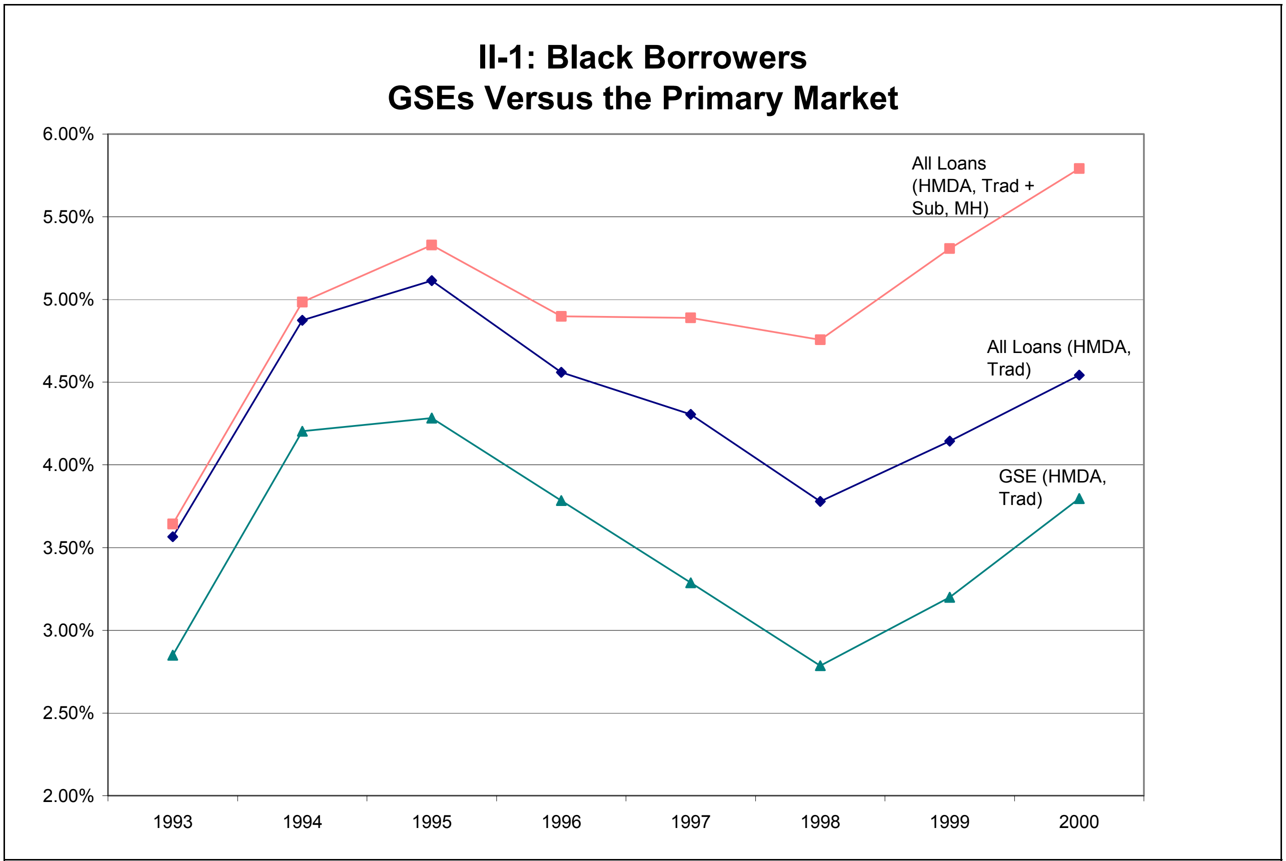
[3] Bunce (2002) refers to this as the "Total conforming market." The "Total Market," as defined by Bunce, also includes FHA loans, which we do not include in any of our analysis. Bunce also does analyses of the "conventional conforming market", both with and without manufactured housing and subprime loans included.

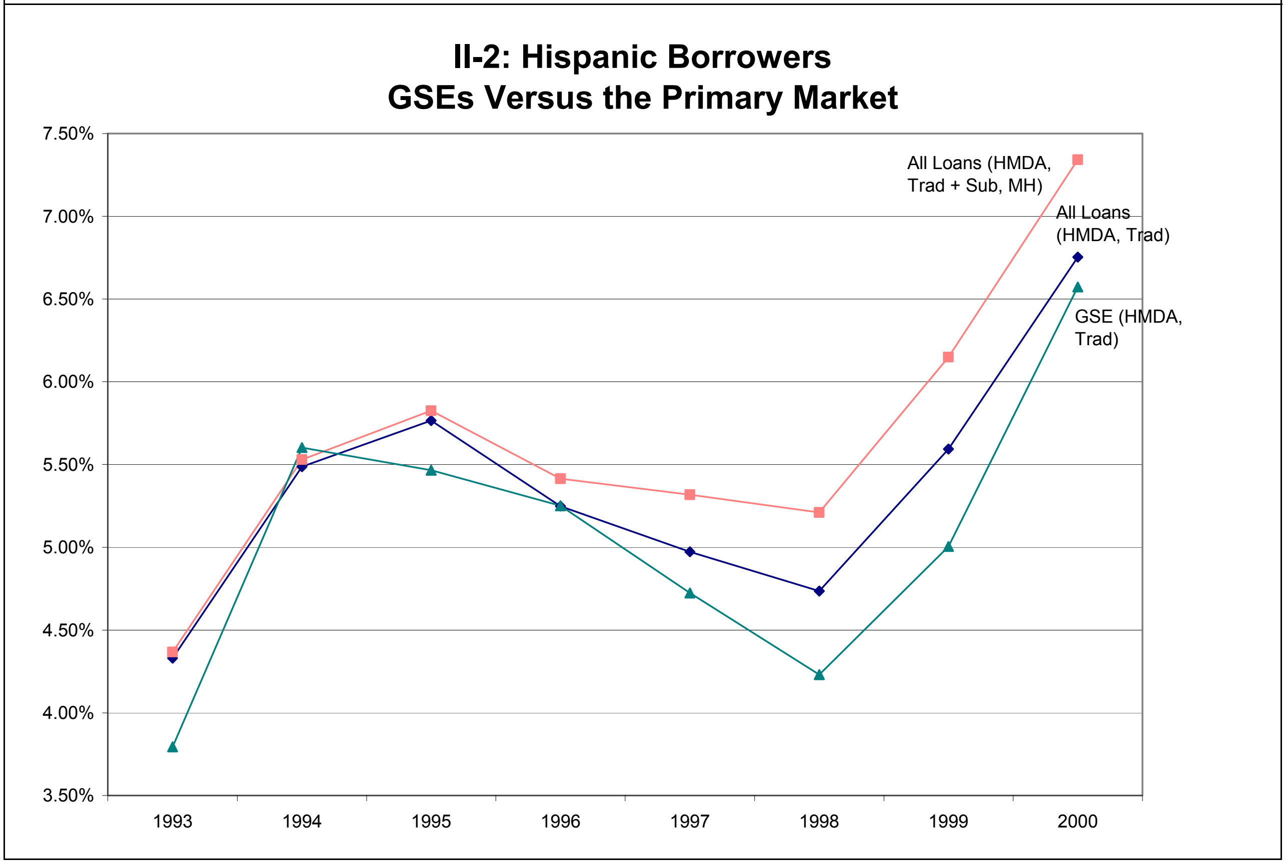
Table II-2: Underserved Conventional Market Trends, HMDA Metropolitan Area Data, Traditional + Alternative Lenders (Subprime & MH included)

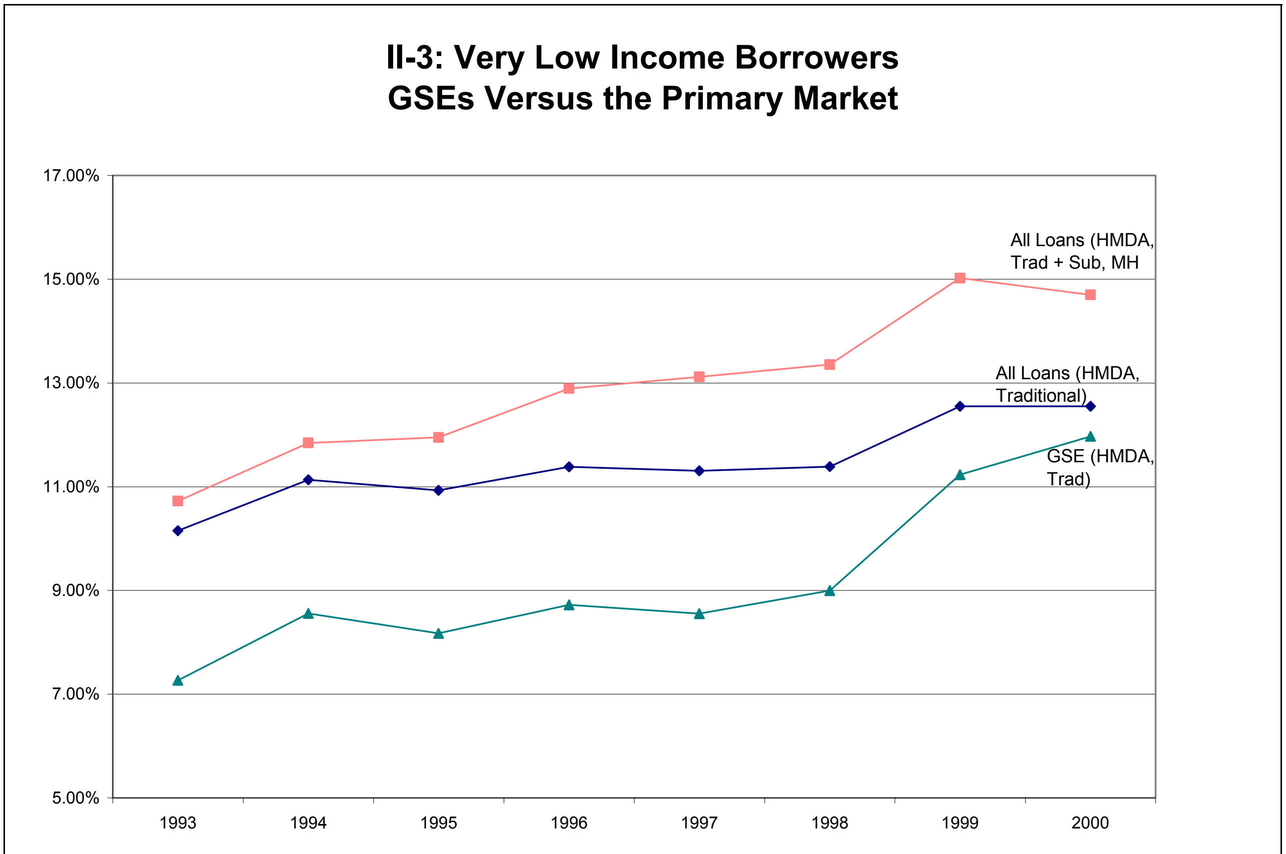
		1993	1994	1995	1996	1997	1998	1999	2000	1993-1996	1997-2000	Total
Black	Not Sold to GSE	4.32%	5.39%	5.81%	5.51%	5.77%	6.13%	6.45%	6.89%	5.34%	6.34%	5.89%
	Sold to GSE	2.86%	4.19%	4.29%	3.79%	3.30%	2.79%	3.22%	3.82%	3.73%	3.26%	3.47%
	All Loans	3.64%	4.99%	5.33%	4.90%	4.89%	4.76%	5.31%	5.79%	4.75%	5.20%	5.00%
Hispanic	Not Sold to GSE	4.85%	5.48%	5.98%	5.49%	5.61%	5.88%	6.75%	7.75%	5.50%	6.55%	6.09%
	Sold to GSE	3.81%	5.62%	5.50%	5.27%	4.79%	4.25%	5.05%	6.62%	4.99%	5.16%	5.09%
	All Loans	4.37%	5.53%	5.83%	5.41%	5.32%	5.21%	6.15%	7.34%	5.31%	6.04%	5.72%
Very Low Income	Not Sold to GSE	13.76%	13.52%	13.69%	15.23%	15.67%	16.44%	17.15%	16.21%	14.09%	16.41%	15.41%
	Sold to GSE	7.29%	8.57%	8.18%	8.70%	8.60%	8.99%	11.23%	12.01%	8.16%	10.28%	9.38%
	All Loans	10.72%	11.85%	11.95%	12.89%	13.12%	13.35%	15.02%	14.70%	11.91%	14.12%	13.17%
Low Inc Borrower in	Not Sold to GSE	5.99%	6.16%	6.60%	6.50%	6.51%	6.89%	7.00%	7.05%	6.34%	6.89%	6.65%
Low/Mod Tract	Sold to GSE	2.80%	3.68%	3.55%	3.58%	3.09%	2.78%	3.14%	3.75%	3.38%	3.19%	3.27%
	All Loans	4.49%	5.32%	5.63%	5.45%	5.28%	5.19%	5.61%	5.86%	5.25%	5.50%	5.39%
Targeted Tract	Not Sold to GSE	24.93%	25.82%	27.63%	27.67%	28.24%	28.89%	29.08%	29.86%	26.67%	29.07%	28.05%
	Sold to GSE	18.13%	21.49%	21.13%	20.88%	20.01%	18.59%	19.99%	21.85%	20.33%	20.08%	20.19%
	All Loans	21.73%	24.36%	25.57%	25.24%	25.27%	24.62%	25.81%	26.98%	24.35%	25.71%	25.13%

