Subprime Lending and Alternative Financial Service Providers:

A Literature Review and Empirical Analysis

U.S. Department of Housing and Urban Development
Office of Policy Development and Research

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Executive Summary

The last two decades have been marked by significant changes in consumer financial services. Two significant changes that have been evident are the rapid growth of both subprime mortgage lending and alternative financial service providers (AFSPs), such as check cashers, payday lenders, and pawnshops. A common concern with both of these industries is high fees for their services and disproportionate targeting of low-income and minority households. Another common element regarding these trends is the variety of studies arguing that the growth in use of these higher-cost financial services in low-income and minority communities is due in part to the absence of banks from these areas. But while much has been written in recent years on the growth of these two segments of the financial services market, there is limited research on the extent to which these phenomena are related. The purpose of this study is to examine subprime lending and the prevalence of AFSPs through a common lens to investigate the extent of similarities and differences in the prevalence of these activities in low-income and minority communities.

This study consists of two parts. The first part presents a review of the literature related to subprime lending and AFSPs. It also examines how regulation of financial services can support or hinder the expansion of access to mortgage capital and basic banking services in low-income and/or minority communities while at the same time providing an appropriate level of consumer protection in these new market segments. The second part of the study presents an empirical analysis of association between neighborhood characteristics (including race-ethnicity, income, and credit risk measures) and the patterns of subprime lending and location of AFSPs and banks in the Dallas metropolitan area.

A key conclusion of the literature review is that surprisingly little is known about the factors that have given rise in recent years to products and services as diverse as subprime mortgage loans, payday advances, refund anticipate loans, pawn brokering, check cashing, and bill paying services. These products and services appear to be a market response to the financial service needs of largely low-income, low-wealth, and credit impaired consumers. To date, most of the literature has taken a decidedly supply side orientation, examining whether subprime lenders and AFSPs are more likely to be active in low-income and minority communities and whether banks are less likely to provide mortgage loans or short term advances to low-wealth and credit impaired borrowers.

Only recently has there been serious research on the reasons that many customers turn to nonbanks to meet their need for financial services. As with any market, the inability or unwillingness of some suppliers to serve a particular market is obviously a part of the non-banked customer's decision-making process. But surprisingly little is known about how low-income, low-wealth families make choices in today's increasingly complex capital markets. More needs to be done to better understand why some consumers all too frequently make what appear to be "irrational choices." Of course, many of these seemingly "irrational choices" may be the product of simple fraud and abuse, but behavioral economics literature suggests that the reality is more complex than that. The existing literature suggests that in many cases customers of subprime lenders and AFSPs are, in fact, making rational choices given their circumstances or options in the marketplace. Sorting out how low-wealth, low-income consumers, as well as consumers with poor and or no credit histories, go about making choices between "mainstream" and "alternative" mortgage and financial services is perhaps the biggest challenge facing policy analysts, government officials and regulators operating in the rapidly evolving mortgage and financial services marketplace.

One goal of the empirical analysis of the Dallas metropolitan area was to investigate the importance of neighborhood race-ethnicity and income in explaining subprime lender shares after including controls for neighborhood credit risk. Consistent with previous research, we found that even after including a variety of controls for neighborhood credit risk, neighborhoods where blacks account for a majority of households had much higher subprime shares of originations. Also consistent with previous research, we found that there were notable differences in the significance of the explanatory factors when used to estimate the subprime lender share of refinance loans compared with their significance in the estimate of the subprime lender share of purchase loans. One area ripe for further research is to better understand the differences in geographic patterns of subprime refinance and purchase lending.

The analysis of the Dallas market area was also intended to fill a void in the literature by examining the relationship, if any, between geographic patterns of subprime lending and the location of AFSPs. While there are similarities in the location of AFSPs and the use of subprime lending—most notably in the concentration in lower income neighborhoods—there are also important differences. The most important difference is that while subprime lending is disproportionately concentrated in black neighborhoods, there is no indication that these areas have higher than average levels of AFSPs in Dallas. Instead, AFSPs are most likely to be found in neighborhoods where Hispanics comprise a significant share of the population. However, the multivariate analysis finds that the share having U.S. citizenship is much more important than the race-ethnicity of the neighborhood. This result is in keeping with the argument that unbanked households that comprise an important part of the customer base for check cashers and pawnshops are more likely to be immigrants who are either undocumented or come from countries where it is not common for low-income households to use banks. The multivariate analysis also found that there was little correlation between subprime lending shares and the presence of AFSPs. The lack of any significant overlap in the factors predicting the location of subprime lending and AFSPs suggests that AFSPs and subprime lenders may be serving different market niches.

This study also examined the issue of whether there was a relationship between the presence of banks in a neighborhood and the likelihood of both subprime lending and the presence of AFSPs. With regard to subprime lending, multivariate analysis did not find a strong link between the number of banks in the tract and the subprime lender share. This is not entirely surprising as the argument that a lack of banks in low-income and minority neighborhoods has contributed to the rise of subprime lending is at odds with the fact that there has been significant growth in home purchase mortgage activity in these areas over the last decade. The multivariate analysis did find that banks were more likely to be located in areas where whites account for more than 90 percent of households. But banks were least likely to be found in majority Hispanic areas rather than majority black areas where subprime lending shares are highest. In short, our findings do not provide support for the argument that a lack of banks has contributed to subprime lending growth. Similarly, analysis of the factors associated with the location of AFSPs does not find any support for the argument that these establishments are more likely in neighborhoods where there is a lack of banks.

It would be interesting to pursue this type of analysis in other market areas to see whether there are any consistent findings across markets regarding the importance of race-ethnicity and immigrant status in predicting the location of AFSPs. Further research comparing results from markets with a range of demographic profiles could help shed light on the ways in which the utilization of subprime lending and AFSPs is similar or different.

Summary of Findings

The last two decades have been marked by significant changes in consumer financial services. These changes have resulted from a variety of factors, including innovations in financial markets, bank deregulation, increased capacity and lower cost of computers for storing and analyzing data, and changes in consumer demand for credit. One example of the changes in financial services that has been evident is the rapid growth of subprime mortgage lending. Another trend evident over the last decade has been rapid growth in alternative financial service providers (AFSPs), such as check cashers, payday lenders, pawnshops, and other businesses that make short-term consumer loans. A common thread between the growth of both of these industries are concerns that these firms are charging high fees for their services and are disproportionately targeting low-income and minority households. Another commonality between these trends is that a variety of studies have argued that the growth in use of these higher-cost financial services in low-income and minority communities is due in part to the absence of banks from these neighborhoods.

But while much has been written in recent years on the growth of subprime mortgage lending and the provision of alternative financial services to low-income and minority consumers, there is but limited research on the extent to which these phenomena are related. The purpose of this study is to examine subprime mortgage lending and the prevalence of AFSPs through a common lens to investigate the extent of similarities and differences in the prevalence of these activities in low-income and minority communities.

This study consists of two parts. The first part presents a review of the literature related to subprime lending, alternative financial service providers, and how regulation of these activities and banks can support or hinder the expansion of access to mortgage capital and basic banking services in low-income and/or minority communities while at the same time providing an appropriate level of consumer protection in these new market segments. The second part of the study presents an empirical analysis of association between neighborhood characteristics, including race-ethnicity, income, and credit risk measures, and the patterns of subprime lending and the location of AFSPs and banks in the Dallas metropolitan area. The following sections summarize the findings from each of these parts of this study.

Literature Review

The first part of the study is a literature review that is divided into three broad segments. The first part examines what is known about subprime lending, paying particular attention to studies relating to the apparent concentration of subprime loans in lower-income and/or minority neighborhoods. The next part reviews the growing literature on alternative financial services providers, with particular emphasis on studies that document the characteristics of customers served, the spatial pattern of firm location, and the business models that seem to drive the industry. The third part then focuses on literature that assesses the policy challenges – including the Community Reinvestment Act and other policies relating to regulated depository institutions, as well as policies relating to more general issues of developing a regulatory framework that will ensure an appropriate measure of consumer protection in the face of the rapid changes in the provision of mortgage and financial services. The report

concludes with a brief summary of the common themes from the literature reviewed and what this review suggests about areas for further research.

Subprime Lending

The advent of automated underwriting, credit scoring and risk based pricing, as well as the growing importance of mortgage brokers, national-scale mortgage banking organizations, and expanded secondary mortgage markets produced what some have labeled a "revolution in mortgage finance." Aided by steady economic growth in the 1990s, and more recently by record low mortgage interest rates, the changing structure of the mortgage industry has fostered dramatic increases in subprime lending to low-income people and communities.

Numerous studies have documented the spatial variation in subprime lending across neighborhoods and, in particular, the tendency for subprime lending to be more prevalent in low-income and minority neighborhoods than in others. One set of studies have relied on comparisons of subprime lending shares between neighborhoods of different income and racial-ethnic profiles to conclude that race has been a more important factor than risk in explaining variations in the market shares of subprime lenders. This conclusion has been strengthened by recent studies that have found the prevalence of blacks in a neighborhood to be a significant predictor of subprime lender shares even after controlling for a variety of borrower and neighborhood characteristics, including the share of households in the neighborhood with low credit scores.

Though some advocates suggest that the absence of prime lending in inner city neighborhoods reflects the fact many banks closed their inner city offices, some recent research suggests that something subtler is at work than simple "redlining." Indeed, the low-income, minority communities that were thought to have had little or no access to mortgage money have seen tremendous growth in both the number of loans and the number of active lenders over the last decade.

Nonetheless, low-income, minority communities do have an apparently disproportionately high concentration of subprime lending activity. One explanation for this pattern is related to differences in how consumers shop for mortgage products. Unfortunately, given the bewildering array of mortgage products available and the complexity of evaluating the cost of these products, even the most sophisticated borrower will find it difficult to evaluate mortgage options. Given that consumers utilize short cut methods to evaluate mortgage options, some brokers may actively promote mortgages that exploit the tendency of borrowers to focus on the amount of monthly payments rather than other more useful measures to evaluate the costs of various mortgage products. Some research supports the notion that in many instances subprime refinance loans are "sold, not sought" in that they result from the extensive and often unsolicited outreach by brokers. In particular, research has found that elderly borrowers, and borrowers in lower-income and/or minority areas succumb to the marketing tactics of aggressive brokers. Other research suggests that subprime borrowers are less knowledgeable about the mortgage process, are less likely to search for the best mortgage rates, and are less likely to be offered a choice among alternative mortgage terms and instruments.

An unintended side-effect of the ongoing efforts to extend home ownership opportunities to less credit worthy consumers – and particularly the rise in subprime lending – is a commensurate increase in foreclosure rates. Employing the best available data on loan performance, researchers at Freddie

Mac estimated that as of mid 2002, the serious delinquency rate for conventional prime loans was 0.55 percent (serious delinquency is defined as loans that are already in foreclosure and/or with payments that are 90 days or more late). In contrast, subprime loans had a serious delinquency rate of 10.44 percent, nearly 20 times higher. Further, the more risky subprime loans examined had rates topping 21 percent. Subprime serious delinquency rates were more than twice those of FHA insured mortgages (4.45 percent). Though hardly in evidence a decade ago, subprime loans are now the most default-prone mortgage segment of the home loan market. Overall, the Freddie Mac data suggest that today, subprime loans account for half of all seriously delinquent loans, while conventional prime and FHA loans each account for about one quarter of all seriously delinquent loans.

While no study has systematically examined foreclosures at the national level, a handful of studies demonstrate increasing foreclosure rates in low-income communities across the country. The roughly ten studies of foreclosure activity in particular metropolitan areas conducted to date, while differing in terms of the quality and extent of available foreclosure data, paint a remarkably consistent picture of the rising incidence of foreclosure, especially in lower-income and minority neighborhoods where subprime lending has been concentrated.

Higher foreclosures among subprime loans in large part are undoubtedly a natural outgrowth of the lower credit quality of borrowers that characterize the subprime market. This effect is reinforced by the fact that collateral value in the subprime market is generally weaker. But it has also been argued that high foreclosure rates are in part the result of predatory lending practices by some lenders in this market segment. There is no general agreement about what constitutes predatory lending. It includes charging higher interest rates than warranted by the risk of the loan, charging excessive fees, and including ancillary products or loan terms that offer little or no benefit to the borrower; and, in extreme cases, it involves fraud related to inflated appraisals or income. However, it is difficult to gauge the extent of predatory lending, as little systematic information exists about loan terms or loan servicing. As a result, existing studies of predatory lending are largely anecdotal, collected by legal and community advocates.

Alternative Financial Service Providers

The next section of the review covers the growing literature on alternative financial services providers, with particular emphasis on studies that document the characteristics of customers served, the spatial pattern of firm location, and the business models that seem to drive the industry. Just as the subprime mortgage market was experiencing rapid growth during the 1990s, there was also rapid growth among firms outside of the system of federally insured financial institutions that provide a range of financial services typically associated with banks. These firms include check cashing outlets, payday lenders, pawnshops, title lenders, tax refund anticipation lenders, small loan firms, and rent-to-own stores. Collectively, these types of firms are generally referred to as alternative financial service providers (AFSP). The rapid growth in the AFSP industry during the 1990s has its roots in a number of factors, including changes in the regulatory environment, rapid increases in immigration, and enhanced technology that enabled AFSPs to lower costs of operations and more recently to check on the credit characteristics of individual customers. Given its diverse origins, the AFSP industry is not monolithic, as different types of firms have grown at different rates over the last few decades. A seminal work by John Caskey in the early 1990s documented the rapid growth in pawnshops and check cashing firms during the 1980s and early 1990s. The late 1990s saw the rise of

the payday lending industry, which offers consumers short-term loans at very high annual interest rates. Most recently, the growth of pawnshops and check cashers seems to have slowed, while the number of payday lenders continues to grow.

Many assessments of the users of alternative financial services focus on whether individuals are "banked" or not, that is whether individuals have access to checking, savings, or other transaction accounts at a bank, savings and loan, credit union or other federal or state regulated banking organizations. As part of their periodic assessment of family finances, the Federal Reserve estimated that in 2001 some 12.7 percent of all American households did not have a checking account, while 9.1 percent did not have any type of transaction account whatsoever. Among families without a checking account in 2001, 50.4 percent reported having had such an account in the past. Though still high, these most recent figures present a slight decline from figures recorded in 1998 and a more substantial decline since 1992 when fully 16.6 percent of families lacked a checking account, and nearly 13 percent had no transaction account. Families that did not have a checking account or other transaction account tended to be disproportionately low income and low wealth, less than 35, nonwhite, foreign born, less educated, and to receive government income support. While the unbanked are more likely to be renters, homeowners nevertheless account for approximately one third of all households who do not have a transaction account of any type.

Various studies also examine how those consumers without a checking, savings, or other transaction account go about obtaining basic financial services including cashing checks, paying bills, and sending wire transfers to family and friends. Though many of the "unbanked" utilize the services of check cashing operations (CCOs) and other alternative financial services providers, somewhat surprisingly, several of these studies note that significant shares of "banked" individuals also frequent these AFSPs. One study of the Chicago area found that unbanked households are 14.6 percent more likely than their banked counterparts to patronize a check casher, while unbanked households residing in a low- or moderate income neighborhood are 7.6 percent more likely to patronize these places than unbanked households residing elsewhere. Even controlling for household and neighborhood income, unbanked blacks and Hispanics are more likely to use these services than whites.