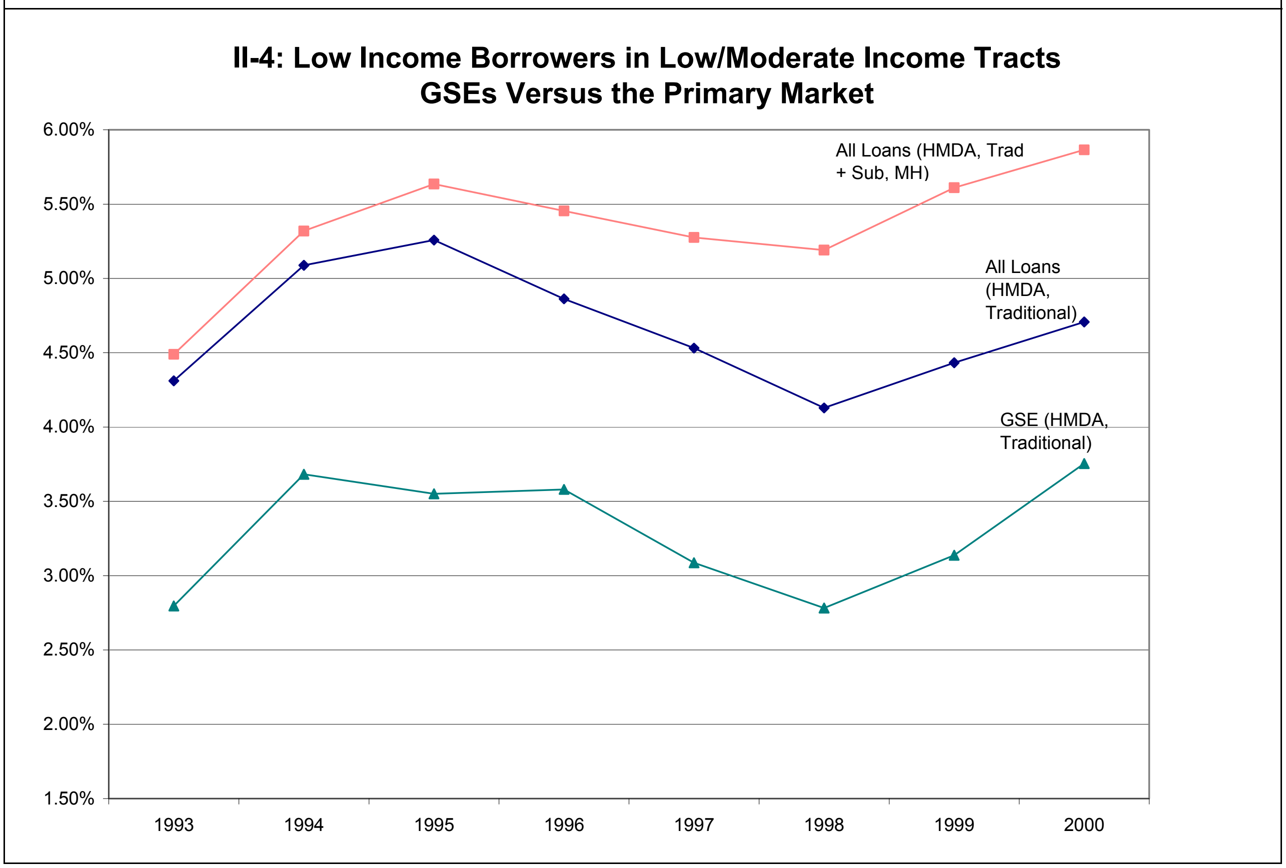
Not surprisingly, the percentages for GSE purchases are virtually identical to before, never changing by more than a few one-hundredths. This reflects how few subprime and manufactured housing loans the GSEs purchased.

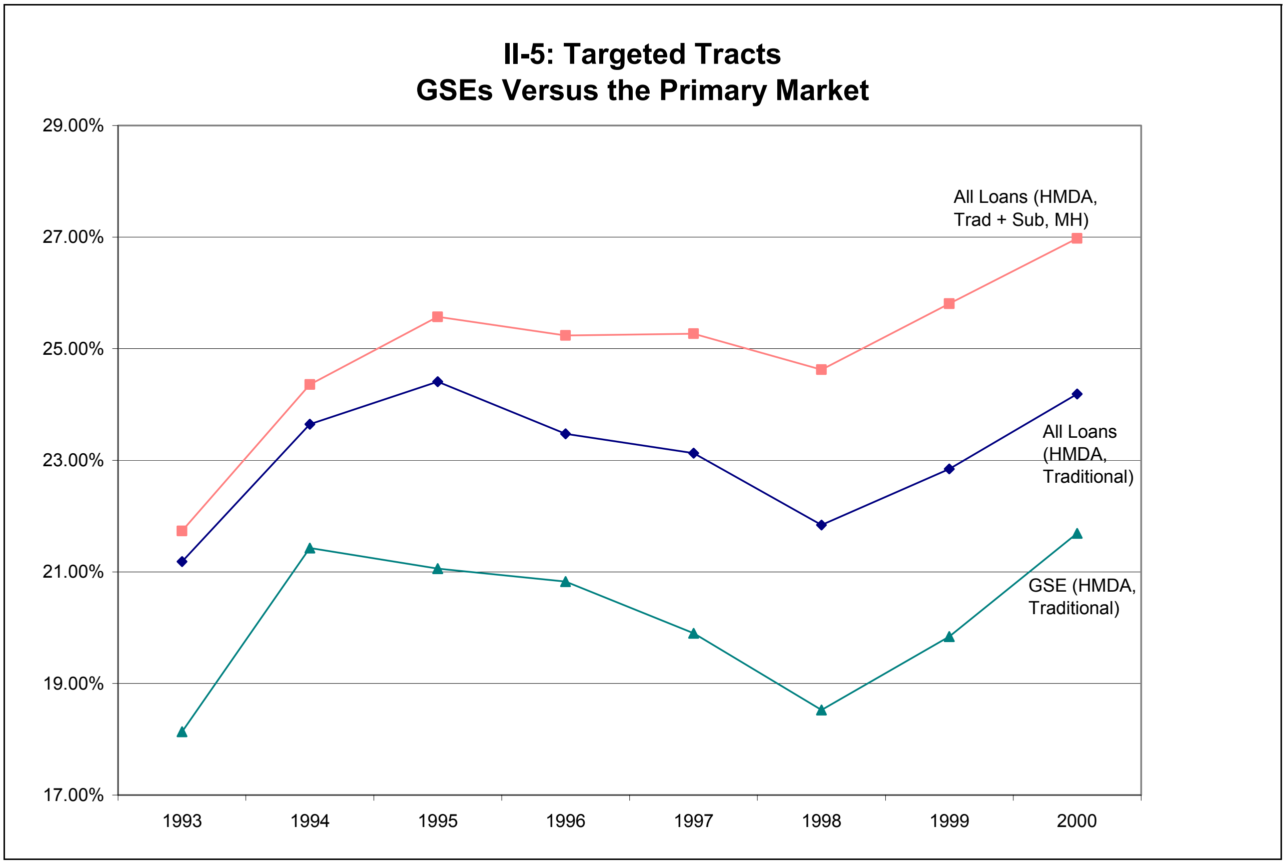
In Table II-1, we saw that Blacks, low income borrowers in low to moderate income tracts, and targeted tracts actually had smaller primary market shares in 1997-2000 than they had in 1993-1996. Once subprime and manufactured housing loans are included, these underserved markets actually show modest gains rather than declines. In addition, the gains made by Hispanics and Very Low Income borrowers are greater once subprime and manufactured housing loans are included. These trends reveal how important it is to consider subprime and manufactured housing lenders: if it were not for these lenders, underserved markets would have actually lost ground across time. Indeed, Williams and colleagues (2001) argue that market trends in Indiana suggest that these lenders may have actually stolen away borrowers who could have qualified for lower cost loans from traditional lenders. The national trends observed here are also consistent with that possibility.


II-1: Black Borrowers
GSEs Versus the Primary Market
6.00%
5.50%
5.00%
4.50%
4.00%
3.50%
3.00%
2.50%
2.00%
1993
1994
1995
1996
1997
1998
1999
2000
All Loans (HMDA, Trad + Sub, MH)
All Loans (HMDA, Trad)
GSE (HMDA, Trad)


II-2: Hispanic Borrowers
GSEs Versus the Primary Market
7.50%
7.00%
6.50%
6.00%
5.50%
5.00%
4.50%
4.00%
3.50%
1993
1994
1995
1996
1997
1998
1999
2000
All Loans (HMDA, Trad + Sub, MH)
All Loans (HMDA, Trad)
GSE (HMDA, Trad)


II-3: Very Low Income Borrowers
GSEs Versus the Primary Market
17.00%
15.00%
13.00%
11.00%
9.00%
7.00%
5.00%
1993
1994
1995
1996
1997
1998
1999
2000
All Loans (HMDA, Trad + Sub, MH
All Loans (HMDA, Traditional)
GSE (HMDA, Trad)


II-4: Low Income Borrowers in Low/Moderate Income Tracts
GSEs Versus the Primary Market
6.00%
5.50%
5.00%
4.50%
4.00%
3.50%
3.00%
2.50%
2.00%
1.50%
1993
1994
1995
1996
1997
1998
1999
2000
All Loans (HMDA, Trad + Sub, MH)
All Loans (HMDA, Traditional)
GSE (HMDA, Traditional)



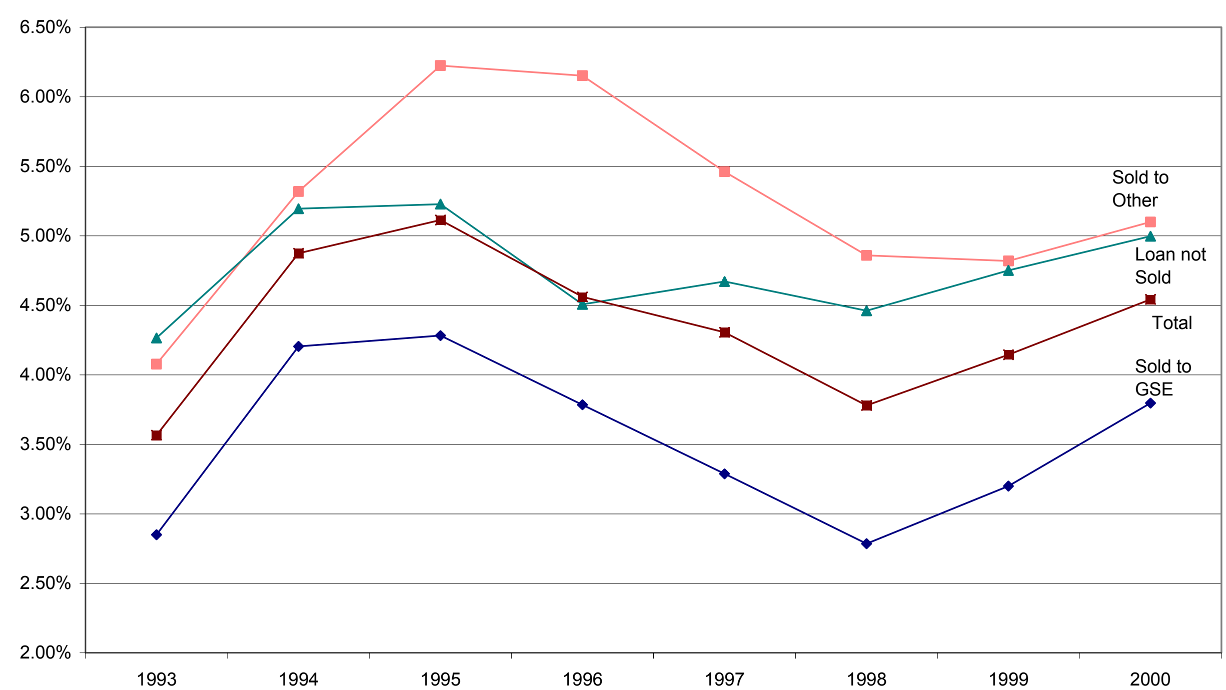
The GSEs Versus the Rest of the Secondary Market

Another way of assessing the GSEs is by comparing their underserved market performance to that of their competitors in the secondary market. The HMDA data indicate whether a loan was sold to the GSEs, sold to someone else (e.g. another secondary market entity), or not sold at all (held in portfolio). Table II-3 and Charts II-6 through II-10 compare these three. Subprime and Manufactured Housing lenders are excluded from these calculations; if they were included, the GSEs relative performance would again appear weaker than it does here.

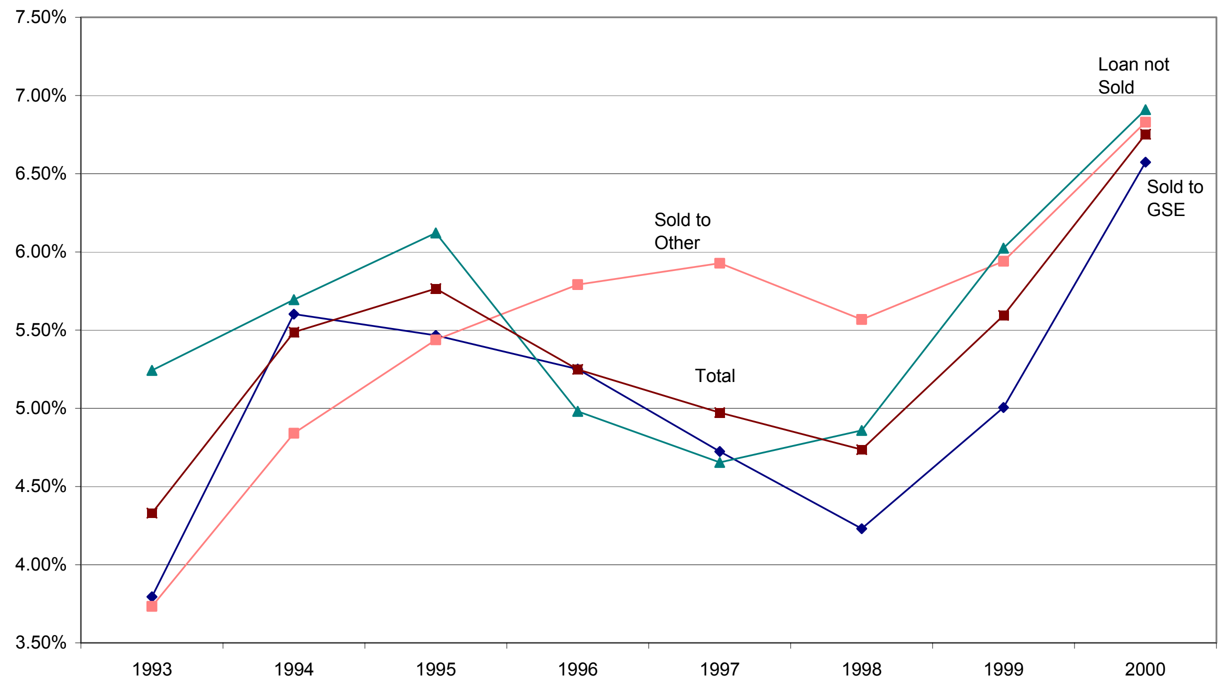
Table II-3: Underserved Conventional Market Trends, HMDA Metropolitan Area Data, GSEs versus the Secondary Market