Individuals utilizing the services of payday lenders differ from those who frequent check-cashing establishments, because among other things customers obtaining payday loans by definition have a checking account. One review of the existing literature on payday loan customers found that the typical customer appeared to relatively young, employed, female, married, and a renter. The average income in most of the studies reviewed was approximately $25,000. However, another study found that over half had incomes between $25,000 and $50,000. A study of the clients of payday lenders in North Carolina found that African American families were more than twice as likely to have taken out a payday loan in the last two years than have non-Hispanic white families. In contrast, Hispanics are less likely than non-Hispanic whites to patronize payday lenders, a finding consistent with other research that suggested that low-income Hispanics were more likely to access short-term credit from pawnbrokers than from payday lenders.

A number of studies have examined the spatial distribution of AFSPs to determine whether they are disproportionately found in low-income and minority areas and whether they are more likely in areas that are devoid of banks. The existing literature examining the location of AFSPs generally finds support for the observation that these establishments are, in fact, disproportionately located in low-

income and minority neighborhoods, but they do not provide strong support for the argument that these establishments are more likely to be located in areas where banks are absent.

There remains considerable debate as to why consumers resort to use AFSPs, and whether such use reflects the fact that AFSPs represent a legitimate response to a market need. Some argue that many lower-income consumers cannot afford a traditional bank account because of high maintenance fees, or that the concentration of "unbanked" households in minority neighborhoods reflects the lack of banking organizations with branches located there. Others go further and suggest that the basic business model, at least for payday lenders, is designed to trap unsuspecting borrowers into escalating debt payments. In any event, advocates have pushed for state and federal initiatives to encourage banks to offer low-cost basic accounts to lower-income participants, and have vigorously protested any effort to close a branch bank in a lower-income minority neighborhood.

Recent studies suggest that being unbanked may be less a question of expense and proximity, and more a question of having the right mix of services. Indeed, according to the Survey of Consumer Finance, only 1.2 percent of the unbanked cited lack of convenient hours or locations of branch banks as the reason they did not have a checking account. While a majority of "unbanked" individuals incur costs to secure alternative banking services, in most cases, these costs are not very high. Banks are also often found in close proximity to check cashers, suggesting that proximity is not a significant factor. On the other hand, check-cashing operations also generally offer a wider array of bill paying and money transfer services that are preferred by customers to those offered by mainstream banks. These establishments also have longer hours and may have greater cultural sensitivity to immigrants than mainstream institutions.

With regard to payday lending, one study based on a survey of payday loan users offers a variety of insights into consumer behavior. This study finds that payday advance customers are generally aware of the dollar amount of the finance charge on their most recent new payday advance, but few could recall the actual annual percentage rate (APR). The authors further argue that the focus on dollar costs is consistent with the fact that consumers often turn to payday lenders to avoid other costs – for example fees associated with returned checks and late payments – which are also typically expressed in dollar amounts, not APRs. Most survey respondents reported having some difficulty in managing their credit, with some three-fourths being turned down by a creditor or not given as much credit as they applied for in the last five years. Of those that did have retail or bank credit cards, over half reported not using these cards for fear that they have exceeded their credit limit. Moreover, payday loan customers were almost four times more likely to have filed for bankruptcy than all adults.

Regulation of Banks, Subprime Lenders and AFSPs

The third part of the literature review then assesses the policy challenges raised by the changes that have occurred in the financial services industry over the last decade. This review touches upon the Community Reinvestment Act (CRA) and other policies relating to regulated depository institutions, as well as policies relating to more general issues of developing a regulatory framework that will ensure an appropriate measure of consumer protection in the face of the rapid changes in the provision of mortgage and financial services.

Despite the more than twenty-five year history of CRA, only a few studies have attempted to evaluate the impact of the Act on lending and the provision of financial services to low-income and minority people and areas. The research that has been done has largely relied on HMDA data to evaluate variations in lending volumes associated with whether lenders are subject to CRA regulation or not. Prior to the 1990s, research relied on aggregate levels of lending activity at the census tract level for specific metropolitan areas. In general, this research did not produce conclusive results about CRA's impact on credit flows, with some studies finding negative disparities in credit flows to areas with lower median incomes and higher minority concentrations, and others indicating that there was insufficient evidence to support such a claim. Several studies from the 1990s concluded that the influence of CRA on lending volumes was very small compared to changes due to such forces as deregulation and technological advances. Nonetheless, other studies have concluded that CRA has been effective at encouraging banks to lend in low-income and minority communities. But several studies also conclude that the effect of CRA on lending volumes appears to be declining in recent years in large part because regulated depository institutions have come to account for an ever-smaller share of mortgage lending.

With regard to regulation of financial service providers other than banks, the review notes that consumer protection regulations have been slow to adjust to the dramatic changes sweeping the mortgage banking and financial services market place. Most notably, there has not been an expansion of federal oversight of the growing number of nonbank entities engaged in subprime mortgage lending or the provision of check cashing, payday lending and other alternative financial services. The failure to "modernize" consumer protection regulations reflects among other things the continuing divide over appropriate regulatory intervention into the financial services arena. Some argue that expanded regulations are needed to protect consumers from predatory lending or abusive practices of high-cost check cashers and payday lenders. Others contend that new regulations do little good and may even undermine the ability of the financial services sector to create new and cost effective methods for meeting the banking services and credit needs of low-income, low-wealth, and credit impaired borrowers. As a result, there has been a proliferation of legislative activity by states to regulate the activity of these entities.

Observers note that current policy focuses largely on disclosure as a key element for promoting consumer protection. In theory, consumers, when provided with accurate comprehensible information that allows them to both protect themselves and to serve as market police, drive bad actors from the market place. Current examples include the Truth in Lending Act (TILA), which requires disclosure of certain loan terms, and the Real Estate Settlement Procedures Act (RESPA), which mandates a standard for disclosing settlement costs in real estate loan transactions. An alternative approach is regulation by substance, which protects consumers by prohibiting entirely certain features of mortgage contracts. Examples here include state regulations that prohibit the use of some prepayment penalties in high cost mortgages or the financing of single-premium credit life insurance as part of the mortgage transaction. Regulation by substance is often attacked in policy circles as interfering with the operation of the free market. If consumers can obtain better terms on their mortgage by agreeing to accept a prepayment penalty feature – so the argument goes – these regulations limit consumer choice and their capacity to decide what mortgage product is best for them.

Conclusions

The report concludes with a summary of the common themes from the literature reviewed. One key conclusion is that surprisingly little is known about the factors that have given rise in recent years to products and services as diverse as subprime mortgage loans, payday advances, refund anticipate loans, pawn brokering, check cashing, and bill paying services. These products and services appear to be a market response to the financial services needs of largely low-income, low-wealth, and credit impaired consumers. Yet rather than probing the demand side characteristics of the market, until recently much of the literature has taken a decidedly supply side orientation, examining whether subprime lenders and AFSPs are more likely to be active in low-income and minority communities and whether banks are less likely to provide mortgage loans or short term advances to low-wealth and credit impaired borrowers.

Only recently has there been serious research on the reasons that many customers turn to nonbanks to meet their need for financial services. As with any market, the inability or unwillingness of some suppliers to serve a particular market is obviously a part of this decision making process. But surprisingly little is known about how low-income, low-wealth families make choices – and indeed manage to survive – in today's increasingly complex capital markets. The literature that does exist suggests that for many low-wealth and low-income customers having a deposit or checking account or otherwise being "banked" may not be essential or at least worth the cost. Similarly, while obtaining short-term cash advances from a payday lender or pawnbroker may be expensive, these activities may also represent the best choice available given the limited financial strength and weak or non-existent credit history of many individuals. Finally, while the rise of risk-based pricing has helped millions gain access to mortgage credit, it may be understandable that some credit impaired homeowners turn to high-priced subprime lenders to secure funds to repay other consumer debt – even if this transaction brings them just one step closer to a possible foreclosure and resulting financial ruin.

In short, more needs to be done to better understand why some consumers all too frequently make what appears to others to be "irrational choices." Of course, many of these seemingly "irrational choices" may be the product of simple fraud and abuse, but available behavioral economics literature suggests that the reality is more complex than that. Sorting out how low-wealth, low-income consumers, as well as consumers with poor and or no credit histories, go about making choices between "mainstream" and "alternative" mortgage and financial services is perhaps the biggest challenge facing those policy analysts, government officials and regulators operating in the rapidly evolving mortgage and financial services marketplace.

Empirical Analysis of the Dallas Metropolitan Area

The second part of this study presents an empirical analysis of whether there are similarities or differences in the extent to which neighborhood race and ethnicity, income levels, and credit risk measures explain the distribution across neighborhoods of subprime mortgage lending and the location of both alternative financial service providers and regulated depository institutions. This analysis also examines whether the prevalence of subprime lending, AFSPs, and banks in a neighborhood are correlated. It is intended as a preliminary examination of these basic questions. Aside from addressing these questions, other important goals for the study include an investigation of

the availability and usefulness of different sources of data needed to examine these issues and an exploration of analytic approaches needed to support the type of spatial analysis intrinsic to these questions.

Given the effort needed to assemble the necessary data for this study, it focuses on a single market area. The Dallas metropolitan area was chosen for study for several reasons. First, it has a sizeable population of both blacks and Hispanics, providing an opportunity to see whether there are differences between these groups in their association with subprime lending and AFSP and bank locations. Second, Texas has passed legislation allowing payday lending so more restrictive laws governing small loans that exist in some states have not limited this industry in Texas. Finally, data on residential foreclosures were available for the Dallas market area. While findings from this single market area do provide some insights into the relationship between subprime lending and AFSP and bank locations, many of the questions of interest would best be examined by comparing findings across market areas. Hopefully, this work will lay the groundwork for further studies of this type covering other market areas.

Descriptive Analysis

This study begins by exploring various descriptive measures of the neighborhood characteristics where financial service establishments are found. A comparison of the prevalence of subprime lending with the location of AFSPs and banks reveals some interesting similarities and differences. Subprime refinance lending and AFSPs show a fairly strong association with neighborhood income levels in Dallas, with levels in lower-income neighborhoods that are many times higher than in upper-income areas. In contrast, there is not as strong an association between neighborhood income and the prevalence of banks. While very low-income areas are much less likely than other areas to have a bank, across the remaining income categories there is not a large difference. Even in the lowest income areas, banks are nearly twice as likely to be present as AFSPs.

With regard to the race and ethnicity of neighborhoods, however, there are notable differences across neighborhoods in the prevalence of subprime lending and AFSPs. As has been found in previous studies, subprime refinance shares are much higher in neighborhoods where blacks account for a majority of residents, while areas with a Hispanic majority or of mixed race have moderate subprime shares, and majority white areas have the lowest levels. In contrast, there is no evidence that AFSPs are over represented in majority black areas, although they are in majority Hispanic and mixed race areas. Banks, on the other hand, appear to be significantly underrepresented in areas that are mostly black and majority Hispanic areas, and slightly underrepresented in majority black and mixed race areas. For banks, race appears to be a more important factor than income in predicting whether a bank will be present.

A comparison of the location of drug stores and supermarkets provide some indication of the degree to which the location of AFSPs and banks varies from the general location of retail activity. Perhaps not surprisingly, the location of both AFSPs and banks is more strongly associated with race-ethnicity and income than is true of drug stores and supermarkets. However, retail activities of all types are less likely in the lowest-income and mostly black neighborhoods.

As has been noted, one of the concerns with the growth of AFSPs is that these establishments are filling a void in areas where banks are not located. However, in the Dallas area, only a quarter of the tracts without a bank have an AFSP. AFSPs are also somewhat more likely to be in a neighborhood with a bank than not. Nonetheless, areas without banks but with an AFSP are notable in several regards. These areas have a much larger than average Hispanic share and much lower incomes. They also have fewer citizens, more households on public assistance, fewer households with some college education, and higher conventional prime mortgage denial rates – all factors that might be expected to increase demand for AFSPs.

Regression Analysis Results

While the descriptive analysis provides some insights into the factors associated with the prevalence of subprime lending, AFSPs, and banks, regression analysis is used to evaluate the relative importance of each of these factors in explaining the observed patterns. The first step in this analysis was to estimate separate ordinary least square regression models for the share of refinance and purchase loans made by subprime lenders in 1999, 2000, and 2001. The results of the subprime lending share models are consistent with findings from previous research. Neighborhoods where blacks account for a majority of households have much higher subprime lender shares than other neighborhoods even after controlling for a variety of neighborhood characteristics. In Dallas, the differences were fairly large, with neighborhoods that are more than 90 percent black having subprime lender shares of refinance mortgages that are up to 30 percentage points higher than areas where whites account for 90 percent of households. Also in keeping with previous research, while the association between the neighborhood black share and the subprime lender share is diminished slightly by the inclusion of other neighborhood characteristics, including credit risk measures, the association remains quite large and statistically significant. In contrast, there is little association between the share of Hispanics in a neighborhood and subprime lending shares. This is also consistent with previous research that has found a weaker association between Hispanic neighborhoods and subprime lending activity.

In comparison to race-ethnicity, neighborhood income levels are less strongly associated with subprime lender shares in Dallas, although subprime lender shares are higher in the lowest-income areas. Among the other factors examined, in all estimated models the share of homeowners moving between 1995 and 1998 was consistently negatively associated with subprime lender shares. This indicates that borrowers in areas with a more active home sales market are less likely to use subprime lenders. In the refinance models, a higher share of adults with some college education consistently reduced the use of subprime lenders, suggesting that higher levels of financial literacy may lower the reliance on subprime lenders. However, this association is less consistent in the purchase models. Similarly, the capitalization rate, measured as the ratio of median gross rents to median house values, is a consistent predictor of subprime refinance shares, but is less consistently associated with subprime purchase shares.

One of the purposes of this study is to examine the usefulness of alternative measures of credit risk at the neighborhood level for analyzing geographic variations in subprime lending shares. Three different credit risk measures were evaluated, including the denial rate on conventional prime mortgage applications, the rate of residential foreclosures, and FHA delinquency and claims rates. The principal conclusion that can be drawn from the results of this analysis is that the conventional

prime mortgage denial rate from HMDA is a fairly consistent predictor of subprime lending shares. When lagged by a year the variable was significant in five of the six models estimated. The results were much less consistent for FHA delinquency and claim rates and residential foreclosure rates. None of these latter variables were significant in any of the estimated refinance models, although the FHA delinquency rate and residential foreclosure rate were both significant in all three subprime purchase share models, while the FHA claims rate was significant in the purchase share model using data from 1999. There was not a significant difference in the explanatory power of the models using different credit risk measures, so it did not appear that any one measure held an advantage over another. Given that the HMDA denial rate measure is readily available and more consistently significant, in the absence of credit score data this measure may be the best option to proxy for neighborhood credit risk in analysis of subprime lending shares.