		1993	1994	1995	1996	1997	1998	1999	2000	1993-1996	1997-2000	Total
Black												
	Sold to GSE	2.85%	4.20%	4.28%	3.78%	3.29%	2.79%	3.20%	3.80%	3.73%	3.25%	3.46%
	Sold to Other	4.08%	5.32%	6.22%	6.15%	5.46%	4.86%	4.82%	5.10%	5.57%	5.04%	5.25%
	Loan not sold	4.27%	5.20%	5.23%	4.51%	4.67%	4.46%	4.75%	5.00%	4.84%	4.73%	4.79%
	Total	3.57%	4.87%	5.11%	4.56%	4.31%	3.78%	4.14%	4.54%	4.55%	4.19%	4.35%
Hispanic												
	Sold to GSE	3.79%	5.60%	5.47%	5.25%	4.72%	4.23%	5.00%	6.57%	4.97%	5.12%	5.05%
	Sold to Other	3.73%	4.84%	5.44%	5.79%	5.93%	5.57%	5.94%	6.83%	5.06%	6.10%	5.69%
	Loan not sold	5.24%	5.69%	6.12%	4.98%	4.65%	4.86%	6.02%	6.91%	5.53%	5.65%	5.59%
	Total	4.33%	5.49%	5.77%	5.25%	4.97%	4.74%	5.59%	6.75%	5.23%	5.54%	5.40%
Very Low Income												
	Sold to GSE	7.27%	8.56%	8.17%	8.72%	8.55%	9.00%	11.23%	11.97%	8.15%	10.26%	9.37%
	Sold to Other	8.51%	9.72%	11.76%	12.41%	10.48%	12.20%	12.81%	11.87%	10.79%	11.93%	11.49%
	Loan not sold	14.53%	13.81%	12.55%	13.43%	14.78%	14.52%	13.94%	13.83%	13.52%	14.24%	13.88%
	Total	10.15%	11.13%	10.93%	11.38%	11.31%	11.39%	12.55%	12.55%	10.93%	11.99%	11.52%
Low Inc Borrower in Low/Mod Tract												
	Sold to GSE	2.80%	3.68%	3.54%	3.58%	3.06%	2.77%	3.13%	3.72%	3.37%	3.17%	3.25%
	Sold to Other	3.87%	4.73%	6.15%	5.50%	4.73%	4.76%	4.99%	4.89%	5.16%	4.85%	4.97%
	Loan not sold	6.43%	6.36%	6.11%	5.78%	6.00%	5.77%	5.59%	5.81%	6.16%	5.79%	5.97%
	Total	4.31%	5.09%	5.26%	4.86%	4.53%	4.13%	4.43%	4.71%	4.89%	4.45%	4.65%
Targeted Tract												
	Sold to GSE	18.13%	21.43%	21.06%	20.83%	19.90%	18.52%	19.84%	21.69%	20.28%	19.96%	20.09%
	Sold to Other	18.73%	21.62%	25.20%	24.92%	23.77%	23.71%	23.84%	24.73%	23.00%	24.05%	23.65%
	Loan not sold	26.12%	26.33%	26.48%	25.30%	26.21%	25.59%	25.74%	26.91%	26.06%	26.12%	26.09%
	Total	21.18%	23.65%	24.41%	23.47%	23.13%	21.84%	22.85%	24.19%	23.25%	23.01%	23.11%

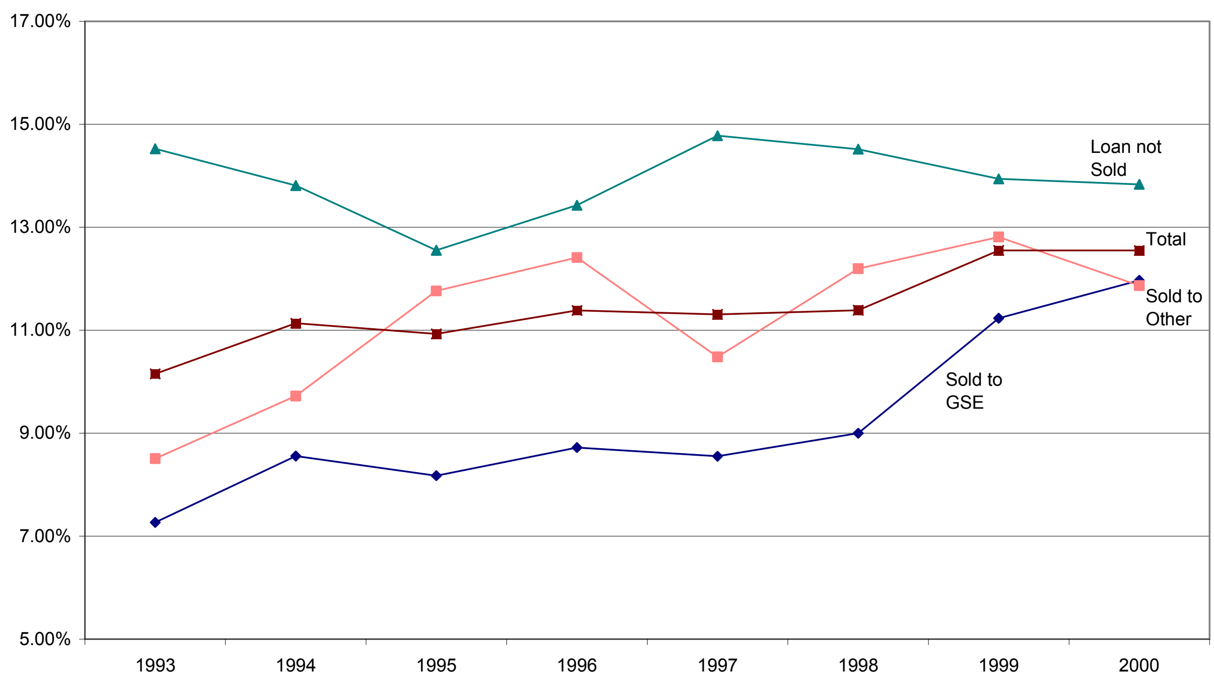
II-6: Black Borrowers
GSEs Versus the Rest of the Secondary Market



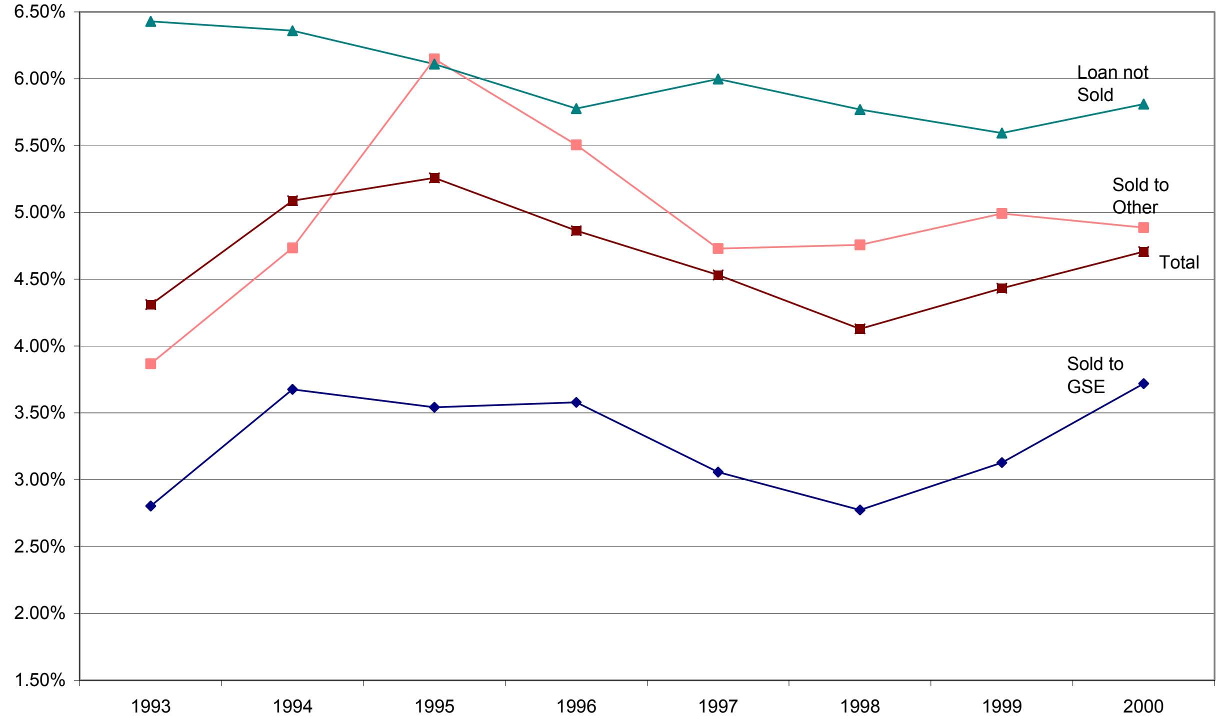
II-7: Hispanic Borrowers
GSEs Versus the Rest of the Secondary Market



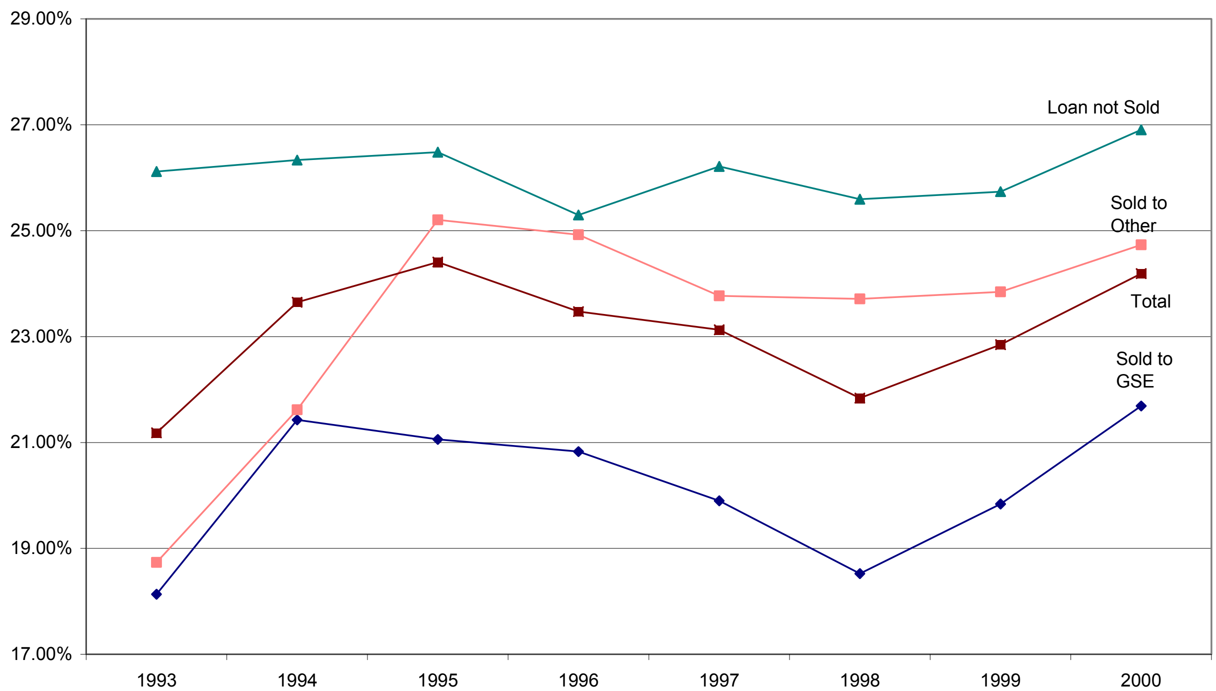
II-8: Very Low Income Borrowers
GSEs Versus the Rest of the Secondary Market



II-9: Low Income Borrowers in Low/Moderate Income Tracts
GSEs Versus the Rest of the Secondary Market



II-10: Targeted Tracts
GSEs Versus the Rest of the Secondary Market



As the Table and Charts show, there is substantial fluctuation across years and across underserved markets. A few key patterns do clearly stand out.

- In almost every year and for almost every underserved market, the GSEs purchase relatively fewer underserved market loans than are purchased by others or held in portfolio. Underserved market loans that the GSEs' secondary market competitors are willing to purchase, or that primary market lenders are willing to hold in portfolio, are loans that the GSEs are apparently unwilling or unable to buy.

- Very low income borrowers are again seen to be one of the areas the GSEs are strongest in. For very low income borrowers, the gap between the GSEs and the rest of the secondary market peaked at 3.69 percentage points in 1996 (8.72% GSEs, 12.41% others). But, in 2000, the GSEs actually had a very slight lead (11.97% to 11.87%). We must be careful to make too much of a single year, but when we compare 1993-1996 to 1997-2000, we see that the GSEs made the greater gains during the latter period.

- For every underserved market, between 1998 and 2000 the GSEs narrowed the gap between themselves and the rest of the secondary market.

In short, the GSEs do not and have not led their secondary market competitors in purchases of underserved market loans. But, in 1999 and 2000 at least, they were less far behind than they had been. We will have to see whether these patterns continue or simply reflect short term annual fluctuation, but the recent trends suggest that the GSEs are making progress.

The GSEs Versus Each Other

Most of our analysis focuses on the joint performance of the two GSEs. To better understand the developments of recent years, it is also helpful to see how they compare to each other.

As Table II-4 shows, there have been important differences in the gains the two GSEs have made. Here, we use the GSEs own reports of their performance as contained in GSE PUDB File B. When viewing the results from File B, it is again important to remember that it includes home purchase loans for the entire nation, not just metropolitan areas. Hence, the GSE PUDB numbers are not directly comparable to HMDA's numbers[4]. However, HUD, which has access to less restricted versions of the GSE data, has recently released tables in which the GSE data are limited to home purchase loans in metropolitan areas. Two of these tables, which cover some of the same years and underserved markets that we study, are reproduced in Appendix A.

[4] In particular, non-metropolitan areas are more likely to be defined as underserved, causing the nationwide GSE PUDB figures for targeted tracts to be higher than the corresponding HMDA figures for metropolitan areas.

Table II-4: Fannie Mae compared to Freddie Mac (GSE PUDB File B National Data)

		1993	1994	1995	1996	1997	1998	1999	2000	1993-1996	1997-2000	All Years
Black	Fannie	2.77%	4.17%	4.53%	3.68%	4.12%	3.54%	2.99%	3.53%	3.75%	3.53%	3.63%
	Freddie	2.01%	2.83%	3.24%	2.92%	2.75%	3.60%	2.99%	3.68%	2.76%	3.31%	3.08%
	Total	2.48%	3.62%	4.00%	3.36%	3.56%	3.57%	2.99%	3.60%	3.34%	3.43%	3.39%
Hispanic	Fannie	3.97%	5.89%	6.33%	5.74%	5.18%	5.02%	5.06%	6.49%	5.43%	5.42%	5.43%
	Freddie	3.28%	4.23%	4.25%	3.97%	4.11%	3.93%	4.40%	5.53%	3.93%	4.51%	4.26%
	Total	3.71%	5.21%	5.47%	4.99%	4.74%	4.53%	4.78%	6.05%	4.82%	5.02%	4.93%
Very Low Income	Fannie	5.57%	7.87%	8.08%	7.61%	8.78%	12.37%	11.13%	10.26%	7.19%	10.80%	9.26%
	Freddie	4.80%	6.13%	6.00%	6.79%	7.20%	12.54%	10.12%	11.37%	5.95%	10.64%	8.69%
	Total	5.28%	7.17%	7.21%	7.26%	8.16%	12.44%	10.71%	10.74%	6.68%	10.73%	9.02%
Low Inc Borrower in Low/Mod Tract	Fannie	2.05%	3.43%	3.53%	3.35%	3.55%	4.38%	3.43%	3.39%	3.03%	3.72%	3.43%
	Freddie	1.64%	2.12%	2.31%	2.38%	2.57%	4.19%	3.10%	3.75%	2.12%	3.50%	2.92%
	Total	1.89%	2.90%	3.02%	2.93%	3.16%	4.30%	3.29%	3.55%	2.66%	3.63%	3.22%
Targeted Tract	Fannie				23.86%	25.38%	27.97%	23.80%	25.12%	23.86%	25.68%	25.38%
	Freddie				21.66%	21.64%	27.20%	23.88%	23.97%	21.66%	24.47%	24.00%
	Total				22.92%	23.91%	27.65%	23.84%	24.62%	22.92%	25.17%	24.80%

As the combined statistics for 1993-1996 show, in the first part of the decade Fannie Mae had clear leads over Freddie Mac in every category of underserved markets. By the latter part of the decade, Freddie greatly narrowed the gap. For example, a 1 percentage point gap among Blacks in 1993-1996 (Fannie 3.75%, Freddie 2.76%) was only a .22 percentage point gap in 1997-2000 (3.53% versus 3.31%). Indeed, in the year 2000, Freddie actually did slightly better than Fannie with Blacks, low-income borrowers in low to moderate income neighborhoods, and very low income borrowers.

Hence, the very small gains the GSEs made with Blacks and Hispanics were primarily due to improvements made by Freddie Mac. The somewhat larger gains the GSEs made with the three Final Rule Underserved Markets were disproportionately driven by Freddie Mac. Note that this does NOT mean that Freddie Mac performed better than Fannie Mae. Rather, it means that, after having relatively weak performance in the early part of the decade, Freddie Mac was able to come close to parity and even sometimes take slight leads over Fannie Mae with underserved markets.

Finally, it is worth noting that the GSE data does indicate one glaring change in GSE purchases that is not evident in HMDA. File B shows a sudden and dramatic jump in GSE performance in 1998 for the three Final Rule underserved markets. Lind (2000) also noted these gains in his analysis of GSE performance during 1996-1998. Further, HUD's Table 2B in Appendix A shows that 1998 is the main year in which HMDA data consistently provides significantly lower estimates of GSE underserved market activity than the GSEs' own data does. An explanation for the GSEs' atypical performance in 1998, as reported in their own data, is offered in the next chapter.

Summary

Underserved markets received more loans from traditional lenders in 2000 than in 1993. But, between 1993 and 2000, most borrowers from underserved markets did not experience any consistent gains or declines in terms of their share of primary market loans from traditional lenders or GSE purchases. Similarly, between 1993 and 1998 there was no consistent pattern of the GSEs either gaining ground or losing ground relative to the primary market. However, the trends for the two most recent years, 1999 and 2000, were positive, with underserved markets making gains among traditional primary market lenders and even greater gains in GSE purchases.

The mixed record with traditional lenders, however, disguises the gains that underserved markets made thanks to subprime and manufactured housing lenders, whom the GSEs do very little business with. Once these lenders are considered, underserved markets made steady and clear gains. Indeed, the declines in underserved market share experienced by traditional lenders may reflect the great success of these alternative lenders. Observing market trends in Indiana, Williams and colleagues (2001) speculated that subprime and manufactured housing lenders were actually stealing away borrowers who could have qualified for (possibly better) deals from traditional lenders. The current analysis suggests that this may be happening nationwide.

Very low-income borrowers constitute the one group that has made consistent progress during the 1990s, among both traditional primary market lenders and the GSEs. Their share of all traditional primary market loans increased from 10.93% in 1993-1996 to 11.99% in 1997-2000. Their share of GSE purchases improved even more, rising from 8.15% of all purchases in 1993-1996 to 10.32% in 1997-2000.

Most measures from both HMDA and the GSEs' own data indicate that the GSEs have never been "leading the market." The percentage of loans they purchase from underserved markets has almost always been lower than the percentage of such loans that were made in the primary market. Indeed, the gap between the GSEs and the primary market has actually increased when subprime and manufactured housing loans are considered. The GSEs have also consistently trailed behind their secondary market competitors. Underserved market loans that others were willing to buy or hold in portfolio were loans that the GSEs were either unwilling or unable to purchase.

There are, however, indications that GSE performance has recently improved, and that it may have even occasionally matched or surpassed the performance of traditional primary market lenders. The GSEs made greater gains in 1999-2000 than did traditional primary market lenders. The GSEs own data suggests that their nationwide Final Rule underserved market performance was much stronger in 1998 than it had been in earlier years (although their own data also indicates that this was an atypical year for them). The GSEs also made gains against their secondary market competitors between 1998 and 2000, and in 2000 they actually had a very slight lead with very low income borrowers.

A factor contributing to GSE gains has been the improvement in Freddie Mac's underserved market performance. For much of the decade, Freddie Mac trailed Fannie Mae in most underserved markets. However, by 2000, Freddie was close to parity with Fannie Mae in most categories and actually had slight leads in a few others. The fact that Freddie Mac disproportionately contributed to GSE overall gains does not, of course, mean that Freddie Mac has outperformed Fannie Mae; rather, it just means that Freddie has narrowed or eliminated the gaps that existed in the past.

In short, while the record is far from consistent, the GSEs have made some gains, at least compared to traditional primary market lenders, in recent years. In Chapter III, we analyze some of the factors that contributed to this mixed success. In Chapter V, we discuss the implications of these trends for the impact GSE activity has had on the primary market. Are these trends consistent or inconsistent with the belief that the GSEs have positively influenced primary market lending to underserved markets?

Chapter III: Secrets of Success

As we have seen, during the 1990s the GSEs made more progress in some underserved markets than they did in others. There are at least three types of factors that could be associated with these gains.

First, there could have been <u>changes in the sources</u> of GSE purchases. The GSEs obtain their loans from a variety of sellers. The GSEs could have done more of their business with those sources who have more underserved market loans to sell.

Second, the GSEs could have used <u>seasoned loans</u> to improve their performance. Underserved market loans which, for whatever reason, the GSEs failed to purchase in earlier years, but which have since established at least some record of steady payment, may be attractive to the GSEs. Purchases of such loans could improve the GSEs' underserved market performance while adding less risk than new loans would. Further, the relatively weak underserved market performance of the GSEs in earlier years may have made such loans fairly plentiful.

Third, GSEs could buy a higher percentage of the underserved market loans that are available from their existing sources. This would occur if there were <u>changes in the determinants</u> of GSE purchases across time. For example, we might find that, across time, income becomes less important as a factor in whether or not a loan gets purchased by the GSEs. This would suggest that GSEs are weighing income less heavily or have successfully developed programs that make a low income less of a barrier to GSE purchasing. More generally, changes in the effect of any variable across time may mean that, one way or another, barriers to purchase that existed in the past were now being surmounted. If this were the case, the sources of GSE purchases may not change across time, but more underserved market loans may be being purchased from those sources.

A series of descriptive and multivariate analyses will help to shed light on each of these possibilities. The GSEs' own data, Public Use Data Base File B, provides key information on the sources and seasoning of their loans that is not available elsewhere, so we will use it for the first two parts of the analysis (again keeping in mind that these data are for the entire nation and not just metropolitan areas). Since the GSEs' data tells us nothing about the loans they chose not to purchase, we return to the HMDA data for the final part of this analysis.

The 1998 Anomaly and "Other" Sellers

One of the more puzzling findings from Chapter II was the sudden spike in nationwide GSE performance in 1998, as measured by the GSEs' own data. HUD's Table 2B in Appendix A further showed that 1998 was the year in which HMDA's estimates of GSE underserved market performance in metropolitan areas differed most sharply from the GSEs' own estimates. Our analysis suggests that this was due to unusual circumstances in 1998.

GSEs purchase their loans from primary market lenders, e.g. Banks, Mortgage Companies, Thrifts, and, occasionally, Credit Unions. Most of these lenders also report to HMDA. However, there is another source of loans identified in the GSE data, called "Other." These others include insurance companies, investment banks, finance companies, housing finance agencies, etc. (Lind, 2000). Table III-1 compares the characteristics of loans sold to the GSEs by these types of sellers.

Table III-1: Nationwide GSE Purchases By Type of Seller by Year (GSE PUDB File B)

		1993	1994	1995	1996	1997	1998	1999	2000	1993-1996	1997-2000	All Years
Black	Lenders	2.47%	3.58%	3.99%	3.34%	3.52%	3.28%	2.88%	3.58%	3.32%	3.30%	3.31%
	Other Sellers	3.38%	5.70%	4.64%	6.73%	9.28%	11.96%	6.84%	4.18%	4.89%	7.85%	7.04%
	All Sellers	2.48%	3.62%	4.00%	3.36%	3.56%	3.57%	2.99%	3.60%	3.34%	3.43%	3.39%
Hispanic	Lenders	3.65%	4.99%	5.40%	4.90%	4.66%	4.36%	4.75%	6.10%	4.72%	4.96%	4.85%
	Other Sellers	7.48%	16.03%	9.94%	21.08%	14.54%	9.38%	5.67%	4.65%	12.65%	7.15%	8.65%
	All Sellers	3.71%	5.21%	5.47%	4.99%	4.74%	4.53%	4.78%	6.05%	4.82%	5.02%	4.93%
Very Low Income	Lenders	5.28%	7.15%	7.21%	7.23%	8.01%	10.45%	9.81%	10.70%	6.67%	9.86%	8.47%
	Other Sellers	5.02%	7.89%	7.73%	8.87%	18.88%	29.84%	21.09%	11.47%	7.18%	22.72%	20.14%
	All Sellers	5.28%	7.17%	7.21%	7.26%	8.16%	12.44%	10.71%	10.74%	6.68%	10.73%	9.02%
Low Inc Borrower in Low/Mod Tract	Lenders	1.88%	2.86%	3.00%	2.91%	3.07%	3.52%	2.97%	3.53%	2.64%	3.30%	3.01%
	Other Sellers	2.31%	4.49%	4.43%	4.32%	10.00%	11.12%	7.01%	3.73%	3.78%	8.21%	7.47%
	All Sellers	1.89%	2.90%	3.02%	2.93%	3.16%	4.30%	3.29%	3.55%	2.66%	3.63%	3.22%
Targeted Tract	Lenders				22.54%	23.71%	24.92%	22.60%	24.61%	22.54%	24.01%	23.76%
	Other Sellers				49.65%	38.81%	51.42%	38.26%	24.72%	49.65%	41.07%	41.40%
	All Sellers				22.92%	23.91%	27.65%	23.84%	24.62%	22.92%	25.17%	24.80%

Looking at the table, it is clear that the purchases from “Other” sellers are generally much more likely to be from underserved markets than are the loans purchased from Lenders. For example, looking at the totals for all years, 3.31% of the loans purchased from Lenders were for blacks, compared to 7.04% of the loans bought from Other Sellers. Similar ratios, sometimes a little more, sometimes a little less, are found for other types of underserved markets. Interestingly, in 2000, loans purchased from Other Sellers were far less likely to come from underserved markets than they had been in earlier years. For example, in 1999, 21.09% of the loans purchased from Other Sellers were very low income, compared to only 11.47% in 2000.

However, it is also clear that, despite these differences, sales from Others have little impact on overall GSE purchases for the eight-year period. For example, by looking at the last column, we see that 3.31% of the purchases from Lenders are black, while the total for All Sellers is only slightly higher, 3.39%. The discrepancies between the Lenders-only and All Sellers are somewhat larger for very low income borrowers and borrowers from targeted tracts, but even here the differences are relatively small.

A look at across-year variation, however, yields important insights. Between 1993 and 1997, the differences between the Lenders-only and All Sellers figures are generally very small. In 1998, however, differences are quite pronounced, becoming as great as almost 3% for targeted tracts. In 1999, the differences decline, and by 2000 the figures for Lenders-only and for All Sellers are again virtually identical.

In short, even though purchases from Other Sellers were more likely to be from underserved markets, in most years they had little impact on the GSEs' overall underserved market performance. However, 1998 and, to a lesser extent, 1999, are noteworthy exceptions to this.

Table III-2 and Chart III-1 help to explain why Other Sellers had a small impact in most years but much more impact in 1998. In these charts, we look longitudinally at the percentages of GSE purchases that came from Other Sellers.