Another goal of this study was to examine the relationship, if any, between the prevalence of subprime lending and the location of AFSPs. Given that the literature has found that both subprime lending and AFSPs are more common in minority and lower income communities, it was expected that these activities would be concentrated in the same neighborhoods. One test for a relationship was to include a count of AFSPs in the models predicting subprime lending shares. In most cases, no statistically significant association was found. However, in a few cases, mostly in the subprime purchase share models, the number of AFSPs was found to have a negative association with subprime lending shares. Thus, areas with greater numbers of AFSPs had somewhat *lower* subprime lender shares. While the association may be a spurious correlation, it may also be an indication that subprime lenders and AFSPs are serving different market niches. Another test of the association between subprime lending and AFSPs was to include the subprime lending share in the models predicting the number of AFSPs in the neighborhood. These models found no statistically significant association between subprime lending shares and the number of AFSPs in a neighborhood.

An indirect test of an association between AFSPs and subprime lending is to compare the relative importance of other explanatory variables in predicting the location of these activities, most notably race-ethnicity and income. The modeling results show significant differences in these dimensions. While subprime lender shares are strongly associated with areas where blacks are a majority, AFSPs are no more likely to be located in black neighborhoods than they are to be in areas where whites account for a majority. In contrast, while there was no association between neighborhoods where Hispanics constitute a majority of households and the prevalence of subprime lending, AFSPs are much more likely to be located in these neighborhoods. However, this association is not statistically significant once the share of the population who are citizens is included in the model. Thus, at least in Dallas, the location of AFSPs is not strongly associated with a neighborhood's racial-ethnic composition, but it is associated with the presence of immigrants. Finally, it is true that both AFSPs and subprime lending are more likely in lower income areas, but the association between neighborhood income and AFSPs is not as strong as it is for subprime lending.

This study also attempted to evaluate whether neighborhood credit risk was associated with AFSP location. Based on the results of the subprime lender share models, the HMDA conventional prime denial rate was selected as the proxy for neighborhood credit risk. However, this variable was not found to be significantly associated with AFSP location.

Finally, a last goal of this analysis was to evaluate the extent to which the presence of banks was associated with either subprime lending shares or AFSP locations. As with AFSPs, the count of banks was included as an independent variable in both the subprime lending share models and vice versa. The number of banks was not significant in any of the subprime lender share models. However, in the model predicting the number of banks there was a weak negative association. That is, areas with higher subprime lending shares were found to be less likely to have banks. While consistent with the argument that a lack of banks is associated with more subprime lending, the fact that the number of banks was not significant in predicting subprime lending makes it difficult to draw this conclusion from these results.

Some indirect support for the argument that a lack of banks may be related to high shares of subprime lending comes from the fact that neighborhood minority share is found to be a statistically significant factor in predicting the number of banks in a neighborhood. Specifically, areas where whites account for more than 90 percent of households are predicted to have more banks than any other neighborhood type. But in contrast to subprime lending patterns, the fewest banks are in areas with a majority of Hispanic households, while areas where blacks make up 90 percent of more of households have about the same number of banks as areas where whites are a majority.

With regard to the relationship between the location of AFSPs and banks, our modeling results suggest that there is a strong tendency for retail activity to cluster as the strongest predictor of the location of all of the retail establishments examined—including AFSPs, banks, drug stores, and supermarkets—is the presence of any other type of retail activity. The results do not provide any support for the argument that AFSPs are filling a void left by banks. There are also few similarities in the other factors predicting the presence of banks and AFSPs. While race is an important predictor of banks presence, it is not for AFSPs. The importance of neighborhood race-ethnicity and income for bank presence is highlighted all the more by the fact that these characteristics are essentially not a factor in predicting the presence of drug stores or supermarkets. Importantly, this study found that for AFSPs, the share of citizens among the population is the single most important predictor of these establishments along with having income in the lower quartile of neighborhoods. This finding suggests that, at least in Dallas, the location of AFSPs is much more strongly related to where immigrants live than where minorities generally are found.

Part I

Literature Review

Section 1: Introduction

The last two decades have been marked by significant changes in consumer financial services. These changes have resulted from a variety of factors, including innovations in financial markets, bank deregulation, increased capacity and lower cost of computers for storing and analyzing data, and changes in consumer demand for credit. One example of the changes in financial services that has been evident is the growth of subprime mortgage lending. Another trend evident over the last several years has been rapid growth in alternative financial service providers (AFSPs), such as check cashers, payday lenders, pawnshops, and other businesses that make short-term consumer loans.[1] A common thread between the growth of both of these industries are concerns that these firms are charging usurious fees for their services and are disproportionately targeting low-income and minority households.

But while much has been written in recent years on the growth of subprime mortgage lending and the provision of alternative financial services to low-income and minority consumers, there is limited research on the extent to which these phenomena are related. Nonetheless, there are common themes in studies and reports examining subprime lending and the AFSP industry. For example, some analysts have focused on supply side factors, arguing that the withdrawal of regulated depository institutions from lower-income and/or minority neighborhoods has created a vacuum that is now being filled by newly created subprime lending operations and AFSPs. Others focus more on demand side factors, including the fact that many lower-income and/or minority consumers lack the needed information and knowledge to shop effectively for financial services generally, and hence are easily swayed by the sophisticated product design and marketing outreach of a variety of new companies, including subprime lenders, AFSP, and other new entrants into the consumer credit marketplace. Another important demand side factor is the tendency for lower-income households to have poor credit records and thus to have greater difficulty accessing prime sources of credit.

Recognizing that both supply and demand forces are likely to be at work, this literature review will examine the demographic, social, and economic forces that have given rise to the emergence of subprime lending and alternative financial services. While in many ways these two trends are distinct, the review will highlight the various ways in which the trends are related to a common set of underlying causal factors. In addition, the literature review highlights important policy issues that emerge from the rapidly changing mortgage and banking services marketplace – particularly challenges relating to how to create an appropriate regulatory framework that both supports the expansion of access to mortgage capital and basic banking services in low-income and/or minority communities while at the same time providing an appropriate level of consumer protection in these new market segments.

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[1] There are a variety of names used to identify this collection of financial institutions, such as alternative, non-mainstream, or non-traditional financial service providers, outlets, or institutions. While the term "nonbank" is appealing, because a defining characteristic of these firms is that they are outside the more heavily regulated realm of banks, this term excludes credit card companies as a comparison group. For lack of a better term, we will use the term "alternative financial service providers" to represent the broad class of businesses that provide services that compete with banks and credit card companies.

To accomplish this task, this literature review is divided into three broad segments. Chapter 2 examines what is known about subprime lending, paying particular attention to studies relating to the apparent concentration of subprime loans in lower-income and/or minority neighborhoods. The next chapter reviews the growing literature on alternative financial services providers, with particular emphasis on studies that document the characteristics of customers served, the spatial pattern of firm location, and the business models that seem to drive the industry. Chapter 4 then focuses on literature that assesses the policy challenges – including the Community Reinvestment Act and other policies relating to regulated depository institutions, as well as policies relating to more general issues of developing a regulatory framework that will ensure an appropriate measure of consumer protection in the face of the rapid changes in the provision of mortgage and financial services. The report concludes with a brief summary of the common themes from the literature reviewed and what this review suggests about areas for further research.

Section 2: Subprime Lending

According to HMDA data, between 1993 and 2001 the volume of mortgages originated by subprime lenders grew by ten-fold, from about 100,000 mortgages to more than a million (Joint Center, 2004). Further evidence of the rapid growth in subprime lending is evident in data from Inside Mortgage Finance, which indicates that the value of subprime mortgage originations increased from $35 billion in 1994 to $213 billion in 2002 (Inside Mortgage Finance, 2003). A notable characteristic of subprime lending is that it has grown most rapidly in minority and, to a lesser extent, low-income neighborhoods. While the advent of more flexible underwriting standards provides opportunities for more households to access mortgage credit, there have been concerns that some subprime lenders have used predatory practices to charge excessive fees and interest rates, impose loan terms that are disadvantageous to borrowers, sell products financed by the mortgage that have little value to the borrower, and originate loans that are unlikely to be affordable for the borrower. In extreme cases, these predatory practices may lead to loss of the home through foreclosure. Even in less extreme cases, borrowers can pay much more in interest rates and fees than is warranted by the degree of credit risk they represent. Finally, whether predatory or not, to the extent that subprime loans exhibit higher foreclosure rates, this type of lending can impose costs and/or destabilize the lower-income communities where subprime lending tends to concentrate.

This chapter will review four strands of literature, beginning with an assessment of the relationship among the growth of automated underwriting, risk based pricing, and secondary market securitization and the overall growth of subprime lending. The second strand provides largely descriptive information on the patterns of subprime lending by neighborhood characteristics. The next strand involves studies that have used multivariate techniques to examine the factors associated with the prevalence of subprime lending, either at the individual or neighborhood level. Finally, the review will examine literature that has investigated the relationship between subprime lending and mortgage foreclosure trends, including the potentially negative impacts that high rates of subprime foreclosures can impose on lower-income inner city communities.

2.1. Market Trends and The Rise of Subprime Lending

The advent of automated underwriting, credit scoring and risk based pricing, as well as the growing importance of mortgage brokers, national-scale mortgage banking organizations, and expanded secondary mortgage markets produced what some have labeled a “revolution in mortgage finance.” Aided by steady economic growth in the 1990s, and more recently by record low mortgage interest rates, the changing structure of the mortgage industry has fostered dramatic increases in subprime lending to low-income people and communities. This section summarizes existing literature on these trends and their implications for the evolution of the subprime market.

2.1.1. Structural Shifts in the Banking and Mortgage Banking Industries

The subprime first mortgage business emerged in the early 1990s as falling interest rates made it possible for home equity lenders to refinance existing high-rate first mortgages and allow borrowers to cash out some of their accumulated equity to pay down credit card debt or finance other purchases

in the process. Instead of needing a second mortgage to pay off high-cost debt, borrowers were now able to do so with a single loan that often lowered the interest on their primary housing debt as well reducing other monthly interest expenses. Due to the improved lien position (from second or third to first), these loans had lower levels of credit risk, broadening their appeal among secondary market investors. The final stage in this process, the purchase money subprime mortgage, emerged as industry expertise and technological advances made it possible to price the combined risk associated with lower credit quality of the borrower, reduced downpayment, and less certain collateral value of the home being financed.

To understand changes in the subprime lending market, it is first important to examine the dramatic restructuring of the both the retail and mortgage banking industries over the past 25 years. As documented by a series of studies by Federal Reserve Board Researchers (Avery et al., 1997, and Avery et. al 1999a) structural shifts have dramatically altered the retail banking industry. For example, from 1975 to 1997, the number of banking organizations dropped by 40 percent, as a result of industry consolidation and a substantial number of bank failures (Avery et al., 1999a).

Regulatory changes also supported the consolidation of the financial services industry. As described in a recent report by the Joint Center for Housing Studies, at the federal level, interstate branching became a reality in the 1990s (Joint Center 2004).[2] This opened opportunities for commercial banks to expand beyond the boundaries that had been in place since the depression, and enabled larger organizations to further enhance the scale and scope of their operations through merger and acquisition. The results were dramatic. For example, Federal Reserve Board data indicate the scale of the consolidation in the mid 1990s. From 1993 to 1997 alone, the number of banking institutions acquired in a merger or acquisition totaled 2,829, or 21 percent of the total (Avery et al., 1999a).

These changes had dramatic implications for the mortgage industry. As discussed by the Joint Center (2004), lacking the scale economies to compete in an increasingly automated business, many smaller banks and thrifts abandoned their mortgage lending activities entirely. At the same time, several large independent mortgage and finance companies continued to compete head to head with banking organizations in mortgage markets across the country. The largest, Countrywide Financial, made more than $250 billion in home purchase loans in 2002. But many other independent mortgage banking operations have either failed to grow over the past decade, or merged with or were acquired by a large banking operation. Using data from Inside Mortgage Finance, the Joint Center (2004) reports that in 2002, the top 25 originators accounted for 78 percent of the $2.5 trillion in loans originated that year. As recently as 1990, the top 25 originators accounted for 28.4 percent of an industry total of less than $500 billion in home mortgages.

One important implication of the restructuring of the industry was the declining importance of bank deposits as a funding source for mortgages. Historically, deposit-taking institutions, such as thrifts and commercial banks, originated the bulk of mortgages through branch-based retail lending operations. In 1980, nearly half of all mortgages were originated by thousands of thrifts, while commercial banks originated another 22 percent (U.S. Department of Housing and Urban Development, 1997). Moreover, for much of the period of the 1980s, the secondary market was in its infancy. During the 1980s, many deposit-taking institutions held the loans they originated. Although

[2] For a more detailed discussion of mortgage market regulation see Michael Barr (Forthcoming, 2004)

mortgage insurance was an important element for Federal Housing Authority (FHA) and other government-backed loans, the private mortgage insurance industry was still developing, and underwriting standards and mortgage documents varied considerably from one institution to another. As a result, third party investors were reluctant to purchase mortgages that lacked standardized features and adequate credit enhancements to reduce risk (Joint Center, 2002).

Over the past two decades this system has changed, as the secondary market developed and matured, and new mortgage delivery origination system substantially replaced an origination system that was linked to the location of banking institutions.[3] According to data gathered by *Inside Mortgage Finance* (2003), even as late as 1990, less than half of all mortgages were securitized and sold into the secondary market – a figure that was bolstered by the fact that at that point Ginnie Mae was securitizing virtually 100 percent of all FHA loans. Today, nearly 70 percent of all home mortgages are securitized and sold into the secondary market, due largely to the growing presence of Freddie Mac and Fannie Mae in the marketplace. The ability to package and sell loans to the secondary market reduced the need to hold deposits (or other sources of cash) to fund mortgage loans. The government sponsored enterprises (GSEs), Fannie Mae and Freddie Mac, along with private mortgage conduits mandated standardization of loan contracts and thus streamlined and rationalized mortgage markets – helping to foster an increasingly efficient mortgage delivery system.[4]

Closely paralleling the shifts in the broader mortgage market were equally dramatic changes in the subprime originations industry. As discussed in a recent report by the Neighborhood Housing Services of Chicago (NHS of Chicago, 2004), the subprime lending industry emerged from the activities of household finance companies extending debt consolidation, home improvement loans, or other types of second mortgages. This initial phase began in the 1970s and grew through the 1980s, receiving a boost from the Tax Reform Act of 1986, which repealed the tax advantaged status of interest on non-housing consumer debt. Second lien home equity lending continued through the 1990s but most of the major finance companies that had led the revolution in credit-sensitive lending were eventually purchased or ceased operation, and the survivors now play a minor role in the market relative to refinance and purchase money lenders (Fortowsky and LaCour-Little 2002).