Table III-2: Percent of Nationwide GSE Purchases Coming from Other Sellers, by Year (GSE PUDB File B)

	1993	1994	1995	1996	1997	1998	1999	2000	1993-1996	1997-2000	All Years
All Loans	2.06%	2.30%	1.71%	1.42%	1.36%	10.30%	7.92%	5.85%	1.86%	6.81%	4.72%
Black	2.00%	3.09%	1.63%	1.14%	2.17%	11.20%	6.33%	4.44%	1.93%	6.41%	4.46%
Hispanic	2.96%	6.04%	2.56%	2.40%	2.55%	6.92%	3.28%	2.94%	3.47%	3.99%	3.77%
Very Low Income	1.96%	2.53%	1.83%	1.74%	3.15%	24.69%	15.60%	6.25%	2.00%	14.41%	10.53%
Low Inc Borrower in Low/Mod Tract	2.52%	3.56%	2.50%	2.09%	4.30%	26.62%	16.87%	6.15%	2.64%	15.40%	10.95%
Targeted Tract				3.04%	2.21%	19.14%	12.72%	5.87%	3.04%	11.11%	9.88%

III-1: Percent of GSE Purchases Coming from Other Sellers, by Year

Several things stand out. Prior to 1998, Other Sellers provided only a small portion of the GSEs' purchases, typically less than 2% of the overall total. A somewhat higher, but still small, portion of the GSEs' underserved market loans came from these sellers.

In 1998, however, there was a dramatic change. Other Sellers suddenly accounted for more than 10% of the GSE purchases. Further, the jump was much greater for several of the underserved markets, with more than a quarter of GSE purchases in some categories coming from Other Sellers. The jumps for Blacks and Hispanics, however, only matched or even trailed the overall increases for Other Sellers.

Since 1998, however, Other Sellers have substantially declined as a source of GSE loans. Since, as we saw earlier, these loans also became much less likely to come from underserved markets, by 2000 sales from Other Sellers once again had virtually no impact on the GSEs' overall underserved market performance.

What accounts for these puzzling trends? Lind (2000) has already provided part of the explanation. As Lind explains, in 1998, for the first time ever, the GSEs purchased significant numbers of loans from non-HMDA sources, e.g. insurance companies, investment banks, finance companies, housing finance agencies, etc., which were not included in the HMDA primary market database. The international financial crisis of Southeast Asia and Russia forced these entities to sell assets. According to Lind, the GSE purchases provided needed liquidity at a critical point in time. But, while the GSEs may have provided a valuable service with their purchases, whether or not this reshuffling of ownership resulted in more loans to underserved markets is unclear. We discuss this issue more in our last chapter.

These results help to put Lind's positive evaluation of the GSEs in perspective. Lind credited the GSEs with strong improvements between 1996 and 1998, and argued that the underserved market performance of the GSEs in 1998 for single family home purchase loans matched or exceeded that of primary market lenders in many areas, while coming close in others. Our analysis of the GSEs' own data also show that, for the underserved markets explicitly covered by the Final Rule, GSE performance did improve substantially in 1998. But, the GSEs' own data shows that their performance declined thereafter.

Hence, Lind's positive evaluation involved a period in which GSE performance was apparently atypical. Sales from Other Sellers were exceptionally high in 1998 and declined sharply thereafter. Further, the loans that were purchased from Other Sellers in 2000 were much less likely to come from underserved markets than they had been earlier. Perhaps the GSEs changed their purchasing policies in 2000; or, perhaps the heavy purchases of 1998 exhausted the pool of underserved market loans that the GSEs were willing to purchase.

Seasoned Loans

A second factor that may have affected GSE underserved market performance is a changing reliance on loans made in the same year they were purchased and seasoned loans made in earlier years. Seasoned loans have established some record of payment. Hence, they may be viewed as less risky now than they were at the time they were made. Further, weak performance of GSEs in earlier years may mean that there are many seasoned underserved market loans available for purchase. Tables III-3 and III-4 assess the impact that purchases of seasoned loans have had on GSE performance.

Table III-3: Nationwide GSE Purchases By Seasoned/UnSeasoned by Year (GSE PUDB File B)

		1993	1994	1995	1996	1997	1998	1999	2000	1993-1996	1997-2000	All Years
Black	Same Year	2.43%	3.74%	4.03%	3.31%	3.01%	3.11%	2.76%	3.28%	3.33%	3.04%	3.17%
	Seasoned	3.01%	3.10%	3.83%	3.55%	5.58%	5.36%	3.78%	4.53%	3.42%	4.77%	4.28%
	All	2.48%	3.62%	4.00%	3.36%	3.56%	3.57%	2.99%	3.60%	3.34%	3.43%	3.39%
Hispanic	Same Year	3.73%	5.14%	5.36%	5.00%	4.48%	4.22%	4.73%	5.83%	4.76%	4.79%	4.78%
	Seasoned	3.47%	5.52%	5.99%	4.96%	5.70%	5.71%	4.94%	6.66%	5.14%	5.80%	5.55%
	All	3.71%	5.21%	5.47%	4.99%	4.74%	4.53%	4.78%	6.05%	4.82%	5.02%	4.93%
Very Low Income	Same Year	6.09%	7.59%	7.54%	7.63%	7.82%	12.27%	10.66%	10.76%	7.17%	10.63%	9.14%
	Seasoned	2.03%	5.54%	6.08%	6.08%	9.16%	13.04%	10.86%	10.69%	4.94%	11.06%	8.66%
	All	5.28%	7.17%	7.21%	7.26%	8.16%	12.44%	10.71%	10.74%	6.68%	10.73%	9.02%
Low Inc Borrower in Low/Mod Tract	Same Year	2.14%	3.10%	3.23%	3.02%	2.79%	3.97%	3.12%	3.40%	2.84%	3.38%	3.15%
	Seasoned	0.92%	2.15%	2.30%	2.66%	4.25%	5.42%	3.82%	3.97%	2.03%	4.38%	3.46%
	All	1.89%	2.90%	3.02%	2.93%	3.16%	4.30%	3.29%	3.55%	2.66%	3.63%	3.22%
Targeted Tract	Same Year				22.40%	21.99%	26.36%	22.64%	23.91%	22.40%	23.96%	23.70%
	Seasoned				24.57%	29.49%	32.05%	27.54%	26.63%	24.57%	28.90%	28.20%
	All				22.92%	23.91%	27.65%	23.84%	24.62%	22.92%	25.17%	24.80%

Table III-4: Percent of GSE Nationwide Purchases Coming From Seasoned Loans, by Year (GSE PUDB File B)

	1993	1994	1995	1996	1997	1998	1999	2000	1993-1996	1997-2000	All Years
All Loans	20.09%	20.74%	22.10%	24.15%	25.65%	22.68%	24.52%	26.09%	21.80%	24.61%	23.42%
Black	11.49%	15.94%	16.25%	21.95%	33.93%	30.56%	27.84%	32.42%	16.82%	31.18%	24.92%
Hispanic	8.87%	19.71%	18.57%	20.63%	26.06%	25.67%	22.74%	28.40%	17.52%	25.88%	22.27%
Very Low Income	7.73%	16.04%	18.62%	20.24%	28.80%	23.77%	24.88%	25.97%	16.12%	25.37%	22.48%
Low Inc Borrower in Low/Mod Tract	9.79%	15.35%	16.80%	21.93%	34.48%	28.60%	28.46%	29.21%	16.60%	29.71%	25.14%
Targeted Tract				25.81%	31.56%	26.27%	28.29%	28.19%	25.81%	28.21%	27.85%

These tables reveal similar but weaker patterns compared to what we found for types of sellers. Between 1993 and 1996, seasoned loans were sometimes more likely to come from underserved markets, but sometimes not. Starting with 1997, seasoned loans were almost always more likely to come from underserved markets than were their same year counterparts. Further, as Table III-4 shows, the proportion of all GSE purchases that were seasoned loans increased only modestly across time, going from 20.09% of all purchases in 1993 to 26.09% in 2000. For underserved markets, however, the gains were much greater. For example, in 1993, 11.49% of all black borrower loans were seasoned loans, while in 2000 it was 32.42%.

These trends suggest that, after the Final Rule was adopted, the GSEs turned to seasoned loans as one way of meeting their obligations. The impact is made clearer when we look at Table III-3 and compare the 1993-1996 and 1997-2000 entries for "Same Year" and "All" loans. These figures show that during 1993-1996, seasoned loans had a small and inconsistent impact on GSE underserved market performance. During 1997-2000, the purchase of seasoned loans consistently made the GSEs' performance at least a few tenths of a percentage point higher than it otherwise would have been, sometimes even more than a full point (e.g. 23.96% of the GSEs' 1997-2000 Same Year loans were from targeted tracts, compared to 25.17% of all the loans they purchased). Hence, the purchase of seasoned loans had a modest but positive impact on the GSEs' underserved market performance after the Final Rule was adopted.

By purchasing seasoned loans from underserved markets, the GSEs help to make funds available for future home purchases. Future borrowers from underserved markets will hopefully benefit. Nonetheless, it should be noted that the GSEs are probably taking less risk with seasoned loans than same year loans. Indeed, the borrower may not even be a member of an underserved market anymore if their income has risen. The implications this type of success has for helping underserved markets is discussed more in our final chapter.

Changing Determinants of Loan Purchases: The Declining Significance of Income

Besides turning to new sources of loans and seasoned loans, another way the GSEs could have achieved success would have been by purchasing more underserved market loans from existing sources. This would have occurred if, say, the effects of race, income, and neighborhood characteristics on whether or not a GSE purchased a loan changed across time.

For this part of the analysis, we again turn to HMDA. With the HMDA data, we know what loans were available for the GSEs to purchase. We miss many loans that the GSEs eventually purchased, but, as we have seen, these loans tend to be missing at random; that is, HMDA data provide estimates of GSE activity that are generally very similar to the estimates provided by the GSEs own data.

We caution that many variables probably affect whether or not the GSEs purchase a loan. Unfortunately, many of these variables, e.g. credit ratings, are not available in the HMDA data. Nonetheless, by looking at changes in the estimated effects of the variables we do have, we can get suggestive evidence of how the determinants of GSE purchases changed across time.

In Table III-5, the dependent variable is whether or not a GSE purchased the loan[1]. The independent variables are the five types of underserved markets studied in this analysis. Given that our other analysis has indicated that the GSEs made their clearest gains after 1998, we estimate models separately for 1993-1998 and 1999-2000[2]. Most critically, we show how the coefficients changed between the two time periods[3].

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[1] In separate analysis, we also included controls for characteristics of the lender making the loan, e.g. the type of lender (bank, credit union, thrift, mortgage company) and the assets of the lender (more than $1 billion versus less than 1 billion). Even with these controls, the changes across time in coefficients were similar.

[2] From a substantive standpoint, the 1993-1998 versus 1999-2000 split may reflect program innovations the GSEs made. For example, the GSEs increasingly turned to automated underwriting during the latter part of the 1990s. See Temkin, Johnson and Levy (March, 2000) for a discussion of the possible impact of automated underwriting on lending to underserved markets.

[3] We also estimated several other models using different temporal splits. For example, similar but weaker changes across time periods are found if we use 1993-1996 and 1997-2000 instead. In addition, we estimated logistic regressions for each year separately. These regressions showed fluctuations in the year to year effects of the independent variables examined (i.e. the GSEs would alternate between being more likely and less likely to buy loans from underserved markets on a year by year basis) but with Very Low Income borrowers making clear gains in 1999 and 2000. While pooling years obscures some of the year by year variation (much of which appears to be fairly random), we believe it also helps to highlight the most critical changes that occurred in the latter part of the decade.

Table III-5: Logistic Regressions of Determinants of GSE Purchases (HMDA Metropolitan Area Data)

	1993-1998	1999-2000	Change	Significance of Change
Black	-0.253	-0.280	-0.027	0.17599
Hispanic	-0.007	-0.045	-0.037	0.02725
Very Low Income	-0.364	-0.047	0.317	0.00000
Low Inc Borrower in Low/Mod Tract	-0.245	-0.259	-0.014	0.51467
Targeted Tract	-0.187	-0.179	0.007	0.46472
Constant	-0.299	-0.324	-0.024	0.00000

* All Coefficients for 1993-1998 and 1999-2000 except Hispanic 1993-1998 are significant at the .001 level.
The last column indicates whether the changes across time are statistically significant.

Not surprisingly, all of the coefficients for 1993-1998 (including the insignificant Hispanic effect) and 1999-2000 are negative. This means that the GSEs were less likely to purchase loans from underserved markets than they were loans from served markets. Of greater interest is how these coefficients changed across time. For four of the underserved markets, the changes in coefficients were statistically insignificant or very small relative to the size of the 1993-1998 effect. This implies that the main reason the GSEs made any progress at all in these areas was because primary market Lenders and Other Sellers made relatively more of these loans available for purchase.

There is one change that clearly benefited underserved markets. In 1993-1998, after controlling for other variables, very low income borrowers were the least likely of the underserved markets to have their loans purchased by a GSE, i.e. the coefficient for very low income was the largest in magnitude. By 1999-2000, however, the effect of being very low income was only slightly negative; in other words, very low income borrowers were almost as likely to have their loans purchased by a GSE as were borrowers who were not very low income. Hence, between the two time periods, a loan being characterized as "very low income" went from being the greatest barrier to GSE purchase (after controlling for other variables) to being almost no barrier at all[4].

This change could, of course, be due to important variables that are omitted from the model. For example, thanks to sustained prosperity, the very low income borrowers of 1999-2000, while still having low incomes, may have had better credit scores and fewer debt problems than their counterparts of 1993-1996.

However, the difference could also reflect changes in the policies and programs of the GSEs. More flexible underwriting programs might have helped very low income borrowers, causing income to weigh less heavily in GSE decisions during the latter part of the decade. Or, other ways may have been found to overcome financial barriers to purchase.