Beginning in the late 1990s prime lenders began moving heavily into subprime lending, a trend enhanced by the enactment of the 1999 Gramm, Leach, Bliley Financial Services Modernization Act (GLBA), which fostered the growth and development of large, diversified financial services corporations. For some this involved purchasing leading subprime outfits, while others grew through a combination of mergers and acquisitions, as well by expanding existing operations – so called organic growth (NHS of Chicago, 2004). As is true for the broader mortgage industry, these shifts promoted substantial consolidation among subprime lenders. According to the Joint Center (2004), in 2002 the top 25 subprime lenders, along with their affiliated brokers and correspondents, accounted for over 88 percent of total subprime volume while the top five accounted for nearly 40 percent of

[3] For a more complete discussion of the factors influencing the growth of mortgage lending in the 1990s see Joint Center for Housing Studies, 2002.

[4] See Kendall and Fishman, 1996 especially the chapter by Lewis S. Renieri, "The Origins of Securitization, Sources of Its Growth, and Its Future Potential," pp 17-30.

total volume. Compare this to 1996 when the top 25 subprime lenders claimed only a 47 percent share and the top 5 only 20 percent.

2.1.2. The Origination of Subprime Mortgages

The growth and consolidation of the mortgage industry was aided by the creation of a highly automated origination system. As discussed in a number of textbooks on the topic, including the excellent texts by Brueggeman and Fisher (2001), Kendall and Fishman (1998), and Fabozzi and Modigliani (2002), this new system was anchored by the growing use of credit scores in mortgage lending, as well as the creation of automated underwriting systems. New technology and marketing approaches enabled lenders to reach customers through mass media and to interact with them via phone, fax, and Internet. Lenders merged the "back office" functions needed to originate, underwrite, and service loans and created automated regional processing centers, leaving them less dependent on the physical location of their branches to reach customers.

Key to the new origination system was the advent of highly automated credit scoring and risk based pricing algorithms (Collins, Case, and Belsky, 2004). The advent of risk-based pricing meant that, rather than charging a single rate to all qualified borrowers, the mortgage market sorts borrowers into risk buckets based on factors such as their demonstrated ability to handle debt repayment, stability of employment, extent of documentation of their financial information, and the loan-to-value ratio. While the sorting algorithms and resulting classifications vary among lenders, generally subprime mortgages are defined in terms of FICO score ranges. Using data from *Inside B&C Lending*, the NHS of Chicago (2004) estimates that some 70 percent of all subprime loans originated in 2002 were classified as A- grade (FICO score 580 or greater), while 11 percent were classified as B grade (FICO 560 to 579), 8 percent C (FICO 549 to 559, and 11 percent D (FICO less that 549).

In addition to the creation of loans to match differing risk profile, there has been substantial change in the way loans are originated. Unlike the branch bank dominated system of the 1970s, today, loans are originated through one of three channels: retail, correspondent, or broker. Retail activity is most akin to traditional lending where employees of a banking or mortgage banking organization reach out to potential customers, complete a mortgage application, and underwrite and fund loans for those who meet the underwriting standards. Many retail mortgage lending operations conduct business from branch operations, though increasingly the marketing and even closing of loans is done by telephone or over the Internet. Once funded, a retail loan may be held in portfolio by the lender, sold to another lender, or packaged and sold to the secondary market.

Just as technology has fostered consolidation among mortgage banking operations, it has also enabled dramatic growth in the number of smaller mortgage brokerage and correspondent lending firms. Correspondent lenders, for example, are typically smaller mortgage brokers, thrifts or community banks who operate much like retail lenders in that they take applications, underwrite and fund mortgages. While loans are funded in the name of the correspondent, they are made in compliance with established underwriting standards and sold to a larger wholesale lender under prearranged pricing and loan delivery terms. Brokers, in contrast, do not fund loans, but simply identify potential customers, process the paper work, and submit the loan application to a wholesale lender who underwrites and funds the mortgage directly.

As reported by the Joint Center (2004), over the past ten years, there has been a substantial rise in the number of firms engaged in mortgage brokerage and correspondent lending activities. In 2002, there were 44,000 firms (with some 240,000 employees) engaged in mortgage brokerage and correspondent lending activities, almost double the number of firms operating in 1995 and up markedly from the estimated 7,000 firms operating in 1987.[5] In 2002, retail lending accounted for 40.2 percent of total origination volume, while brokers (30.8 percent) and correspondent lenders (29.0 percent) accounted for the rest.[6]

Both prime and subprime mortgages are originated through each of these three channels. Estimates of the market share of each segment tend to be imprecise but generally place the retail share between 30 and 40 percent. There is a broad consensus that retail lending is less important in the subprime market. Inside Mortgage Finance (2003), for example, puts the retail share of 2002 subprime originations at 34 percent, compared with nearly 41 percent for the prime market.[7] The publication estimates that the broker channel accounted for 45 percent of subprime originations, a share fully 15 percentage points higher than for prime mortgages (30 percent).

2.1.3. Securitization of Subprime Mortgages

According to Ranieri (1996) – an individual widely credited as being one of the architects of the current secondary market – mortgage securitization was devised in the 1970s in response to the fear that the (then healthy) thrift industry would not be capable of supplying sufficient capital to meet mortgage market demand as the baby boomers entered their peak homebuying years.[8] After earlier fits and starts the first widely successful transactions were completed in the early 1980s, taking pools of existing loans from thrift balance sheets and lodging them with Freddie Mac to issue 'pass-through' securities based on the cash flow from monthly payments on the loans in the pool. As the challenges facing thrifts mounted through the 1980s, billions of dollars worth of loans in thrift portfolios were securitized, along with an ever-growing share of newly originated loans.

Despite playing an increasingly central role in the nation's housing finance system, the power of securitization to attract capital to the mortgage market remained limited by the fact that only thirty-year fixed-rate mortgages could be securitized and only into thirty-year pass-through securities. In order to broaden the marketplace appeal of the product, Wall Street worked with the GSEs to devise new types of securities called collateralized mortgage obligations (CMOs), which divided or 'tranched' cash flows from a pool of mortgages into claims of differing lengths and payment periods. When issued with Freddie Mac or Fannie Mae guarantee of timely payment of principal and interest,

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5 Wholesale Access Mortgage Research and Consulting. 2003. "Mortgage Brokers 2002," Press Release, August 13. Available at http://www.wholesaleaccess.com/8.6.03.mb.shtml.

6 Estimates from Inside Mortgage Finance, 2003. These figures closely approximate data presented in *2002 Mortgage Industry Directory*, a publication of the National Mortgage News. They estimated that in the first quarter of 2002, the retail channel accounted for only 39.7 percent of all lending, with the broker and correspondent share totaling 29.9 and 30.4 percent respectively.

7 Mingelgrin and colleagues (2002) put retail share of subprime originations at less than 20 percent.

8 In addition to Ranieri (1996), the history of the growth of securitization is drawn also from Brendsel (1996) and Fink (1996).

these new securities offered nearly risk free returns above Treasury Bonds of equivalent maturities and were priced at extremely competitive rates relative to investment alternatives such as corporate bonds. When issued by Ginnie Mae the securities carried the full faith and credit of the US government and, again were a competitive alternative for the investor looking for a return modestly above the U.S. Treasury rate.

While the financial innovation of varying maturities succeeded in attracting additional capital to the mortgage market, several key legal and regulatory impediments restricted securitization's full flowering. Among the most important were state-level restrictions on the ability of some investors to purchase pass-throughs and CMOs, limitations on the nature and extent of cash flow tranching imposed by the Department of the Treasury, and other tax issues (Ranieri 1996). These problems were addressed by passage of Secondary Mortgage Market Enhancement Act of 1984 and the Tax Reform Act of 1986. Together, these acts created the Real Estate Mortgage Investment Conduit (REMIC) that cleared up lingering tax issues, and gave Wall Street tremendous flexibility to construct securities with widely ranging maturities and previously prohibited characteristics.[9]

The successful securitization of conforming mortgages led to the securitization of other assets, such as auto loans, credit card receivables, equipment leases, student loans, and manufactured home loans. Issues backed by collateral other than conforming mortgages are collectively referred to as asset-backed securities (ABS). This includes those backed by subprime mortgages, which Wall Street calls Home Equity Lending (HEL), in reference to the origins of the industry in second-mortgage lending and the continuing dominance of cash-out refinance loans. Securitization of subprime mortgages has increased steadily as the volume of originations has grown. Between 1995 and 2003 the value of home equity securities outstanding increased nearly tenfold, from $33.1 to $313.5 billion. In 2002 the net increase in securitized loans outstanding was equal to nearly half of the $213 billion worth of subprime loans originated. While still dwarfed by the multi-trillion dollar agency market, subprime mortgage securities (i.e., HEL ABS) are the now the second largest share of the $1.6 trillion in ABS outstanding, trailing only credit-card receivables ($402 billion), and ahead of auto loans ($229 billion).[10]

According to mortgage industry experts, the benefits of securitization are many fold. Cowan (2003) explains, for example, that the securitization process allows risk to be isolated and reallocated among investors most willing to assume it. Those willing to take on some credit risk can purchase junior securities in varying loss positions. Because credit events pose minimal problems for most investors, the key source of differentiation among securities derives from prepayment risk and interest rate risk. By creating tranches of differing durations and exposure to prepayments, securitization can also help investors manage these risk factors as well.

According to Roever (1998), securitization conveys many advantages to borrowers as well. First, it increases credit access by bringing more capital to the mortgage market. It does so by increasing the

[9] REMIC status simplifies the legal, regulatory and accounting obstacles associated with issuing multiple asset classes and removes the threat of double taxation at the federal level for a securities issue backed by mortgages (Singer 2001b).

[10] The source of these statistics for securities outstanding is the Bond Market Association and for originations is Inside B&C Lending.

pool of investors for whom investing in mortgages is possible and/or desirable and by recycling the capital raised by selling securities back through the mortgage market. The second benefit is lower mortgage costs. By designing mortgage securities meeting the risk and return requirements of a variety of investors, the cost of the capital funding mortgage loans can be reduced. Some share of this reduction is passed on to borrowers. At the same time, securitization has added to the overall complexity of the mortgage process and raised important policy issues. Unlike a simple transaction between a borrower and lender, securitization adds numerous players to the process, which can make it difficult to sort out responsibility when loans go bad. This can be particularly challenging with respect to default and foreclosure, especially in situations where the foreclosure was triggered by abusive practices on the part of the lender.

2.1.4. Trends in Subprime Servicing

New technology fostered the consolidation of other segments of the mortgage industry as well. Nowhere is this trend more evident than in mortgage servicing and securitization. Today, the top five organizations now service almost 40 percent of all loans, against 10 percent a decade ago (Cutts and Green 2003). The subprime market has not reached this degree of consolidation. Indeed, the NHS of Chicago (2004) argues that this reflects the fact that the subprime market itself is relatively young, and has yet to realize fully the potential cost reductions linked to scale economies. Alternatively, lack of consolidation could indicate a difference in borrower characteristics that make subprime servicing less conducive to consolidation.

There exist only a few studies that have examined the factors supporting consolidation in the servicing industry. More than a decade ago Follain and Zorn (1990) predicted that the unbundling of traditional thrift functions, including servicing, in response to regulatory changes in the 1980s would lead to increased 'specialization' of these functions in the overall mortgage market. Interestingly, Follain and Zorn were unsure about the impact of economies of scale on specialization or consolidation among servicers. Rossi (1998) addressed this issue in a study examining the cost structure of the mortgage banking industry designed to evaluate future consolidation trends in origination and servicing. He notes that an earlier study by the Mortgage Bankers Association showed servicing costs at mortgage banking operations with less than 5,000 loans were double those of mortgage banks with more than 70,000 loans. Using 1990-1992 balance sheet and income statement data from mortgage banks, Rossi finds that substantial economies of scale in servicing exist even at the highest output sizes. He claims that servicing is particularly amenable to scale economies because of the extent to which its requirements can be automated and involve information sharing. Rossi (1998) concludes that as of the early 1990s mortgage banking was an industry characterized not only by scale economies, but also by declining costs due primarily to servicing.

According to the NHS of Chicago (2004), it remains an open question as to whether the subprime sector will realize the scale economies so prominent in the prime market. The NHS of Chicago report notes that one question that continues to divide the industry is whether there are meaningful differences in the best approach to servicing subprime as opposed to prime borrowers. Obviously prime borrowers differ from subprime borrowers since on average prime borrowers have superior credit backgrounds, tend to have larger cash reserves and more stable employment histories than subprime borrowers. Prime borrowers also have greater sources of emergency cash, such as friends

and relatives with funds available to help them get through a rough patch. In combination, these features make prime borrowers less likely to become delinquent or to default on their loans.

One additional source of difference relates to the greater prevalence of inappropriately originated loans in the subprime market. To the extent that broker malfeasance produces loans for which borrowers are marginally qualified, delinquencies and defaults will also be higher, and servicing will be more challenging. Cutts and Van Order (2002) have also suggested that subprime borrowers may be more likely to 'borrow' from the note holder by deliberately not paying their loan for a month or two in order to address other financial concerns. When they come current a few months later they take the penalty for doing so as an interest payment on what amounts to a short-term loan.

The NHS of Chicago report (2004) notes that these differences suggest the need for a very different and higher-cost approach to servicing subprime borrowers, one that potentially requires increased human contact and hence reduced scope for economies of scale to operate. Collateral is also likely to be weaker because it tends more often to be located in marginal neighborhoods and because the subprime owner may have fewer resources available to maintain the home's quality. In addition, subprime loans tend to be smaller and the homes less expensive, meaning that less equity is typically available to reward the effort and expense of going through foreclosure. Further, as the preceding paragraph suggests, even fairly severe delinquencies are not necessarily indicative of the subprime borrower's lack of willingness to remain in the home. Given the high cost of foreclosure it is therefore almost always preferable for the lien holder to employ a workout if the delinquent borrower has the ability and willingness or the desire to do so.

Another key issue is servicers' differing incentives for pursuing loss mitigation in the prime and subprime markets. Cutts (2003a: 2) claims that servicers in the conforming market are very price conscious because they are compensated by "a flat servicing fee with fee/bonus incentives from investors for achieving low incidences of default. Thus, any change in practice that streamlines processes, reduces the incidence of foreclosure and REO, or increases the cure rate on delinquent loans will result in a direct increase in profitability for the servicer." In the subprime market where third party servicing is less common, servicers are more often in line to take the first losses due to default and delinquency (referred to in the servicing industry as having 'skin in the game'). This investor role provides stronger incentive to avoid foreclosures than do the bonus fees.

Because risk levels are less well established in the subprime market and because the risk of credit losses is higher, potential returns to investors in residual security tranches from minimizing credit losses are much larger on a subprime than a prime securities issue. Therefore, subprime servicers holding residual risk can devote additional effort to foreclosure avoidance and loss mitigation beyond what would be economic in the prime market with the expectation of making it up via improved performance of the residual interest in the securities they hold. This is true even in comparison to a prime market servicer holding a residual interest in a loan pool because the payoff for success is larger in the subprime market to compensate for the demonstrably higher credit risk of the borrowers.

2.2. Patterns of Subprime Lending

The availability of HMDA data and identification by the U.S. Department of Housing and Urban Development (HUD) of subprime lender specialists that report HMDA data have greatly facilitated

the analysis of trends in subprime lending at the neighborhood level in metropolitan statistical areas (MSAs) throughout the country.[11] As a result, there is a fairly rich literature on this topic. This section briefly reviews the descriptive studies on these topics, paying specific attention to the spatial variation in subprime lending, as well as the spatial variation in income, credit history and other factors that might contribute to the observed patterns.

2.2.1. Spatial Variation in Subprime Lending

Numerous studies document the spatial variation in subprime lending and particularly the tendency for subprime lending to be more prevalent in low-income and minority neighborhoods than in others. Using 2000 HMDA data, Scheessele (2002) reports that while subprime lenders accounted for 16.4 percent of refinance loans in high-income neighborhoods (areas with incomes greater that 120 percent of area median), these lenders accounted for 36.3 percent of these loans in low-income areas (areas with incomes less than 80 percent of area median). The disparity in market share by neighborhood racial composition is even more striking. In 2000 subprime lenders accounted for 14.3 percent of refinance loans in neighborhoods where Blacks comprise less than 30 percent of the population, but 47.8 percent in areas where Blacks account for more than half of the population—more than three times as high a share.

This pattern is evident in a large number of market areas throughout the country. The importance of race as a factor in the geographic distribution of subprime lending is demonstrated by a comparison of subprime lenders' share of refinance loans in high-income Black neighborhoods compared to low-income areas where Blacks comprise a relatively small share of the population. Scheessele finds that in 2000, subprime lenders accounted for 42.2 percent of refinance loans in high-income areas where Blacks make up more than half of the population. In comparison, subprime lenders accounted for only 29.5 percent of refinance loans in low-income areas where Blacks were less than 30 percent of the population.

Given the availability of HMDA data at the census tract level, most studies of subprime lending patterns provide information on individual MSAs as well national totals. The most comprehensive reporting of MSA level data is in Bradford (2002), which covers all MSAs in the country, while ACORN (2002) provides information on the 60 largest MSAs. Both of these studies provide data on subprime lenders' share based on the race of the borrower, while Scheessele reports data on subprime lenders' shares by neighborhood income and racial composition for 27 metro areas. These studies have found that while there is a broad range across markets in subprime lenders' market shares both overall and for specific classes of borrowers and neighborhoods, subprime lending has grown significantly in virtually all parts of the country and the concentration of subprime activity in low-income and minority communities is not restricted to just a few markets.

The Joint Center for Housing Studies (2004) provides further documentation of what they call the "Prime Lending Gap" in minority neighborhoods. In 2001, prime conventional lenders accounted for

[11] Since HMDA data do not include loan terms (such as interest rate or points), there is no way to identify subprime loans from reported data. Through a series of phone interviews and review of industry literature, Scheessele (1999) created a list that identified those lenders that exclusively or primarily make subprime loans.

nearly three quarters of all home purchase lending to whites, but less than 50 percent of lending to Hispanics and only 40 percent of lending to African Americans. Noting that there are noticeable income differences, on average, between borrowers of different race and ethnicity, the Joint Center argues that the racial gap in prime home purchase lending persists even after controlling for borrower income. In addition, the share of African Americans and Hispanics refinancing their homes with conventional prime loans also trails the white share in each of the income categories presented. This is despite the fact that refinance lending is generally considered to be less risky than home purchase lending because loan to value ratios tend to be lower and lenders can review the payment history on the current loan to determine whether to extend new financing.

In recent years, many researchers have focused on what they call the "risk or race question" arguing that it is "race" not "risk" that explains the persistent prime lending gap.[12] For example, in a comprehensive review of neighborhood lending patterns in Chicago in the late 1990s, Immergluck and Wiles (1999) observed that conventional prime lenders served higher-income white areas, while FHA and subprime lending was concentrated in lower-income and minority communities. Characterizing this as a "dual mortgage market," they noted that the racial disparities were too great to be explained by differences in the credit quality of the borrowers. Instead, they argued that the observed patterns resulted from the failure of "mainstream lenders" to seek out credit worthy borrowers in lower-income and minority communities.

Researchers at HUD similarly concluded that a lack of competition from prime lenders has enabled subprime lenders to gain a growing share of mortgage lending activity in lower-income and minority communities. In addition, they noted that racial discrepancies in lending patterns existed at the borrower level and that upper-income African American borrowers were twice as likely as lower-income, white borrowers to hold subprime refinance loans. Finally, based on their summary of several HUD-funded studies, Fishbein and Bunce (2000) concluded that a portion of borrowers whose credit would allow them to qualify for lower cost conventional prime loans were nonetheless receiving subprime loans. They also found that the higher interest rates charged by subprime lenders could not be fully explained by neighborhood and/or borrower risk factors.

Similarly, Calem, Gillen and Wachter (2003) examined spatial variation in subprime lending across census tracts in Chicago and Philadelphia. In addition to detailed borrower data, this study incorporated a variety of tract-level measures drawn from the 2000 Census.[13] Of note was their use of tract-level risk measures, including the share of properties in foreclosure, as well as the share of individuals within the tract with very low or no credit scores. The credit score data was obtained from CRAWiz®, a product of PCI Services of Boston, that provides software and tract level data for analyzing mortgage lending patterns. The credit information was obtained by PCI Services from the credit reporting agency, Experian. In particular, they found that "even after inclusion of the full set of explanatory variables, in both cities we find a strong geographic concentration of subprime lending in neighborhoods where there is a large population of African American homeowners" (2002: 14).

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[12] The phrase "risk or race" was suggested by a compressive study of subprime lending patterns prepared for the Center for Community Change. See Bradford, 2002.

[13] Census variables provided detail on income, education, and race/ethnicity.

Though some advocates suggest that the absence of prime lending in inner city neighborhoods reflects the fact many banks closed their inner city offices, the Joint Center (2004) study suggests that something subtler is at work than simple "redlining." Indeed, communities that previously had little or no access to mortgage money have had significant growth in lending. For example, in 1993, in predominantly minority, lower-income census tracts, there were 15.7 home purchase loans made on average. These loans were made by an average number of 8.4 lenders, including an average of 2.4 of the nation's top 25 lenders. By 2001 these figures had jumped to 30.3 loans, made by an average of 15.1 lenders, including 5.9 of the nation's top 25 lenders.

The Joint Center argues that while automated systems make it easy to process applications for prospective buyers with credit characteristics that fall within the norms of standard programs, the entry of large, well-capitalized players into the lower-income market segment, does not mean that the new mortgage delivery system necessarily provides "competitive pricing" to all market participants. Even as automation has lowered the cost of reaching borrowers with well-established credit, it remains a more complicated – and thus more expensive – proposition to identify programs that fit the needs of families with little or no credit history. As a result, an increasingly large segment of the subprime market is now left to smaller scale brokers and others who develop the local knowledge and contacts to engage in the "high touch" lending needed to reach out to the traditionally underserved.

2.2.2. The Credit Characteristics of Borrowers

As discussed above, subprime lending is most prevalent in low-income and minority neighborhoods. Of course, it might be expected that subprime lending would be more prevalent in these areas as low-income households are more likely to have higher credit risks and so are more likely to use subprime financing. As suggested in the Treasury-HUD study (2000), to some extent these geographic disparities may reflect geographic variations in credit characteristics of borrowers, differences in the types of loans generally obtained (e.g., small balance loans), and less competition from mainstream lenders. However, while these factors are generally accepted to play a role in explaining the observed pattern, there has been relatively little research that directly tests these hypotheses. The lack of research in this area reflects a lack of readily available information about the credit characteristics of borrowers and the spatial distribution of lenders to support such studies.

One study that has examined the distribution of credit scores by neighborhood characteristics is Avery et al. (1997a). These researchers obtained credit score information for all individuals residing in 994 zip codes representing a stratified random sample taking into account region, metropolitan status (i.e., central city, suburban or rural), and median household income.[14] The data on individuals was used to create household level credit scores, which were then further aggregated to create median household credit scores for each sampled zip code. Avery et al. then regressed a series of zip codes characteristics on the median household credit score to determine the extent to which neighborhood

[14] Zip code areas have an average population of about 30,000, making them more than seven times larger than the average census tract, which is a more common definition of neighborhood for statistical analysis. Because they are larger, they will also be more heterogeneous than census tracts. One might expect that the greater heterogeneity would make it more difficult to find an association between zip code characteristics. However, despite their large size, the analysis by Avery et al. finds a number of statistically significant and sizeable associations.

credit scores varied with these characteristics. They find that the characteristics with the greatest association with credit scores included having poverty rates over 25 percent, unemployment rates over 9 percent, minority shares of the population over 30 percent, less than 10 percent of the population over age 60, and being located in the East South Central census region. Characteristics with statistically significant but smaller in magnitude associations with credit scores included having median house values below 80 percent of the area median, median incomes below 80 percent of the area median, less than 70 percent of adults graduated from high school, and being located in the West South Central or South Atlantic census regions.[15] While this study does not examine the relationship between mortgage lending patterns and credit scores, it does indicate that low-income and minority areas do tend to have lower median household credit scores.

One study that does include measures of credit risk in examining mortgage use at the borrower level is Pennington-Cross, Yezer and Nichols (2000a). This study benefits from a unique data set on homebuyers that includes a variety of risk measures that are not generally available, including credit history and non-housing debt levels. The study also includes geographic area characteristics, although most of these are at the metropolitan area and not the neighborhood level. The authors conclude that subprime borrowers do, in fact, have higher risk characteristics than borrowers in the conventional or FHA market segments, indicating that the subprime market is appropriately targeted at high-risk borrowers. Nonetheless, they also find that Black and Asian borrowers have higher probabilities of obtaining subprime financing even after controlling for the risk factors of credit score, debt levels, and income.

Pennington-Cross and Nichols (2000b) analyze average credit scores by a variety of borrower characteristics and conclude that credit scores are lower for lower-income borrowers, but the differences are not large. The average FICO score for borrowers with income below $30,000 was 709.2, compared to an average of 726 for borrowers with income above $100,000. In contrast, there was much greater variation in average FICO scores by loan-to-value ratio (LTV), with low LTV borrowers (less than 65 percent) averaging 748.8, compared to 671.6 for borrowers with LTVs above 100 percent. This analysis pertains to average borrower income, rather than average neighborhood income. So while there is little variation in credit score by household income, there might be greater variation by neighborhood income. Pennington-Cross and Nichols do compare the average credit score for borrowers in underserved and served census tracts. Since underserved status is based on the racial composition and income level of the neighborhood, this provides some indication of neighborhood variation in credit scores. Underserved areas are found to have an average FICO score of 702.1, compared to 723.0 for served areas. This provides some support for the argument that these areas are associated with greater credit risk, but, as with differences by household income levels, the magnitude of the average differences is not large.

Concerned that the observed racial disparities in access to prime lending simply reflect difficult to capture differences in credit worthiness, Pennington-Cross, Yezer and Nichols (2000b) examined issues related to credit risk and mortgage lending and estimated the probability that an individual

[15] To give a sense of the degree of association between neighborhood credit scores and household income levels, they find that in zip codes with median incomes less than 80 percent of the area median 29.5 of individuals have scores of 602 or lower, compared to 14.9 percent of individuals in zip codes with median household incomes above 120 percent of the area median.

borrower selected a conventional prime, subprime, or FHA insured mortgage. The study analyzed a database of home purchase loans that combined HMDA data with data from FHA administrative files, a sample of real estate transactions, and a measure of borrower credit quality. While the study confirmed that borrower income, debt, credit history and neighborhood factors significantly influence the pattern of mortgage lending, race and ethnicity still appeared to be key determinants in explaining why African Americans, Native Americans, and Hispanics are less likely to have access to lower-cost, prime home purchase loans than whites.

Another recent study provides support for the argument that at least some subprime borrowers would likely qualify for prime loans. Using detailed data on borrower and loan characteristics including measures of risk, researchers from Freddie Mac (Lax, et al, 2000) found that the interest rate differential between prime and "A-" loans could not be justified by differences in credit risk of these borrowers—even when the authors make conservative assumptions about the loss rates and servicing costs of these loans.

In a recent paper, Courchane, Surette and Zorn (2004) examined whether minority borrowers were "inappropriately" channeled into the subprime segment. The study explored mortgage lending patterns using FICO scores and other traditional measures of risk as well as what the authors described as "borrower self-assessed credit risk factors"[16] gathered from a survey of mortgage borrowers. The paper confirmed that whether borrowers obtain subprime or prime mortgages depends in large measure on risk-related mortgage underwriting variables, including FICO score, LTV, and the ratio of monthly housing costs to income (or "Front-End Ratio"). Nonetheless, other factors not related to borrower risk are also significant and suggest that some borrowers may be improperly receive subprime mortgages. These factors include borrower age, market channel, ethnicity and shopping behaviors.

The addition of measures of market knowledge, search behavior, and choices available contributed significantly to explaining borrower outcomes. The authors concluded that the superior performance of the "full" model in explaining whether a borrower obtained a prime or subprime loan implies that credit risk alone may not fully explain why borrowers end up in the subprime market. Rather, their paper supports the alternative view that the current mortgage delivery system produces an allocational inefficiency wherein households of similar economic, demographic, and credit risk characteristics do not pay the same price for mortgage credit.

2.2.3. The Shopping Behavior of Subprime Borrowers

As envisioned in simple economic theory, the ability of consumers to shop for the best available price and terms plays a key role in preventing market discrimination. For example, in a market where people have the ability to comparison shop, a broker may lose business if he pushes costs too high. Unfortunately, given the bewildering array of mortgage products available, even the most sophisticated borrower will find it difficult to evaluate the details of a mortgage since the essence of mortgage pricing reflects decisions concerning repayment of debt over time. Indeed, there is a

[16] For example the survey gathers data on whether the borrower believes that they "have good credit," "pay bills on time," and are "in control of their finances," as well as information on search behavior and adverse life events such as loss of job.

growing body of "behavioral economics" literature that suggests that consumers have differing and often inconsistent time preferences depending on how the choices regarding payment over time are framed.[17] For example in a recent paper, Shu (2002) argued that the complexity of discounting mathematics and an inability to estimate this function in their head leads people to turn to alternative "Short Cut Methods," such as heuristics or simplified linear models. For example, one short cut method might be for the consumer to estimate the total loan payments (number of payments times the payment size) and look for a loan that minimizes this total. If the loan terms being compared were held constant, this heuristic would be equivalent to finding the loan with the lowest interest rate. Yet over loans of various terms, the loan with the lowest total payments may not be the loan with the lowest annual percentage rate (APR).[18] Aside from APR, others focused on minimizing the length of the loan term, while for others, minimizing monthly payments was given priority.

Mortgage brokers may be particularly likely to exploit the fact that borrowers rely on short cut methods to make borrowing decisions to sell borrowers on subprime loans or other unfavorable loan terms. For example, a recent AARP study (Kim-Sung and Hermanson 2003) examined subprime lending patterns using a random sample of 1,008 individuals aged 65 and older that refinanced their home between January 1999 and December 2000. Kim-Sung and Hermanson noted that broker-originated refinance loans were nearly twice as likely to be subprime as lender-originated loans (33 versus 17 percent). They also showed that nearly half (49 percent) of the surveyed borrowers obtained a retail lender-originated loan, 39 percent a broker-originated loan, while some 12 percent reported receiving their loan from a home improvement contractor or some other source. A higher share of broker-originated loans went to African American borrowers (64 percent) than white borrowers (38 percent) and broker-originated loans were also more common among borrowers who were divorced or female.