In short, we cannot be sure why the GSEs became more likely to purchase loans from very low-income borrowers. The change may reflect changes in unmeasured variables, such as credit

[4] It is important to keep in mind that other variables are being controlled for. Because very low income borrowers often belong to other underserved markets, as a group they will still tend to have fewer of their loans purchased by the GSEs than is the case with higher-income groups. What the analysis says is that, in 1999 and 2000, it is other characteristics very low income borrowers tend to have, and not their income, that works against them.

history, or it may reflect increased flexibility or innovative programs on the part of the GSEs that caused income to be less of a factor in their purchasing decisions. And, of course, it could be that this is a short-term change that will not be repeated in later years. But, regardless of the cause, the weakened relationship between income and GSE purchasing is one of the reasons GSEs made gains in underserved markets.

Summary

Part of the GSEs' improvements in underserved market lending during the 1990s was due to their turning to different types of sources for their loans. Loans from Other Sellers were historically more likely to come from underserved markets. But, since the GSEs purchased so few of these (about 2% of the GSEs' overall total) they had little impact on the GSEs' overall performance. This changed dramatically in 1998, when Other Sellers accounted for more than 10% of the GSEs' overall business and as much as a fourth of their underserved market loans. However, the impact was short-lived. By 2000 the GSEs were purchasing substantially fewer loans from Other Sellers, and the loans they did purchase were much less likely to come from underserved markets than they had been in the past.

At least as reported in their own data, seasoned loans have been a less dramatic but more consistent source of the GSEs' progress since the Final Rule was adopted. Before 1997, seasoned loans were sometimes more likely to come from underserved markets, and sometimes not. Since 1997, seasoned loans have had a modest but fairly consistent positive impact on the GSEs' gains in underserved markets. The trends show that an increasing proportion of the GSEs' underserved market loans were made in years other than when they were purchased. This has helped to raise the overall percentage of underserved market loans held by the GSEs.

Finally, we find that, for most underserved markets, there was little change between 1993-1998 and 1999-2000 in the likelihood that the GSEs would purchase a loan from that market. However, underserved markets did make clear gains in one key area. Having a very low income went from being the greatest obstacle to the GSEs purchasing a loan to being almost no obstacle at all. Unmeasured variables unrelated to anything the GSEs did, such as improved credit scores, might account for this. However, more flexible GSE underwriting guidelines and the implementation of programs aimed at very low income borrowers are also plausible explanations for the improvements that occurred.

Each of these elements of progress has possible implications for the effect GSEs had on primary market lending. We discuss such implications later in our final chapter.

Chapter IV: GSE Influence on Lenders

In the previous chapters, we focused on developments and trends that provide indicators of the possible influence the GSEs are having on the primary market. In this chapter, we offer analyses that look at GSE influence more directly. To do this, we build on models and techniques initially developed by Williams and Nesiba (1997). Williams and Nesiba examined how characteristics of lenders were related to their underserved market performance. We expand their models to consider another type of lender characteristic: the amount of business a lender does with the GSEs. We use HMDA metropolitan data because the GSE PUDBs do not identify the specific primary market lenders that originate loans.

In a study of home mortgage lending in St. Joseph County, Indiana, Williams and Nesiba (1997) introduced the idea of Models of Community Reinvestment Market Share. Models of Community Reinvestment Market Share assess how lender characteristics are related to the proportion of a lender's business that is done with underserved markets. Specifically, the strategy is as follows: all approved loan applications are included in the analysis. The dependent variable is coded 1 if the loan was for the underserved market being studied, 0 otherwise. The dependent variable is then regressed on the lender's characteristics, e.g. the assets of the lender and the legal structure of the lender (bank, credit union, thrift, or mortgage company). In these models, a positive coefficient means that this type of lender does relatively more of its business with the underserved market in question, while a negative coefficient indicates that it does relatively less.

Williams and Nesiba (see also Kim and Squires, 1995) note several reasons these lender characteristics may be important. Lenders have varying economic interests. Depository institutions have many options for investing their funds (e.g. other types of loans, stock, real estate), whereas the choices for mortgage companies are much more limited. The legal obligations of lenders also differ. Commercial banks and thrifts are subject to the Community Reinvestment Act (which requires lenders to reinvest in the communities from which they draw their deposits) while credit unions and mortgage companies are not. Lenders also report to different federal agencies and may serve different types of clienteles.

These lender characteristics may have become even more important with time. Stricter enforcement of the Community Reinvestment Act may have made lenders subject to its provisions (commercial banks, thrifts) more inclined to make underserved market loans. Mergers and industry consolidation may also have affected how receptive lenders are to the needs of underserved markets (Williams, McConnell and Nesiba, 2001).

We extend the Williams-Nesiba models to include another type of lender characteristic: the amount of business a lender does with the GSEs. There are several reasons for believing that, for better or for worse, the underserved market performance of lenders will be affected by how many of their loans they sell to the GSEs.

- The more dependent a lender is on selling loans to the GSEs, the more affected it will be by GSE underwriting guidelines. If these guidelines encourage underserved market loans, the lender should be more likely to make such loans, but if the guidelines discourage underserved markets loans then such loans should be made less often.

- The more business a lender does with the GSEs, the more willing and able it should be to participate in GSE programs designed to promote underserved market lending. Hence, if these programs are truly effective, their effects should be most evident among those lenders who work with the GSEs the most.

- A recent study by Ambrose and colleagues (2002) implies additional reasons for expecting a lender's underserved market performance to be related to the extent to which it does business with the GSEs. In a study of eight MSAs, Ambrose et al found that homeownership rate changes for low-income families increased more in those MSAs where GSE market share was greater. A study of 80 MSAs found that "the liquidity created when GSEs purchase loans originated to low income families is recycled into more lending targeted to lower income homebuyers (p. x)." By way of analogy, if underserved markets benefit most in those MSAs where GSE market share is greatest, they should also benefit most with the lenders who sell the largest share of their loans to the GSEs.[1]

Williams and colleagues (2001) tested a variation of these ideas in Indiana during the years 1992-1996. Their analysis found little evidence that the GSEs' influence on their sellers had been beneficial:

> 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 GSEs might exert a positive influence on all the loans made by the lenders they work with does not seem to be supported.

However, the present analysis can extend the previous Williams et al work in several key ways. There is the obvious advantage of a national as opposed to regional analysis. But, even more critically, most of our previous work in this paper indicates that the main or at least clearest gains the GSEs made occurred after 1996, particularly in 1999 and 2000. Hence, through a longitudinal analysis, we can see whether the effects of the GSEs on their sellers has become more positive (or at least less negative) across time. By controlling for other lender characteristics (the legal structure of the lender, its assets) we help to control for other factors that may have affected lenders across time, such as industry restructuring and the Community Reinvestment Act.

Table IV-1 presents the results of this analysis. As previously explained, we run five separate logistic regressions, one for each of the five underserved markets. Models are estimated separately for 1993-1998 (column 2) and 1999-2000 (column 3). The change in coefficients across time (column 4) and the statistical significance of the change (column 5) is noted. In each

[1] The flip side of the Ambrose findings is that when GSEs are less active in an MSA, the underserved markets in those areas benefit less. Ambrose et al are careful to point out that they are not addressing the controversy over whether or not the GSEs "lead the market," and we think that caution should be taken seriously. We interpret the Ambrose findings as showing that areas can benefit from GSE activity; but, rightly or wrongly, there are significant regional disparities in how those benefits get distributed, with the GSEs being much more active in some areas than they are in others. Ambrose et al also note other disparities between served and underserved markets. For example, on p. 31 they note that "One of the most striking results is that the average GSE underserved market shares are significantly lower than the total market." Similarly, tables presented on pages 29-32 of their report show that the GSEs' share of the minority market is consistently less than their share of the total market.

case, the dependent variable is coded 1 if the loan went to a member of the underserved market being studied, 0 otherwise. The independent variables (column 1) are

- The percent of a lender's conventional home purchase loans that were sold to the GSEs. This is the key independent variable and reflects the possible influence GSEs have on lenders.

- The legal structure of the lender, as represented by three dummy variables: Thrift (coded 1 if the lender is a thrift, 0 0therwise), Mortgage Company (1 = Mortgage Company, 0 otherwise) and Credit Union (1 = Credit Union, 0 otherwise). The reference category is Commercial Banks. Hence, negative coefficients for these lender variables indicate that this type of lender is less likely to make loans to underserved markets than are commercial banks, while a positive coefficient means that this type of lender is more likely to make loans to underserved markets than are commercial banks. Including these variables helps to control for the legal and financial factors that may affect a lender's underserved market performance.

- Assets of the lender, coded 1 if assets are more than $1 billion dollars, 0 otherwise. The lending industry has become increasingly consolidated across time, with fewer but larger lenders. As Williams et al (2001) note, some view this trend as disturbing because it may lead to lenders who are less responsive to the needs of local communities and underserved markets. Others, however, argue that larger lenders may have more resources and expertise to deal with the needs of low income and minority neighborhoods and individuals. Whatever the effect is, inclusion of this variable helps to control for it.

Some key points should be kept in mind when reviewing the analysis we present next.

- The underserved market performance of primary market entities is no doubt affected by many other variables that we do not have measures of and hence are not included here. It is possible, then, that any apparent effects of the GSEs on lenders are spurious. The same factors that cause a lender to do more business with the GSEs may also cause it to do less (or more) business with underserved markets. (If so, this raises the question of why these lenders are the ones with which the GSEs do the most business.)

- Nonetheless, the longitudinal design of this analysis does make it possible to present evidence that is at least suggestive of possible GSE influence. Suppose the estimated effects of the GSEs on lenders become more positive (or less negative) across time. This would be consistent with the hypothesis that the GSEs have gradually helped to influence lenders to become more active with underserved markets. Again, we do not claim that any single piece of evidence is definitive. However, the evidence from this analysis, combined with everything else we have done, help us to determine what effects, if any, GSEs are having on underserved markets.

Table IV-1: Logistic Regressions of GSE Influence on Lenders (HMDA Metropolitan Area Data)

A. Black

	1993-1998	1999-2000	Change	Significance of Change
% of loans sold to GSEs	-0.481	-0.199	0.281	0.00000
Thrift	-0.249	-0.326	-0.077	0.00911
Credit Union	-0.141	-0.176	-0.035	0.60966
Mortgage Company	0.144	0.065	-0.079	0.00124
Assets > $1 billion	0.329	0.294	-0.035	0.07532
Constant	-3.101	-3.172	-0.071	0.00174

B. Hispanic

	1993-1998	1999-2000	Change	Significance of Change
% of loans sold to GSEs	-0.221	-0.097	0.124	0.00000
Thrift	0.256	0.074	-0.182	0.00000
Credit Union	-0.274	-0.232	0.042	0.51590
Mortgage Company	0.253	0.055	-0.198	0.00000
Assets > $1 billion	0.120	0.255	0.135	0.00000
Constant	-3.085	-2.877	0.208	0.00000

C. Very Low Income Borrowers

	1993-1998	1999-2000	Change	Significance of Change
% of loans sold to GSEs	-0.232	0.094	0.326	0.00000
Thrift	-0.294	-0.476	-0.182	0.00000
Credit Union	-0.369	-0.400	-0.031	0.42369
Mortgage Company	-0.495	-0.427	0.068	0.00000
Assets > $1 billion	0.195	0.050	-0.145	0.00000
Constant	-1.783	-1.697	0.086	0.00000

D. Low income borrowers in low/moderate income tracts

	1993-1998	1999-2000	Change	Significance of Change
% of loans sold to GSEs	-0.379	-0.129	0.250	0.00000
Thrift	-0.363	-0.507	-0.144	0.00000
Credit Union	-0.403	-0.409	-0.005	0.92983
Mortgage Company	-0.466	-0.424	0.043	0.05875
Assets > $1 billion	0.300	0.236	-0.063	0.00076
Constant	-2.724	-2.823	-0.099	0.00000

E. Targeted Tracts

	1993-1998	1999-2000	Change	Significance of Change
% of loans sold to GSEs	-0.237	-0.169	0.068	0.00000
Thrift	-0.146	-0.207	-0.061	0.00000
Credit Union	-0.208	-0.266	-0.058	0.04659
Mortgage Company	-0.235	-0.212	0.023	0.04763
Assets > $1 billion	0.065	0.069	0.004	0.64096
Constant	-0.995	-0.996	-0.001	0.93028

* All coefficients for 1993-1998 (column 2) and 1999-2000 (column 3) are statistically significant at the .01 level. Column 5 indicates whether the change in coefficients is significant.

At least three key findings concerning GSE influence stand out from the data.

- In 1993-1998, the more of its loans a lender sells to the GSEs, the *less* likely its loans are to be to members of underserved markets. This is true for every underserved market.

- For four of the five underserved markets, the effects of the GSEs continue to be negative in 1999-2000 – but in each case they are significantly *less* negative than they were in the earlier time period.

- For the fifth underserved market – very low income borrowers – the GSE effect shifts from being negative in 1993-1998 to being slightly positive in 1999-2000.

Hence, in 1993-1998, the evidence suggests that, if anything, the GSEs were having a negative influence on the underserved market performance of their sellers; or, if their influence was positive, it was not enough to overcome whatever other factors were causing their sellers to make relatively fewer loans to underserved markets. This was much less true in 1999-2000, and indeed, the effect of the GSEs on very low income loans actually became slightly positive.

These findings are very consistent with our earlier results. As we have seen repeatedly, in recent years the GSEs have made some progress with Blacks, Hispanics, Low Income Borrowers in Low to Moderate Income Tracts, and Targeted Tracts. The above analysis suggests that part of the reason this progress occurred was because the lenders who sell the most loans to the GSEs started making more such loans in recent years.

Also, we have repeatedly seen that the GSEs' greatest progress across time has been with very low income borrowers. Our models of GSE influence showed the most dramatic gains for this group. In 1993-1998, the more business a lender did with the GSEs, the less likely it was to make loans to very low income borrowers. But, in 1999-2000, this trend reversed itself, as those lenders who did more business with the GSEs actually became slightly more likely to make loans to very low income applicants.

Again, we must keep in mind that there are several factors, many of them unmeasured in these data, that could be affecting the underserved market performance of primary market lenders. It may be that other factors caused those lenders who do the most business with the GSEs to also improve their underserved market lending. Or, the GSEs could have started doing more business with lenders who were more active in underserved markets. But, the trends reported here are also consistent with the hypothesis that GSE influence on lenders moved in a more positive, or at least less negative, direction across time. Increased emphasis by the GSEs on underserved market lending, a greater willingness to buy loans from such markets, and programs designed to generate loan applications from these markets are all possible explanations for the trends reported here.

While not of primary interest for our purposes, the coefficients for the other lender variables are also worth briefly commenting on. For the three Final Rule underserved markets, the 1993-1998 and 1999-2000 coefficients for Thrifts, Credit Unions, and Mortgage Companies are consistently negative. This means that these types of lenders make relatively fewer conventional loans to these underserved markets than do the reference category of Commercial Banks. Williams et al

(2001) noted similar patterns in Indiana lending. They speculated that, since thrifts and commercial banks are both covered by the Community Reinvestment Act, thrifts may be using less risky FHA loans rather than conventional loans to meet their CRA obligations. Williams et al argue that if this is the case, it may be unfortunate, since FHA loans carry higher costs than do conventional loans.

Mortgage companies also rely heavily on FHA loans, and the table shows that they are relatively more likely than commercial banks to make loans to Blacks and Hispanics. Williams et al speculated that the use of FHA loans helps to give mortgage companies inroads with minority markets which carry over into their conventional lending.

Finally, Williams et al found little evidence that a trend toward larger lenders was hurting Indiana's underserved markets. The analysis presented here does not pursue this issue in as much depth and hence the results should be viewed with caution. But, the fact that the coefficients for Assets > $1 billion are consistently positive suggests that, if anything, larger lenders do a better job with underserved markets than smaller lenders do. This may reflect the greater resources and expertise and the ability to manage risk that larger companies possess.

Summary

Williams and Nesiba examined how characteristics of lenders were related to their underserved market performance. We expand their models to consider another type of lender characteristic: the amount of business a lender does with the GSEs. We hypothesize that, after controlling for other characteristics of lenders that may also affect their performance, those lenders who do the most business with the GSEs should also be the lenders that are most influenced by GSE policies and programs. If GSE policies and programs are beneficial to underserved markets, then the lenders who do the most business with the GSEs should be the lenders who make the most loans to underserved markets.

We find that, between 1993-2000, just the opposite is almost always true: the more of its conventional home purchase loans a lender sells to the GSEs, the fewer of its loans go to underserved markets. But, for every underserved market, this negative effect of the GSEs is significantly smaller in 1999-2000 than it was in 1993-1998. Further, for very low income borrowers, the GSE effect is actually slightly positive in 1999-2000: the more of its loans a lender sells to the GSEs, the more likely it is to make loans to very low income borrowers.

The exclusion of other relevant variables that can affect lenders means that these results must be treated with caution. Factors unrelated to anything the GSEs did could account for these findings. Nonetheless, one possible explanation for the improved performance of lenders across time is that GSE policies and programs became more beneficial (or at least less harmful) to underserved markets than they had been in the past.

In our final chapter, we discuss the implications of all of our findings for our central questions: Are the GSEs leading the market, and are underserved markets benefiting as a result?

Chapter V: Are the GSEs Leading?

In Chapter I, we offered two ways the GSEs could provide leadership. First, the GSEs could do relatively more of their business with underserved markets than are other types of financial institutions that do not enjoy the GSEs' special privileges and benefits. Second, and much more critically, the GSEs could lead the market by encouraging primary market activity that narrows the gaps in home mortgage lending that exist between served and underserved markets.

Meeting the first goal does not guarantee success on the second. If GSE gains simply result in reshuffling the ownership of loans, or if the GSEs obtain their gains through means that do not stimulate additional lending to underserved markets, then little will have been accomplished. Conversely, even if the GSEs do not meet the first goal, they could still make progress toward the second. GSE programs and policies could at least make gaps between served and underserved markets smaller than they had been in the past.

In chapter I, we argued that, if the GSEs are leading the market, or at least less behind than they used to be, we should be able to see several real-world manifestations of their influence. While no single piece of evidence may be definitive, the findings as a whole should offer evidence that is at least highly suggestive. In this chapter, we review the body of evidence we have presented and offer our conclusions concerning their implications for GSE leadership.

Trends in Primary Market Lending and GSE Purchasing

In chapter II, we looked at trends in primary market lending and GSE purchasing. It is clear from that analysis that the GSEs are <u>not</u> meeting our first criteria for leadership. We saw that primary market lenders consistently made relatively more loans to underserved markets than the GSEs purchased. The GSEs also trailed behind their secondary market competitors. Underserved market loans that other secondary market lenders were willing to purchase and that primary market lenders were willing to hold in portfolio included types of loans that the GSEs were unwilling or unable to purchase. While gaps have narrowed in recent years, they continue to persist.

Even though the GSEs do not meet our first criterion for leadership, that does not preclude the possibility that the GSEs are affecting underserved markets in favorable ways, or at least, that their policies are less unfavorable to those markets than they were in the past. One indicator that the GSEs were having a positive effect on primary market lending would be if, as the GSEs increased their purchases of underserved market loans across time, relatively more such loans got made in the primary market. That is, as the disparities between GSE purchases of served and underserved market loans diminished, disparities in the primary market would get smaller as well.

The evidence concerning this was presented in chapter II and was decidedly mixed. Among the traditional lenders with whom the GSEs have historically done business, underserved markets were better off in 2000 than they were in 1993. But, in between, for most underserved markets there was no consistent pattern of improvement or decline. Indeed, most underserved markets received about the same percentage of all loans in 1997-2000 as they had in 1993-1996 (indeed, in many cases they received slightly less).

Further, in chapter I, we argued that the strongest evidence of GSE influence would be if gains in GSE purchasing were followed by improvements in the primary market. Again, however, there was no clear and consistent pattern of the GSEs either losing or gaining ground relative to the primary market. Indeed, for most underserved markets (except very low income borrowers), the gap between the GSEs and the primary market was about the same in 1998 as it had been in 1993. Improvements and declines in both GSE and primary market performance were generally more or less simultaneous, providing ambiguous evidence at best about GSE leadership. The GSEs may have been leading the market (both up and down) but they also could have simply been shadowing the primary market, adjusting their purchases to reflect whatever loans the primary market happened to be making.

In addition, as we saw, the clearest, most consistent, and strongest gains that underserved markets made during the 1990s were due to increased lending by subprime and manufactured housing lenders, neither of which does any significant amount of business with the GSEs. Were it not for subprime and manufactured housing lenders,

- Blacks, low income borrowers in low to moderate income tracts, and targeted tracts would have received a smaller percentage of all loans made in 1997-2000 than they did in 1993-1996.

- The across-time gains made by very low income borrowers and Hispanics would have been smaller than they were.

- Patterns of gains and declines would have been fairly random across years for most underserved markets, instead of the fairly consistent gains made by these markets.

Given that the GSEs themselves admit that many of the borrowers who have turned to these lenders are qualified for conventional financing (Raines, 2000), and given the benefits that GSE involvement could bring to the subprime (Lind, 2000) and manufactured housing markets (Mortgage Marketplace, 9/7/1998), the GSEs' lack of activity with these lenders in 2000 would seem to be questionable and unfortunate. However, the GSEs have already started to take new initiatives towards these markets (National Mortgage News, 8/7/2000; Mortgage Marketplace 9/7/1998; Brockman 11/3/1998, 9/10/1999). Hence, data from later years may show that this situation is being corrected.

Chapter II, however, did uncover two trends that may indicate areas where the GSEs are having a positive impact. First, among primary lenders, underserved markets made modest gains between 1998 and 1999, and larger gains between 1999 and 2000. GSE purchases of such loans grew at an even faster pace during this period. This is consistent with the idea that, while it may have taken a little while, GSE programs were finally starting to have a noticeable impact by the end of the decade. It will therefore be important to see whether these trends continue over the next few years, or whether 1999 and 2000 were, coincidentally, two years in which both primary lenders and the GSEs were doing a little bit better with underserved markets.

Second, very low income borrowers showed fairly steady gains during the 1990s among primary market lenders and even greater gains in GSE purchases. Income may be the one area in which GSEs can do the most to reduce barriers to homeownership. More flexible underwriting guidelines may make it easier both for the GSEs to purchase a loan and for the loan to get made in the first place. Other barriers to home ownership (such as credit problems, which may be correlated with race or other underserved market characteristics) may represent obstacles with which the GSEs are less willing or less able to assist.

In short, trends in primary market lending do not provide any clear and consistent evidence that the GSEs have been positively affecting underserved markets. Indeed, whatever benefits the GSEs have been providing seem to be dwarfed by the much larger gains produced by subprime and manufactured housing lenders. However, trends from the two most recent years studied offer hope that the GSEs are starting to have a more beneficial impact. And, lending trends among very low income borrowers are consistent with the hypothesis that more flexible underwriting standards or other GSE programs are benefiting the lowest income borrowers.

Secrets of Success Revisited

In chapter III, we saw that part of the gains the GSEs reported in their own data were due to purchases from Other Sellers and to the purchases of seasoned loans. With both of these sources of loans, it should be noted that their impact on primary market lending is unclear. Other Sellers have already obtained their loans from the primary market; hence, when the GSEs purchase loans from Other Sellers, ownership is being shifted from one secondary market entity to another without necessarily providing any new funds to the primary market.

Further, unlike mortgage companies and other lenders who rely heavily or primarily on housing loans for their business, Other Sellers, such as investment bankers and insurance companies, have many options for how they choose to invest their funds. They may choose to buy more housing loans with the funds they receive from the GSEs but they may also decide to invest in stocks and bonds instead. We do not know what these Other Sellers do with the proceeds from their sales, but it seems reasonable to assume that they will be less likely to reinvest in the home mortgage market than will primary market lenders. For these Other Sellers, home mortgages are simply one form of investment, whereas for lenders, home mortgages are often their primary or at least a major means by which they earn their incomes.

In any event, whatever the effect of buying loans from Other Sellers is, it appears to have been short-lived and largely limited to 1998. Other Sellers were a very minor source of GSE purchases prior to 1998, and by 2000 the loans these sellers made to the GSES differed only slightly from the loans that the GSEs obtained from other sources.

Similarly, the purchase of seasoned loans may help to return funds to the primary housing market. But again, it seems reasonable to question whether these purchases will be as beneficial to underserved markets as the purchase of same-year loans. The knowledge that a loan may eventually get bought, years down the road, presumably has less influence on a lender to make that loan than the knowledge that it will be bought immediately. The GSEs are probably taking less risk with the purchase of seasoned loans, which means that primary market lenders have to be willing to assume more risk until the loan eventually meets GSE standards for purchase.

While not explicitly examined here, other studies suggest additional ways in which the characteristics of GSE purchases may have limited their effectiveness in helping underserved markets. In particular, the GSEs may tend to buy the least risky loans from underserved markets. For example, Bunce (2002) notes that low-income borrower loans purchased by the GSEs are dominated by loans with high downpayments. Bunce suggests that this may account for the small role the GSEs play in the first-time homebuyer market. Ambrose et al (2002, p. 31) note that their findings are "consistent with the GSEs seeking to mitigate risk in underserved areas by purchasing loans from higher income borrowers located in underserved areas." They say their findings also imply that "GSE minority loan purchases are concentrated in non-underserved areas." (p. 39)

Hence, turning to new sources of loans and to seasoned loans has contributed to GSE gains in underserved markets. But, when viewing GSE gains, we should keep in mind that part of their progress was obtained in ways with unclear and possibly less impact on underserved markets than if their gains had been achieved in other ways. This may explain why, in chapter II, we did not see clearer evidence of the effects of GSE leadership.

Again, however, there is one area where the GSEs probably did have a beneficial impact on the primary market. The GSEs made their clearest gains with very low income borrowers. A key reason for these gains is that a very low income went from being the strongest barrier to GSE purchase in 1993-1998 to being almost no barrier at all in 1999-2000. Again, we cannot be sure why this occurred; it might be that improvements in other unmeasured variables, such as credit ratings, were responsible. But, another plausible explanation is that the GSEs became more flexible in their underwriting guidelines or developed other programs to deal with barriers related to income. If so, the GSEs' greater willingness to purchase very low income loans may have been a key factor in the primary market's increased willingness to make those loans in the first place.

GSE Influence on Lenders

Regardless of how many underserved market loans the GSEs buy, the GSEs can still be influencing lending in ways that are beneficial to underserved markets. Our analysis suggests that GSE influence on the lenders it does business with has been more beneficial to underserved markets in recent years, or at least less detrimental. Throughout the decade, lenders who have done the most business with the GSEs have also generally been the least likely to make loans to underserved markets. This is true even after controlling for other variables that are likely to affect lender performance. But, this was much less true in 1999-2000 than it was earlier in the decade. It was even the case that the more of its conventional loans a lender sold to the GSEs, the more loans it made to very low income borrowers.

There are other possible explanations for the apparent relationship between GSE purchases and primary market lenders' performance. But, these results seem to provide the most direct and powerful evidence that the GSEs were having beneficial (or at least less harmful) effects on the primary market during the latter part of the 1990s.

Conclusions

This report asks the question, "Are the GSEs Leading the Market?" Based on the evidence, we conclude, no, they are not – but they aren't as far behind as they have been.

The GSEs clearly fail to meet our first criterion for leadership. They do not purchase relatively more underserved market loans than the primary market makes. They do not even purchase as many of these loans as do their secondary market competitors. The disparities between the GSEs and the primary market are even greater once the growing role of subprime and manufactured housing is considered.

In addition, it is important to keep in mind how the GSEs have achieved their gains. As reported in their own data, some of their success has come from the purchases of loans from sellers other than lenders, e.g. investment funds. We do not know what these Other Sellers do with the proceeds from their sales, but it seems reasonable to assume that they will be less likely to reinvest in the home mortgage market than will lenders. In any event, whatever the effect of buying loans from Other Sellers is, it appears to have been short-lived and largely limited to 1998.

GSEs have also made gains by purchasing seasoned loans from underserved markets. This helps to provide new resources for primary market lending. But again, it seems reasonable to question whether these purchases will be as beneficial to underserved markets as the purchase of same-year loans. By buying seasoned loans, the GSEs are buying the least risky loans from underserved markets. Before making a loan, primary market lenders must consider whether they are willing to assume risk until a loan eventually meets GSE standards for purchase.