What is perhaps most striking is the way homeowners in the sample searched (or in many instances did not search) for the best loan available. The AARP study supports the notion that in many instances subprime refinance loans are "sold, not sought" in that they result from the extensive and often unsolicited outreach by brokers. Kim-Sung and Hermanson found that some 56 percent of borrowers with broker-originated loans reported that brokers initiated contact with them, compared with only 24 percent of borrowers with lender-originated loans. Since they did not initiate the search activity, it is not surprising that a larger share of borrowers with broker-originated loans (70 versus 52 percent) "counted on lenders or brokers to find them the best mortgage." Unfortunately, this confidence was often misplaced.

Many borrowers, especially elderly borrowers, and borrowers in lower-income and/or minority areas, succumb to the marketing tactics of aggressive brokers. Borrowers with broker-originated loans were more likely to pay points (25 versus 15 percent) and more likely to have a loan with a prepayment penalty (26 versus 12 percent). A greater share of borrowers with broker-originated loans also believed that they did not get a loan that was "best for them" (21 versus 9 percent), received a loan

[17] For a good summary of this strand of literature see Thaler and Sunstein, 2003.

[18] Shu (2002) presents evidence that the problems associated with deciding what is the best way to borrow money and repay over time is not limited to "unsophisticated borrowers." Using a panel of students enrolled in the MBA program at the University of Chicago, she finds that even financially sophisticated individuals have trouble determining cost minimizing alternatives for a stream of future payments.

with mortgage rates and terms that were "not fair" (23 versus 8 percent) and did not receive "accurate and honest information" (19 versus 7 percent).

These findings are echoed in a number of other studies. Survey data presented in a study by Courchane, Surette and Zorn (2004) painted a similar picture. This study suggested that subprime borrowers are less knowledgeable about the mortgage process, are less likely to search for the best mortgage rates, and are less likely to be offered a choice among alternative mortgage terms and instruments. Similarly, another AARP survey (AARP, 2003) conducted in 2003 examined consumer knowledge of the mortgage lending process. While AARP reported that most survey respondents aged 45 and older understood the basic loan application process, including Truth in Lending Act (TILA) disclosure requirements, many did not. For example, more than 10 percent of all respondents were unaware that the lender is required to disclose fees before loan closing, while more than 20 percent were unaware that the lender is required to disclose the APR of the loan prior to closing. Moreover, AARP noted that African Americans were slightly less likely than the general population to correctly answer the TILA related questions included in the survey.

The AARP survey also asked respondents about the steps they took to shop for a home equity lender. Most respondents made multiple inquiries concerning alternative home equity loan products; however, there were notable exceptions. For example, African Americans were significantly less likely than the general population (36 versus 77 percent) to shop for a home equity loan at their bank, savings and loan or credit union. AARP posited that this might be related to the fact that the African Americans surveyed were significantly less likely (72 versus 88 percent) than the general population to have a savings or checking account at one of these same institutions. Lacking access to banking services, African Americans were more likely (29 versus 10 percent) than the general population to go to a lender recommended by their contractors and more likely (21 versus 9 percent) to respond to advertisements received in the mail or over the phone.

While the studies by Courchane, Surette and Zorn and AARP showed that subprime borrowers do not shop, Guttentag (2001) went further to argue that because of the complexity of mortgage products, consumers are, in many ways, incapable of being effective shoppers. According to Guttentag, "the core reason for market failure is that effective shopping for a mortgage is extraordinarily difficult for even sophisticated borrowers (2001: 3)." To support this claim, Guttentag documented substantial variation in broker compensation, a situation that should not exist if consumers have the capacity to shop for the best available terms. He examined a sample of conventional prime loans and found that broker profits ranged from $1,077 to $2,748 and had no apparent relationship to the level of the effort required to process the loan application.[19]

Guttentag emphasized the fact that pricing variability is not a prime or subprime issue but rather a product of the way mortgage markets function. This was followed by a detailed discussion of the characteristics of the current mortgage market, such as product complexity and the tendency for loan terms to change daily, that undermine the ability of borrowers to effectively comparison shop. For example, the difference between a thirty year fixed rate mortgage with an interest rate of 6.5 percent and 3 points and one at 7.25 percent with no points, while substantial if the loan is held to term, is negligible over a five-year time horizon. Most borrowers, however, are unaware that the length of

[19] In a recent paper, Woodward (2003) came to a similar conclusion.

time the loan is actually held has a tremendous influence on the effective interest rate generated by the point and rate combination.

Shopping for the best price is made even more difficult by the fact that mortgage borrowing involves many participants including loan officers, underwriters and processors, property appraisers and insurers, title insurers, credit reporting agencies, mortgage insurers, abstract companies, pest inspectors, and flood insurers to name a few. In addition to the complexity of the product, the complexity of the process provides an opportunity for brokers to collude with some of these participants to skim extra cash from the borrower. Moreover, the sheer number of documents associated with a mortgage loan provides ample opportunity for a broker to introduce unfavorable provisions into the loan without the borrower's knowledge.

2.3. Adverse Consequences of Subprime Lending

An unintended side-effect of the ongoing efforts to extend home ownership opportunities to less credit worthy consumers – and particularly the rise in subprime lending – is a commensurate increase in foreclosure rates. While unintentional, this outcome is not surprising because many lower-income and lower-wealth borrowers have trouble making timely mortgage payments and are more likely to slip into delinquency and default. The fact that much of the recent expansion in homeownership has occurred among historically underserved borrower groups has served to concentrate homebuying in lower-income neighborhoods with relatively fragile housing markets. This pattern, coupled with the sometimes aggressive and abusive marketing and origination practices described in other sections of this report, produce concentrations of foreclosures potentially giving rise to a 'contagion' effect in which foreclosures above some threshold level can depress prices in an area and set off a further cycle of foreclosures and decline.

2.3.1. National Trends

There can be little doubt concerning the link between the increase in foreclosures and the growth of subprime lending. Employing the best available data on loan performance, researchers at Freddie Mac (Cutts and Van Order, 2003) estimated that as of mid 2002, the serious delinquency rate for conventional prime loans was 0.55 percent (serious delinquency is defined as loans that are already in foreclosure and/or with payments that are 90 days or more late).[20] In contrast, subprime loans had a serious delinquency rate of 10.44 percent, nearly 20 times higher. Further, the more risky subprime loans examined by Cutts and Van Order (labeled in the study as 'C' or 'CC' loans) had rates topping 21 percent. Subprime serious delinquency rates were more than twice those of FHA insured mortgages (4.45 percent). Though hardly in evidence a decade ago, subprime loans are now the most default-prone mortgage segment of the home loan market. Overall, the Freddie Mac data suggest that today, subprime loans account for half of all seriously delinquent loans, while conventional prime and FHA loans each account for about one quarter of all seriously delinquent loans.

The success of the subprime segment of the mortgage market in extending credit to ever more risky borrowers, in combination with the weak economy, have combined to push the national serious

[20] See especially Cutts and Van Order (2003) Table 1 that combines data on loan performance from various sources to develop estimates of serious delinquency for loans of varying credit quality.

delinquency rate to its highest level in decades. Collins, Belsky and Case (2004) present estimates of serious delinquency rates by market segment for the period 1998 to 2003 showing that the number of subprime delinquencies and foreclosures have nearly doubled from 1998 to 2001 before falling off slightly. Irrespective of the change in foreclosure rates, subprime foreclosures are a larger problem today than in 1998 because subprime's share of loan originations now exceeds 5 percent – a 50 percent increase over its mid-1998 share – and because the overall mortgage market is much larger than five years ago. As noted earlier, higher foreclosures among subprime loans are a natural outgrowth of the lower credit quality that characterizes the subprime market. This effect is reinforced by the fact that collateral value in the subprime market is generally weaker.

2.3.2. Metropolitan Area Specific Foreclosure Studies

While no study has systematically examined foreclosures at the MSA level nationally, a handful of existing studies demonstrate increasing foreclosure rates in low-income communities across the country. The roughly ten studies of foreclosure activity in particular metropolitan areas conducted to date, while differing in terms of the quality and extent of available foreclosure data, paint a remarkably consistent picture of the rising incidence of foreclosure, especially in lower-income and minority neighborhoods.

A study of Baltimore noted that the number of foreclosures increased from 1,900 in 1995 to over 5,000 in 1999 and that the growth was particularly pronounced in African American areas (Treasury-HUD 2000). The study also found that over a quarter of the subprime loans in foreclosure in the first quarter of 2000 were less than a year old and over half were less than two years old. The fact that so many loans were in foreclosure less than two years after origination suggests that many borrowers may not have had the capacity to repay the loan at the time it was made.

In Atlanta, researchers from Abt Associates examined loans entering foreclosure and found that the share of foreclosures attributable to subprime lending increased from 5 percent in 1996 to 16 percent in 1999 (Gruenstein and Herbert, 2000a). Moreover, researchers noted that almost half of the foreclosed subprime loans were 'high-cost,' that is they had interest rates more than 4 percentage points above the 30-year Treasury rate at the time of origination. As was true in Baltimore, more than half of these subprime loans went into foreclosure less than two years after being originated.

In Boston, where home values appreciated rapidly in the late 1990s, the strong market allowed many distressed owners to sell their homes thereby avoiding foreclosure. In fact, from 1995 to 1999, overall foreclosures decreased by 30 percent (Gruenstein and Herbert 2000b). However, the study also noted that subprime originations more than quadrupled from 1994 to 1998, with even stronger growth in areas with high concentrations of low-income minorities. Over the same period, subprime foreclosures grew by some 154 percent, and came to constitute 11 percent of Boston area foreclosures in 1999.

In Rochester, New York residential foreclosures almost tripled from 361 in 1990 to 1,000 in 1999 (The Housing Council, 2000). Historically, Rochester witnessed high levels of FHA foreclosures, foreclosures that were typically linked to programmatic mismanagement and abuse. Of particular concern was the fact that operating under the safety net of 100 percent government insurance, some unscrupulous lenders and mortgage brokers pushed mortgages on individual low-income families

with limited ability to repay, or otherwise abused unsuspecting low-income borrowers. While these abuses appear to have subsided, high rates of prime mortgage foreclosures continue today in Rochester as a result of the persistent economic weakness of the Upstate New York Region and the generally weak demand for homes located in central city neighborhoods. Many homeowners in inner city communities with weak real estate markets have mortgage balances that exceed the appraised value of their homes. In this instance, financial problems stemming from illness, unemployment or divorce can quickly lead to default and foreclosure.

Perhaps the most detailed examination of foreclosure trends was conducted in Chicago. Faced with a rapid rise in foreclosures for the neighborhoods in which it operates, NHS of Chicago, along with Neighborhood Reinvestment and the National Training and Information Center (NTIC) released a report in February 2003 that analyzed available Chicago area foreclosure data (Collins, 2003). According to this report, the foreclosure rate in Chicago stood at 4.7 percent in 2001 – over tens times the national average foreclosure rate for prime conventional loans. In the nine low-income neighborhoods served by NHS of Chicago, the foreclosure rate reached 7.7 percent in 2001. Overall, some 40 percent of all completed foreclosures in Chicago were in these nine-targeted neighborhoods. Yet, these communities represented only 5 percent of all mortgage originations in 2001 and accounted for just 18 percent of the city's population.

The fact that concentrated foreclosures weaken revitalization efforts and may trigger or exacerbate neighborhood decline is one of the most compelling, mortgage-related public policy issues today. Capone and Metz (2003) point out that, even as the increased focus on homeownership as a component of community development efforts throughout the 1990s stabilized and improved many neighborhoods, it also exposed them to additional risk of foreclosure-related problems by increasing the share of marginal borrowers in these places. While Capone and Metz focus their analysis on FHA's loss mitigation practices, the process of decline they associate with FHA foreclosures is equally applicable to the subprime market. Put simply, to the extent that increasing credit access among less creditworthy borrowers boosts foreclosure rates, then subprime lending may be having negative external effects in some neighborhoods.

Taking a fine-grained approach to the potential for foreclosure contagion, Collins (2003) finds evidence supporting such a claim in the nine NHS OF CHICAGO neighborhoods in Chicago. He argues that the timing of foreclosure increases is consistent with the growth of the subprime market. Between 1993 and 2001 foreclosures increased at nearly double the rate (74 percent) of the increase in mortgage lending (38 percent). Examining potential causes of the increase, Collins shows that unemployment in the Chicago was low and home prices were generally rising, indicating that two of the most common triggers of default and foreclosure were unlikely to account for the rise. Another possible explanation, an increased share and/or deteriorating performance of FHA/VA loans is also not to blame as the number of these loans originated in Chicago fell by 3 percent while foreclosures dropped 46 percent. In contrast, conventional lending rose 148 percent and conventional foreclosures were up 271. Finally, Collins (2003) shows that more than three-quarters of foreclosure proceedings initiated in 2001 were on loans with interest rates at least 300 basis points above the thirty-year Treasury rate in the year they were originated.

Collins (2003) further examines the nine neighborhoods that have been targets of community development efforts by NHS of Chicago and found that they accounted for 40 percent of all

foreclosures in 2001. Whereas the citywide average rate of foreclosures per single-family mortgage was 4.7 percent, six of the ten NHS of Chicago neighborhoods had rates exceeding 10 percent, the highest of which was 30 percent. Many of these foreclosures apparently end up as vacant units as indicated by the discrepancy between the differing trends in vacancy rates in the area and the rest of the City. Between 1990 and 2000 vacant units declined 20 percent citywide but increased 8 percent in these nine neighborhoods.

The fact that the subprime market accounts for the majority of recent foreclosures need not serve as an indictment of the entire industry, but rather as a caution about the potential impact of a modest share of poorly underwritten loans, or higher-cost loans made with little regard for the borrower's ability to pay. In fact, legitimate subprime servicers and investors are vulnerable to the negative impact of the contagion dynamic as the rise of foreclosures from bad loans can negatively influence what otherwise would have been good loans made on nearby properties. Bunce et al. (2000) found that while foreclosure rates are higher in the subprime market, foreclosures per subprime loan were not higher in low-income neighborhoods than in other areas. The danger to these neighborhoods therefore comes from their high concentrations of subprime lending, rather than worse loan performance there. Finally, both Collins (2003) and Bunce et al. (2000) found that subprime loans entering foreclosure did so about twice as rapidly following origination as did other loans, a pattern consistent with lower levels of attention paid to borrower ability to repay the loan in the subprime market.

2.3.3. Predatory Lending and Predatory Servicing

The growth of subprime lending is in some respects a positive development—borrowers with impaired credit or seeking more flexible underwriting guidelines now have more mortgage finance options. Unfortunately, the growth of subprime lending has been associated with an increase in so-called "predatory" lending practices – and more recently with accusations of "predatory" loan servicing. Besides the challenge of coming to agreement about what defines predatory practices, another challenge in evaluating the prevalence of these practices is that little systematic information exists about loan terms.

Existing studies of predatory lending are largely anecdotal, collected by legal and community advocates. Case studies of predatory lending practices have appeared in the Treasury-HUD (2000) study, in a study on subprime lending and foreclosures by the National Training and Information Center (1999) in Chicago, and in a series of reports produced by ACORN. Along with expanded credit access, subprime lending has exposed many low-income and low-wealth borrowers to abusive practices commonly referred to as predatory lending. Predatory origination practices may involve mortgage bankers and brokers, realtors, appraisers, home improvement contractors, or others involved directly or indirectly in the process. Such practices include not only outright deception and fraud, but also include efforts to manipulate the borrower through aggressive sales tactics or to exploit their lack of understanding about loan terms.

Engel and McCoy (2002) note that while abusive lending practices can and do occur in all market segments, they are most prevalent in the subprime market. In fact, they subdivide the mortgage market in three distinct segments: the prime market, the "legitimate" subprime market, and the predatory market. They argue that predatory lenders target naïve clients – often low-income and low-

wealth individuals – who are most vulnerable to abusive practices. Such vulnerable borrowers are typically disconnected from other credit markets, may lack information about best available products and/or are subject to lingering mortgage market discrimination and other social and demographic forces.

Engel and McCoy document numerous predatory practices employed to strip the borrower's home equity, burden them with higher interest rates and fees, or predispose them to default and foreclosure by disregarding the borrower's ability to repay. The most egregious examples involve unscrupulous real estate agents, mortgage brokers, appraisers, and lenders duping unsuspecting borrowers into purchasing a home at inflated prices and/or with significant undisclosed repairs. These practices harm borrowers and their communities, as well as mortgage investors and insurers. By reducing true equity in the home (the true market value less the amount of the mortgage), an inflated appraisal makes it difficult for a borrower to sell the home and repay the mortgage in a time of distress. This, in turn, increases the likelihood that the mortgage will go into default and increases the magnitude of losses incurred by the investor and or mortgage insurer during the foreclosure process.

The notion of 'predatory servicing' now rivals 'predatory lending' as a concern of regulators, community advocates and mortgage industry officials. As noted in the NHS of Chicago report (2004) this new term is generally reserved for the subprime market and refers to unfair, deceptive, and illegal practices that harm borrowers' financial interests, especially in cases where their ability to remain in the home is affected. The most egregious claim is that some servicers or servicer/investors profit from foreclosures, though industry representatives unanimously decry this claim. The recent settlement between the FTC and the largest subprime servicer, Fairbanks Capital Corp, has given weight to concerns over the fact that, for actors with substantial power to determine subprime borrowers' outcomes, servicers face little regulatory oversight, a concern compounded by the fact that borrowers cannot choose who services their loan. Fairbanks was accused of violating four federal statutes: the FTC Act, the Fair Debt Collection Practices Act (FDCPA), the Fair Credit Reporting Act (FCRA), and the Real Estate Settlement Procedures Act (RESPA). In the recently announced settlement Fairbanks agreed to pay $55 million dollars to address complaints and reimburse consumers.[21]

[21] See "Fairbanks Folly Continues" in Online Disclosure, the *National Newspaper of Neighborhoods*, September/October 2003, Issue 195.

Section 3: Alternative Financial Services Providers

Just as the subprime mortgage market was experiencing rapid growth during the 1990s, there was also rapid growth among firms outside of the system of federally insured financial institutions that provide a range of financial services typically associated with banks. These firms include check cashing outlets, payday lenders, pawnshops, title lenders, tax refund anticipation lenders, small loan firms, and rent-to-own stores. Collectively, these types of firms are generally referred to as alternative financial service providers (AFSP). As with subprime lending, several aspects of the growth of these firms have raised concerns among policy makers and advocates for low-income households. First, the costs of these services can be quite high – particularly when compared to similar financial services available from mainstream firms. For example, the annual cost of using a check casher for paychecks can amount to several times the annual cost of a low-frills checking account, while the annual percentage rate associated with short-term loans from AFSPs commonly exceeds several hundred percent compared to rates in the teens for credit charges or lines of credit associated with checking accounts or credit cards. Second, the users of these services are disproportionately low-income and minority. As a result, there is a concern that firms are taking advantage of either a lack of financial literacy among these groups or a lack of competition from mainstream financial service providers in low-income and minority communities to earn excessive profits. The implication is that the ability of low-income and minority individuals and families to save and accumulate wealth has been impaired by the growing prevalence of these firms.

This chapter begins by reviewing the literature describing the rise of the AFSP industry, including the different types of AFSPs and their growth rates. The next section then summarizes findings from studies that have examined the factors associated with the use of AFSPs, including both client and market characteristics. This chapter concludes with a review of the literature that has examined the potential adverse impacts of AFSPs on their clients.

3.1. The Rise of the AFSP Industry

Ranging from pawn shops that offered short-term loans to the grocery store on the corner that would cash a pay check for a small fee, AFSP have been a common feature in low-income and low-wealth communities for decades. The rapid growth in the AFSP industry during the 1990s has its roots in a number of factors, including changes in the regulatory environment, rapid increases in immigration, and enhanced technology that enabled AFSPs to lower costs of operations and more recently to check on the credit characteristics of individual customers. Given its diverse origins, the AFSP industry is not monolithic, as different types of firms have grown at different rates over the last few decades. Even so, many diverse types of financial services providers have discovered the profitability of serving what appears to be an unmeet demand for financial services – especially by low-income, low-wealth, and credit impaired individuals. This section provides an overview of the main types of AFSPs and trends in the size of each of these AFSP sectors.

3.1.1. Check Cashing Outlets

Overview of Check Cashing Outlet Services

The primary service of check cashing firms is to cash government benefit or payroll checks. These firms generally charge a fee of between and 1 and 3 percent of the check amount for payroll and government checks, while fees for personal checks are much higher, averaging 10 percent or more. In a survey of firms in four markets, Bachelder and Ditzion (2000) found fees that ranged from 1.3 to 2.4 percent for government and payroll checks of $400 or more, while $50 checks had fees that ranged from 2 to 4 percent. There is some indication that check-cashing fees rose during the 1990s. Caskey (1994) cites a survey by the Consumer Federation of America (CFA) in 1989 that found average fees of 1.75 percent for government and payroll checks, while a CFA survey in 1997 found that the average had risen to 2.2 to 2.3 percent for these types of checks.

While check cashing is the main service of a CCO, it is by no means the only one. Other typical services include the sale of money orders, wire transfers, and bill payment. Other services commonly offered by CCOs include: the sale of transit passes, postage stamps, and phone cards; the issuance of licenses; the processing of parking tickets; and providing photocopying and faxing services. In addition, CCOs are increasingly offering payday loans or pawn broking services.

Trends in the Check Cashing Industry

While the check cashing industry grew rapidly beginning in the 1980s, it actually has a fairly long history in the US. Caskey (1994) describes how the check cashing industry has its roots in the Depression-era when the collapse of banks left a void for those needing to cash checks. The industry received a further boost in the years after World War II as more employers began using checks to pay their employees. But up until the 1970s check-cashing outlets (CCOs) were mostly found in a few large urban areas, in particular in Chicago and New York, and did not have much of a presence elsewhere in the country. CCOs started to become more prevalent beginning in the late 1970s. Among the key factors cited by Caskey to explain this growth are the deregulation of banks that reduced the availability of no cost bank accounts and a rise in immigration. These issues will be discussed in more detail in the following section.

Another argument for the growth in CCOs is a lax regulation of the industry. An AARP review found that as of 1998 only 28 states regulated some aspect of the check cashing industry, and of these only 20 regulated the fees that could be charged (Eskin, 1999). Of the states that did set fee limits, the most common limitation was for the maximum of $5 or a fee of 3 percent on government benefit checks, 5 percent for payroll checks, and 10 percent for personal checks. Only five states had limits that were 2 percent or less. Thus, even when fees were limited, in most cases the limits were above the range most commonly charged in the check cashing industry. While the AARP survey is now somewhat dated, it does provide an indication of the regulatory climate that existed as the check cashing industry grew during the 1990s.

There are no reliable sources of information on trends in business volumes. Numerous studies report that the CCO industry accounts for 180 million transactions a year totaling $60 billion in gross revenue including $1.5 billion in fees. The original source of this figure appears to be based on data reported in a Fortune Magazine article from 1998 that was, in turn, the basis of this estimate in a Dove Consulting report (Bachelder and Ditzion, 2000). But this same figure is still quoted by the

industry association, the Financial Service Centers of America (FSCA), on their website (www.fisca.org/about.htm).

In general, growth in the industry has mostly been documented by trends in the number of CCOs listed in business or phone listings. Caskey (2003) cites figures based on national yellow page listings showing that the number of CCOs nationally grew steadily from 1,202 in 1986 to 6,097 in 1998, for an annualized rate of 14.5 percent. After 1998, the growth in CCOs became much more rapid, increasing to 16,689 in 2003. However, Caskey believes that much of the growth after 1998 can be attributed to increases in payday lending, as yellow page listings generally do not distinguish between these types of firms.

It is difficult to document Caskey's contention that there has been a slowdown in the growth of CCOs given the overlap in CCO and payday lending services in the industry, but there are several factors that support this point of view. First, as will be discussed more below, the share of the population that is unbanked has been declining since the early 1990s. This may well reflect efforts by federal and state governments to increase the availability of low or no cost checking accounts. These efforts were spurred both by concerns about the rising share of unbanked households and the high costs of CCOs as well as by a desire to distribute federal benefits through electronic transfer rather than paper checks, which required that more low-income households have bank accounts. Over the last decade there has been increasing use of electronic transfer for government programs and of direct deposit for payroll checks (Caskey, 2003; Hogarth and O'Donnell, 1999). In addition, there is also a recent trend toward the use of payroll cards to pay wages in place of paper checks. These cards function like debit cards and can be "cashed" at ATM machines or by local merchants. A recent industry newsletter corroborated the low growth potential of CCOs and the resulting shifting emphasis on payday lending.[22]

3.1.2. Payday Lenders

Overview of Payday Loan Transactions

Payday loans consist of short-term loans that are backed by a post-dated check or, in a more recent variation, an authorization for a direct withdrawal from a checking account on a specified date (Barr, 2004a). These loans are also referred to as "deferred presentments" or "deferred deposit loans" because of the use of post-dated checks as collateral. The period of the loan is typically tied to the borrowers payday – hence the name. Most commonly, loans are repayable in two weeks, but they may be as short as a week or as long as a month. Loan amounts are typically in the range of $100 to $500, with average loan amounts reported in the literature of $166 in Indiana in 1999, $246 in Wisconsin in 2001, and $232 in North Carolina (Indiana Department of Financial Institutions, 1999; State of Wisconsin, Department of Financial Institutions, 2001; and Stegman and Faris, 2003).

In contrast to the clients of CCOs, the majority of whom are unbanked, payday-lending customers by definition have a checking account. Given the greater credit risk associated with this transaction, the process for using a payday lender is somewhat more involved than simply cashing a check. In addition to a check, first-time clients are likely to have to provide recent pay stubs, copies of recent bank statements, valid identification, and utility bills or other evidence of stable residence (see

[22] See www.paydayandpaycheckloans.com/payday-loan-newsletter.html.

Caskey (2003) and Elliehausen and Lawrence (2001) for a discussion of the underwriting process). New clients may also be limited in the amount they can borrow until their credit worthiness has been established. Up until recently, credit checks have not been an important part of the process, although the industry has begun to develop its own credit reporting system, TeleTrack, to identify clients who have reneged on other payday loans.[23] Nonetheless, the process is easier and much faster than being approved for other types of credit, with a credit decision available nearly instantaneously.

A significant part of the controversy surrounding payday loans is the high interest rates charged on an annualized basis. Fees for these loans are generally expressed as a rate for each $100 borrowed due within a standard time frame, such as two weeks. A survey by CFA in 1999 found an average fee of $18.25 for a $100 loan due in two weeks, with the most common fee being $15 for such a loan (U.S. PIRG and CFA, 2000). This rate is consistent with the report by Elliehausen and Lawrence (2001) that fees typically range from $15 to $20 per $100 borrowed. The studies cited above by state regulators in Wisconsin and Indiana found slightly higher average fees of $20 to $22 per $100 borrowed, while an Illinois study found an average of $16 per $100 (Illinois Department of Financial Institutions, 1999). Given a standard term of two weeks, the annualized percentage rate (APR) is calculated by multiplying the interest rate by 26. Thus, a fee of $15 per $100 is associated with an APR of 390 percent, while a $20 fee translates into an APR of 520 percent. The APR can be even higher if the customer pays the loan back sooner than two weeks. This can occur if customers want to repay the loan on their next payday, which may be sooner than two weeks from when they take out the loan. Since the fee is not prorated for shorter loan periods, in these cases, the APR would be higher still.

When compared to APRs for other sources of unsecured, short-term consumer credit such as overdraft protection and credit cards, the fees charged by payday lenders are excessive. On the other hand, industry representatives compare the costs of a payday loan to the fees charged for a bounced check, which is typically a bank fee of $20 to $30 in addition to whatever fees may be charged by the party to whom the check was written. By these standards the fees for payday loans do not seem as excessive.

The other aspect of payday loans that is controversial is the cost of these loans when borrowers roll over the initial loan into successive payday loans. Consider a borrower who initially borrows $200 at a rate of $20 per $100 borrowed. He would have to repay $240 in two weeks, for an APR of 520 percent. If after two weeks he renews this loan, he would receive no additional funding, but now have to repay $288 in four weeks, for an APR of 572 percent. Successive rollovers of the initial loan would continue to escalate the APR.

Stegman and Faris (2003) provide a good summary of information on how common it is for payday borrowers to roll over loans. The most common sources of information on rollovers are reviews or surveys of lenders conducted by state regulators. Wisconsin regulators found that 53 percent of payday loans were rollovers of other loans. While many loans were rolled over a single time (41 percent), 22 percent were rolled over twice, 20 percent were rolled over three or four times, and 17 percent were rolled over five or more times. Indiana found an even higher share of loans that were rollovers: 77 percent of all loans reviewed were renewals.

[23] See www.TeleTrack.com for information on the credit reporting services offered by this firm.

A unique source of information on payday customers is a national telephone survey conducted by Elliehausen and Lawrence (2001). Respondents were selected for this survey from the records of 19 of the 60 firms belonging to the trade organization, the Community Financial Services Association of America (CFSA). The selected respondents were those who had taken out a payday loan in a six-month period in 2000. There was a very high non-response rate among the sample.[24] Elliehausen and Lawrence do not comment on the potential bias of such a high degree of refusal, but it does raise questions about whether their sample is representative of the universe of payday loan customers. Their survey found that 74.9 percent of customers had rolled over a loan at least once in the last year, including 39.8 percent who had taken out 5 or more renewals.