But, there have been signs of progress, particularly in 1999 and 2000. In those years, primary market lending to underserved markets increased and GSE purchases of underserved market loans increased even faster. A very low income went from being the greatest barrier to GSE purchase in 1993-1998 to being almost no barrier at all in 1999-2000. The lenders who do the most business with the GSEs made relatively more loans to underserved markets in 1999-2000 than they had been earlier. There are many possible explanations for these changes, such as improved credit scores and other variables not measured in these data. But, greater GSE flexibility in underwriting guidelines and the implementation of GSE programs targeted at underserved markets are also plausible explanations.

The fact that the GSEs have made gains, however, should not cause us to lose sight of the fact that there continue to be significant racial, economic, and geographic disparities in the way that the benefits of GSE activities are distributed. The fact that this may be less true than it was in the past does not mean that the GSEs have done everything that should be expected of them. The benefits of GSE activities still go disproportionately to members of served rather than underserved markets. By 2000, underserved market loans that other secondary market lenders were willing to purchase and that primary market lenders were willing to hold in portfolio still included types of loans that the GSEs were unwilling or unable to purchase. Policy makers should monitor whether GSE progress continues. More critically, they should continue to ask the following: Given the significant benefits the GSEs receive, are they doing enough for underserved markets?

Appendix A
Selected Tables from HUD's
"PROFILES OF GSE MORTGAGE PURCHASES IN 1999 AND 2000"

HUD (2002) has recently published several tables profiling GSE performance during the years 1993-2000. Some of HUD's analysis partially overlaps with our analysis in Chapter Two. Two of HUD's tables are reproduced in this Appendix. When comparing HUD's results with ours, the following should be kept in mind.

1. As previously noted, the GSE Public Use Data Bases have a number of limitations that make it difficult or impossible to choose an appropriate subsample for analysis. However, HUD has access to GSE data that does not have these weaknesses. Hence, HUD is able to provide estimates of GSE home purchase lending in metropolitan areas, whereas in our analysis we can only report those estimates for the entire nation.

2. Both our study and HUD's also use HMDA data. Where our analyses using HMDA data overlap, our results are virtually identical to HUD's. Small differences probably reflect sampling variability or slight differences in sample selection. What HUD labels as the "Total Conforming Market" corresponds to our analysis where we include subprime and manufactured housing lenders. HUD's "Total Market" includes FHA loans which we do not analyze.

3. Using HMDA data, HUD does produce higher estimates of lending to African-Americans and Hispanics than we do. This is due to differences in operationalizations of these variables. HUD uses the primary applicant only when defining race and national origin. In GSE File B, however, the GSEs report a single variable for the race or national origin of both applicants and co-applicants. One of the categories for this variable is "Borrower/co-borrower of different race/national origin." Hence, under the GSEs' coding scheme, a Black or Hispanic applicant with a co-applicant of another race gets coded into this "different race/origins" category. This procedure results in smaller numbers of borrowers being classified as Black or Hispanic. For consistency across data sets, we use the GSEs' coding procedure with HMDA.

Table 2b

Annual Trends in GSE Purchases and Single-Family Lending in Metropolitan Areas
Goal-Qualifying Home Purchase Mortgages, 1992-2000

	Fannie Mae Data			HMDA Data	Freddie Mac Data			HMDA Data	Conforming Market	
	Prior Year	Current Year	All	for Fannie Mae	Prior Year	Current Year	All	for Freddie Mac	All	W/O B&C Loans[1]
Very Low-Income										
1992				5.2 %				5.3 %	8.7 %	8.7 %
1993	6.5 %	6.7 %	6.7 %	7.4	4.2 %	6.2 %	6.0 %	6.6	10.8	10.8
1994	7.9	8.9	8.7	9.4	6.4	6.8	6.7	7.8	11.9	11.9
1995	11.2	8.9	9.3	8.5	7.7	6.8	7.0	7.5	12.0	12.0
1996	8.8	8.4	8.5	8.7	7.2	7.4	7.4	8.0	12.7	12.7
1997	13.4	8.7	9.9	8.8	7.5	7.6	7.6	8.0	13.0	13.0
1998	15.1	10.5	11.4	9.2	10.1	9.8	9.9	8.4	13.3	13.2
1999	10.4	10.9	10.8	10.9	11.3	10.9	11.0	11.2	15.0	14.7
2000	11.4	11.3	11.3	11.8	15.3	11.4	12.5	11.6	14.7	14.4
Special Affordable										
1992				6.3				6.5	10.4	10.4
1993	8.2	8.1	8.1	8.8	5.1	7.4	7.2	7.8	12.6	12.6
1994	9.5	10.8	10.6	11.4	7.6	8.1	8.0	9.2	14.1	14.1
1995	13.2	10.8	11.2	10.5	9.1	8.2	8.3	8.9	14.4	14.4
1996	10.6	10.2	10.3	10.5	8.4	8.7	8.7	9.4	15.0	15.0
1997	16.0	10.2	11.7	10.5	9.2	9.0	9.0	9.4	15.3	15.2
1998	17.9	12.1	13.2	10.7	11.8	11.2	11.3	9.7	15.6	15.4
1999	12.1	12.4	12.3	12.5	12.9	12.5	12.5	12.6	17.3	17.0
2000	13.4	13.0	13.0	13.7	17.6	13.0	14.3	13.3	17.1	16.8
Less Than Area Median Income										
1992				29.2				28.7	34.4	34.4
1993	30.4	33.5	33.2	35.0	24.9	32.1	31.6	32.3	38.9	38.9
1994	35.6	38.9	38.3	40.1	31.5	33.6	33.2	35.6	41.8	41.8
1995	38.6	37.7	37.8	37.1	33.6	32.1	32.4	33.9	41.4	41.4
1996	35.5	36.8	36.5	37.7	31.8	33.5	33.2	35.3	42.2	42.2
1997	41.1	36.4	37.6	37.5	33.7	34.2	34.1	35.4	42.5	42.5
1998	45.3	39.2	40.4	38.1	36.1	37.0	36.9	36.2	43.0	42.8
1999	37.5	39.9	39.3	40.2	38.7	40.3	40.0	41.0	45.2	44.8
2000	39.1	40.3	40.0	42.0	46.4	39.9	41.7	41.3	44.8	44.4
Underserved Areas										
1992				18.3				18.6	22.2	22.2
1993	23.8	19.4	20.3	18.2	19.5	18.2	18.4	17.6	21.9	21.9
1994	26.6	23.6	24.3	22.5	21.0	19.4	19.7	19.2	24.4	24.3
1995	27.4	23.9	24.7	22.8	22.6	19.4	20.1	19.1	25.5	25.4
1996	23.4	21.9	22.3	21.6	22.3	19.1	19.7	19.0	25.0	24.9
1997	30.1	20.8	23.5	21.0	22.2	19.3	19.9	18.6	25.2	24.9
1998	28.4	21.0	22.9	19.6	22.0	19.5	20.0	17.4	24.6	24.2
1999	22.0	20.2	20.6	20.3	23.4	20.6	21.2	19.3	25.8	25.2
2000	26.7	22.6	23.6	22.5	23.9	21.4	22.2	20.9	27.1	26.4

Notes: The Fannie Mae and Freddie Mac data for their purchases of "Prior Year" mortgages, "Current Year" mortgages, and "All" mortgages are from the loan-level data that they provide to HUD. All mortgages are conventional conforming home purchase mortgages. The "HMDA Data for (GSE)" are those mortgages that HMDA identifies as being sold to the GSEs. The Conforming Market data are from HMDA data. Because HMDA data indicate owner-occupancy but do not include the number of units in the property, the analysis is based on numbers of *mortgages* for 1 to 4-family *owner-occupied* properties even though official goal performance is based on number of *units* in owner and *investor* properties. Mortgages with a loan amount greater than six times borrower income are excluded for the purposes of the low- and moderate-income and special affordable analyses. In both the GSE and market analyses, mortgages classified as special affordable include mortgages from very-low-income borrowers and low-income borrowers living in low-income census tracts. Because missing value percentages differ between GSE and HMDA data, mortgages with missing data are excluded from both the GSE and market analyses.

[1] It should be recognized that there exists some uncertainty regarding the number of B&C loans in the HMDA data. The adjustment assumes that the B&C loans represent one-half of the subprime market. The adjustment for home purchase loans is small because subprime (B&C) loans are mainly refinance loans. For further discussion, see Harold, L. Bunce*, The GSEs' Funding of Affordable Loans: A 1999 Update,* Working Paper HF-012, Office of Policy Development and Research, December 2000.

Table 3b

Affordable Lending Shares for Major Sectors of the Mortgage Market in Metropolitan Areas
Home Purchase Mortgages, 1997-2000

			Conventional Conforming Market						
						Depositories		Conforming Market	
Borrower Characteristics	Total Market	FHA	Freddie Mac	Fannie Mae	Both GSEs	Total	Portfolio	Total	W/O B&C [2]
Low-Income:									
1997	32.1 %	47.6 %[1]	19.2 %	22.6 %	21.2 %	26.0 %	29.2 %	27.3 %	27.3 %
1998	32.3	49.1	22.3	25.0	23.9	26.4	29.1	27.8	27.6
1999	34.4	49.5	24.5	24.3	24.4	29.2	28.5	30.1	29.8
2000	33.8	48.7	27.1	24.9	25.9	29.7	28.7	29.8	29.4
African American:									
1997	7.8	14.4	3.2	4.5	4.0	4.4	4.7	5.1	4.9
1998	7.4	14.2	3.2	3.8	3.6	4.1	4.8	4.9	4.6
1999	7.9	14.6	3.5	3.4	3.4	4.7	4.7	5.4	5.0
2000	8.3	15.5	4.3	4.1	4.2	5.4	5.0	5.9	5.4
Hispanic:									
1997	8.7	17.8	5.1	6.3	5.8	5.2	5.1	5.9	5.8
1998	8.6	18.6	4.7	6.0	5.5	5.3	5.5	6.1	5.9
1999	9.7	19.3	5.5	6.0	5.8	6.5	6.6	7.1	6.9
2000	10.9	20.7	6.6	8.0	7.3	7.9	7.7	8.3	8.1
Minority:									
1997	21.4	35.8	14.0	17.7	16.2	15.3	14.6	16.5	16.3
1998	21.0	36.5	13.1	16.3	15.0	15.0	15.2	16.6	16.1
1999	23.4	37.7	14.9	17.3	16.3	17.7	17.3	19.0	18.4
2000	25.4	40.2	17.4	20.1	18.9	20.4	19.6	21.2	20.4
Neighborhood Characteristics									
Low-Income Tract:									
1997	12.8 %	19.1 %	7.9 %	9.5 %	8.9 %	10.2 %	12.0 %	10.9	10.8 %
1998	12.3	18.7	7.9	9.4	8.8	9.8	12.1	10.7	10.4
1999	12.7	18.2	8.4	8.1	8.2	10.8	11.6	11.3	10.9
2000	13.4	19.2	9.1	9.6	9.4	11.9	12.4	12.0	11.5
High-Minority Tract:									
1997	17.3	27.1	11.4	15.3	13.8	12.5	12.2	14.1	13.9
1998	16.9	27.0	10.8	14.0	12.7	12.2	12.6	14.1	13.6
1999	17.5	26.0	12.3	12.7	12.5	13.9	13.5	15.1	14.6
2000	18.5	26.5	12.7	15.1	14.1	15.7	14.9	16.4	15.8
High African-American Tract:									
1997	5.8	9.6	3.0	4.8	4.1	4.1	4.7	4.6	4.5
1998	5.5	9.2	3.2	3.8	3.6	3.9	4.7	4.5	4.3
1999	5.7	8.9	3.4	3.0	3.2	4.3	4.4	4.8	4.4
2000	6.0	9.4	3.8	3.6	3.7	5.0	4.8	5.1	4.8
Underserved Areas:									
1997	29.1	41.3	19.9	23.5	22.1	23.6	26.3	25.2	24.9
1998	28.2	41.2	20.0	22.9	21.7	22.7	26.1	24.6	24.2
1999	29.1	40.5	21.2	20.6	20.9	24.6	25.6	25.8	25.2
2000	30.3	42.1	22.2	23.6	23.0	26.7	27.1	27.1	26.4

Notes: All the data are for home purchase mortgages. The FHA, depositories, and market percentages are derived from 1997, 1998, 1999 and 2000 HMDA data. The GSE percentages are derived from the loan-level data that Fannie Mae and Freddie Mac provide to HUD. The GSE data include conventional home loans purchased during 1997, 1998, 1999 and 2000; thus, these data include their purchases of seasoned loans (i.e., mortgages originated prior to 1997 or 1998 or 1999 or 2000) as well as their purchases of mortgages originated during 1997, 1998,1999 and 2000. The "Total Market" combines the government sector (FHA and VA loans) and the conventional conforming market. Thus, it includes all loans except "jumbo" loans above the conforming loan limit which was $252,700 in 2000. "Total Depositories" data are loans originated by HMDA reporters regulated by FDIC, OTS, OCC, FRB, and The National Credit Union Administration; they consist mainly of banks, thrifts, and their subsidieries. The "Portfolio Depositories" data refer to new originations that are not sold by banks and thrift institutions during 1997-2000 and thus are retained in depository portfolios. Because HMDA data indicate owner-occupancy but do not include the number of units in the property, the analysis is based on numbers of mortgages for 1 to 4-family owner-occupied properties even though official goal performance is based on number of units in owner and investor properties. Mortgages with a loan amount greater than six times borrower income are excluded for the purposes of the low- and moderate-income and special affordable analyses. Because missing value percentages differ between GSE and HMDA data, mortgages with missing data are excluded from both the GSE and market analyses.

[1] Each percentage represents the share of a sector's portfolio accounted for by the borrower or neighborhood characteristic. For example, 47.5 percent of FHA-insured home loans were loans for low-income borrowers.

[2] HMDA-based market shares have been adjusted to exclude the B&C portion of the subprime market. It should be recognized that there exists some uncertainty regarding the number of B&C loans in the HMDA data. The adjustment assumes that the B&C loans represent one-half of the subprime market. The adjustment for home purchase loans is samll because subprime (B&C) loans are mainly refinance loans. For further discussion, see Harold, L. Bunce, *The GSEs' Funding of Affordable Loans: A 1999 Update,* Working Paper HF-012, Office of Policy Development and Research, December 2000.

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