Because of the concern about escalating loan fees due to rollovers, these transactions are barred in a number of states. But this restriction can be difficult to enforce as borrowers may use loans from one lender to pay off a loan from another lender. While not technically a rollover, the transaction amounts to the same thing. Even if customers do not rollover loans, frequent use of payday loans indicates these borrowers are paying high annual costs for routine credit as opposed to rare transactions to meet a crisis. Studies by regulators in California, Indiana, Illinois, and Wisconsin found an average number of loans per customer per year of between 10 and 12 (see Stegman and Faris, 2003, for a summary). North Carolina found a lower average number of loans (7), but this may reflect the state's prohibition on rollovers during the period studied and the fact that this is the average number of loans taken out by borrowers from a single lender. Elliehausen and Lawrence's survey results also suggest an average number of loans per customer below 10.[25] This may reflect the fact that their survey covers states with and without rollover provisions, or it may reflect the selection bias in who agreed to participate in their survey.

In any event, it seems clear that payday loan customers who use these services frequently account for a large share of lenders' business. The North Carolina survey found that only 18 percent of customers took out 12 or more loans a year, but they accounted for 40 percent of gross revenues. Similarly, Elliehausen and Lawrence's study suggests that 22.5 percent of customers take out 14 or more loans a year, but they account for nearly half of all loans. In states where repeat borrowers are more common than found by these two sources of information, these customers are likely to account for a much larger share of customers and revenue.

Trends in the Payday Loan Industry

As reported in Elliehausen and Lawrence (2001), the small, short-term consumer loan is not a new phenomenon. Similar types of loans were developed in the latter part of the nineteenth century using chattel mortgages or wage assignments. The interest rates charged (20 to 300 percent) were well in

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[24] Of 5,364 customers sampled, only 2,196 (40.9 percent) were successfully contacted for an interview. Of these, only 427 completed the interview (19 percent), while 726 (33 percent) refused to acknowledge that they had taken out a payday loan and 1,043 (47 percent) refused to be interviewed.

[25] Elliehausen and Lawrence do not report an average number of loans per customer, but they do report a distribution of customers by categories of number of loans taken out in the last year. Applying this distribution to the mid point of the categories yields an average number of loans of between 8 and 9 depending upon assumptions about the average number of loans among customers taking out "14 or more" loans.

excess of legal limits (6 percent), although laws were not strongly enforced. Efforts by progressive reformers in the early part of the 20th century led to the adoption by a number of states of small loan laws that generally permitted interest rates of up to 36 percent for small loans. This legislation enabled the development of the consumer finance industry.

However, payday loans in their present form were essentially unheard of prior to the 1990s. Payday loans appear to have developed in the early 1990s as a product offering by CCOs in states where such lending was not regulated. At the time of Caskey's seminal book on the fringe banking industry in 1994, payday lenders and loan products were not even mentioned. But in a 2003 article on the fringe banking industry a decade later, Caskey identified payday lenders as the most rapidly growing segment of the fringe banking industry. Caskey (2003) notes that it is difficult to document trends in the payday industry prior to 1995 as almost no state regulatory agencies collected data on these firms. He reports that one indicator of the growth of the industry is that prior to 1996 a Lexis-Nexis search did not find any articles published with the phrase "payday loan" in the title or first paragraph prior to 1996. In 1996, there were two articles, while by 1999 there were 111.

There is no consistent source of information on the size of the industry. By far the most commonly cited source of information is Stephens Inc., an investment-banking firm in Arkansas that specializes in analysis of the industry. Most estimates provided in the literature can ultimately be traced back to this firm, although it is not clear what their methodology is for deriving these estimates. The website for the national association for payday lenders (CFSA) reports that there are currently 15,000 payday lending locations nationwide handling $25 billion in loans annually.[26] However, no source of this estimate is provided. These figures seem higher than other measures reported in the literature, although that may reflect the rapid growth of the industry in recent years. For example, a report by CFA and the U.S. PIRG (2001), citing statistics from Stephens, Inc. from October 2001, reports that at that time the industry had 12,000 to 14,000 outlets, of which a little more than half were monoline lenders and the rest were outlets also offering checking cashing or other financial services. CFA further cites Stephens Inc. as estimating that on an annual basis there were 65 million transactions to 8-10 million households generating about $2.4 billion in fees. Assuming an average loan amount of $200 and an average fee of $20 per $100 borrowed, this would suggest a total lending volume of $12-14 billion. This is consistent with figures cited in Barr (2004a), citing a Stephens, Inc. report from 1999, indicating there were 12,000 payday-lending locations in 2000 with a total loan volume of $8 to $14 billion. Carr and Schuetz (2001) cite a similar estimate for the size of the industry ($10-13.8 billion), with 55-69 million transactions a year generating fees of $1.6 to $2.2 billion, but they do not provide a source for this information. Finally, a recent industry newsletter from October 2003 also cites Stephens Inc. as the source for an estimate that the industry accounts for $12 to $14 billion in loans each year and is experiencing an annual growth rate of 15 to 20 percent.[27]

One factor that has enabled growth of the payday lending industry is a lack of regulation of small loans in a number of states. A review by AARP as of October 2000 (Renuart, 2000) found that state regulation fell into three general categories:

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[26] See CFSA website at www.cfsa.net and their description of the industry in section labeled "General Information."

[27] See www.paydayandpaycheckloans.com/payday-loan-newsletter.html.

1. States with small loan regulations that set annual interest rate limits that made payday lending unprofitable, with a typical interest rate limit of 36 percent per year (19 states);
2. States with regulations designed specifically for the payday lending industry that generally include maximums for interest rates and fees (24 states and the District of Columbia); and
3. States where small loan regulations do not limit the interest rates that can be charged (7 states).

States in the first category have experienced much less growth in payday lending given the limits on interest rates allowed. In the other two categories of states payday lending has grown rapidly. However, payday lending has managed to grow even in places where state law would seem to prohibit this product by virtue of arrangements between payday lenders and banks that are able to preempt state laws through their federal charter that allows them to make loans across state lines under terms allowable in the state where they are located (CFA and U.S. PIRG, 2001; Caskey, 2003). Under these arrangements, payday lenders make the loan in the name of the bank, but either purchase the loan from the bank or share in the proceeds with the bank. By early 2003, the OCC and OTS had forced all banks and thrifts under their regulatory authority to exit this business, but the FDIC had yet to act similarly (Caskey, 2003).[28]

While state regulation has been an important factor in enabling the development of the payday loan industry, this does not explain why there is such strong growth in demand for these loans. The most commonly cited explanation is an increase in the number of households with high debt and impaired credit who either do not qualify for credit cards or overdraft protection or who have already maximized their borrowing from these sources (Robinson and Lewis, 1999; Stegman and Faris, 2003). It may also be that the availability of this new product has spurred demand. Caskey (1994) argued that one of the factors behind the growth in pawnshops might be a growing consumer preference for instant services. Stephens, Inc. analysts similarly note that demand is fueled by consumers desire for immediate access to cash and the ease of the transaction (Caskey, 1994; Robinson and Lewis, 1999).

A number of articles also argue that the growth of payday lending was fueled by the withdrawal of traditional lenders, including banks and consumer finance companies, from the small loan market (Caskey, 1994; Elliehausen and Lawrence, 2001). Caskey (1994) attributes the decline of small consumer loans to changes in bankruptcy laws in 1979 that increased the risk of small, unsecured loans. The rise of computers greatly lowered the cost of providing revolving credit through credit cards, but this technology did not bring cost savings to the provision of one-time loans. Given these changes, banks shifted toward credit cards, while consumer finance firms shifted to home equity lending. Payday lending arose to fill the void left by the lack of short-term, small loans from consumer finance companies.

[28] For a summary of recent federal regulatory action see www.consumersunion.org/consumeronline/latestissue/topstories/payday/html

3.1.3. Tax Refund Anticipation Loans

Overview of the Tax Refund Transaction

Refund anticipation loans (RALs) are quite similar to payday loans in that they provide a loan against an expected payment to the borrower in a short period of time. However, the amounts of these loans are much larger than the typical payday loan, averaging $1,900 in 2000. A large share of the users of RALs is comprised of recipients of the earned income tax credit (EITC). Of the roughly 12 million RAL borrowers in 2000, 4.3 million were EITC recipients (Wu, Fox, and Renuart, 2002). The attraction of these loans for the customer is that they can get access to their tax refund within two days of electronically filing their return, or about seven to ten days sooner than if they had requested direct deposit to a personal bank account (although clients may not be aware of the direct deposit option and mistakenly believe that absent the RAL it would take four to six weeks to get their refund in the mail). These transactions also appeal to unbanked households who do not have an account to take advantage of the more rapid refunds that come with direct deposit. Finally, customers who do not have funds available to pay for the tax preparation and filing fees up front can use these loans to pay for these services.

RALs are made through a partnership between the tax preparer and a bank that provides the loan. In cases where the client does not have a bank account, the tax preparer will file the client's tax return electronically and direct that the refund be deposited into a temporary account set up by the bank to receive the refund. This is referred to as a refund transfer or accelerated check request. The borrower signs documents instructing the IRS to direct funds into this account and the contract allows the lender to be repaid from these funds.

There are a handful of banks that engage in this type of lending. The largest participant in the market has been Household Bank, who has a partnership with H&R Block, the single largest preparer of electronic returns in the country. Household also has arrangements to offer RALs through other tax preparers. Wu, Fox and Renuart report that in 2000 Household Bank had an 80 percent share of the RAL business. The next largest lender in the market is Santa Barbara Bank & Trust, which has a partnership with Jackson Hewitt, the second largest commercial tax preparer in the country. Other RAL providers include Bank One Corp, Republic Bank & Trust, Republic First Bancorp and River City Bank. Arrangements between banks and the tax preparer may be structured so that the preparer earns a fee for each RAL originated or the lender may take a flat fee for processing the loan before selling the loan back to the tax preparer. Wu, Fox, and Renuart report that H&R Block's arrangement with Household Bank calls for it to earn a fee on half of the loans it originates and to repurchase the other half.

RALs are associated with three sets of fees: tax preparation fees, electronic filing fees, and the fees for the loan. Berube et al. (2002) report that an informal survey of tax preparers in Washington DC found most tax preparation fees for a return claiming the EITC were between $75 and $100, compared to an average of $85 cited by Wu, Fox, and Renuart. The cost of electronic filing was found to average about $30 by Berube et al. (2002) compared with a $40 average cited by Wu, Fox, and Renuart. The cost of the loan itself is often on a sliding scale basis. The fees for these loans rise with the amount of the loan, but the highest APRs are associated with the smallest loans. Wu, Fox, and Renuart report that in 2002 the loan fees offered through Household Bank ranged from $34.95 for loans of between $200 and $500 to $89.95 for loans between $2,001 and $5,000. Assuming a ten-day

loan term (the amount of time the IRS claims it will pay most refunds electronically), the associated APR for a $200 loan would be 638 percent, 111 percent for a $2,001 loan and 19 percent for a $5,000 loan.

Thus, for all but the smallest loan amounts, the interest rates charged for the loans are generally not as high as typical payday loans. Nonetheless, for typical loan amounts, the interest rates are 100 percent or higher. Advocates argue that the loans are extremely low risk given the nature of the collateral, although Berube et al. (2002) report that the default rate on these loans is somewhat higher than on other types of consumer credit. Lenders have several ways of mitigating these risks. First, the IRS notifies RAL lenders if the applicant owes any outstanding federal debts, which the tax refund might be used to offset. Second, RAL lenders share information about their clients so that if a borrower defaulted on an RAL in the past, the current lender will deduct the amount past due from the refund before providing the borrower with the remaining proceeds.

Another cost of RALs is from check cashing fees. Since many RAL customers are unbanked, they also need a means of cashing checks. In fact, tax preparation and RALs are among the services that some CCOs have come to provide. Wu, Fox, and Renuart report that ACE Cash Express had entered into a partnership with H&R Block to place check cashing machines in their offices to cash RALs. Check cashers may also increase their fees for cashing these checks. Although state laws limit the fees on cashing recurring government benefit checks, these laws do not apply to one-time payments such as tax refunds. ACE is reported to have charged up to 4 percent for cashing RALs, as well as a $3 membership fee. While there is also a trend toward issuing RAL proceeds in debit cards, there are also fees associated with using these cards up to $2 per transaction (Wu, Fox, and Renuart, 2002).

Trends in the Refund Anticipation Loan Industry

The RAL business appears to have grown rapidly in the late 1990s. Berube et al. (2002) report that the three largest participants in the market – Household Bank, H&R Block and Pacific Capital (Santa Barbara Bank & Trust's parent) – combined saw earnings from RALs grow from $138 million in 1998 to $357 million in 2001. It is not clear how much of this growth is due to an increase in the number of transactions as opposed to an increase in fees, but both factors appear to have contributed. The number of RALs issued by H&R Block increased from 2.8 million in 1999 to 4.5 million in 2001. But the firm also reported a 44 percent increase in average fees between 2000 and 2001. Figures from the IRS cited by Wu, Fox, and Renuart indicate that the total number of RALs only increased from 9.5 million in 1994 to 12 million in 2000. But it may be that growth has been concentrated in recent years along with other segments of the AFSP industry.

3.1.4. Pawnshops

Overview of the Pawn Transaction

Pawnbrokers operate by providing small loans against collateral left with the pawnbroker. The amount of the loan is limited to the pawnbroker's estimate of the quick resale value of the item left. Caskey (1994) reports that as a rule of thumb this is about 50 percent of the current value of the item. If the loan is not repaid, the broker sells the collateral to cover the loan. Loans are typically for fairly small amounts – a 1997 survey by the National Association of Pawnbrokers found an average

transaction of $70 (Johnson and Johnson, 1998).[29] The term is typically for two months, but may be as short as a month or as long as three months. The most typical items pawned are jewelry, household electronics, guns, and tools. The 1997 survey found that about two-thirds of pawned items are eventually redeemed.

Given the long history of the industry, most states have regulations governing these transactions, including the rates allowed and the rules governing redemption of items that are not claimed by the end of the loan term. The annual interest rates allowed by states very widely, from 36 percent to over 300 percent, with a typical cap around 167 percent. Johnson and Johnson (1998), summarizing the literature examining variations across states in the number of pawnshops per capita, report that the maximum interest rate allowed is an important factor in explaining differences in the prevalence of pawnshops across states.

Pawn transactions are similar to payday loans in that borrowers obtain a small amount of cash and are required to repay the loan with a single payment in a short amount of time. However, one important difference between a payday loan and a pawnshop transaction is that pawnshop clients do not need a checking account to obtain a loan from a pawnshop. Surveys of pawnshop customers have found that about two-thirds have a bank account, although only about half have a checking account (Caskey, 1997; Johnson and Johnson, 1998).

Trends in the Pawn Broking Industry

One of the principal contributions of Caskey's 1994 book was to highlight the rapid growth of the pawn broking industry that had occurred during the 1980s and early 1990s. Caskey (2003) reports that pawnshops experienced rapid growth from the 1980s through the late 1990s. Based on business listings from American Business Information, Caskey found that the number of pawnshops grew at an 8.2 percent annual rate, from 4,849 shops to 11,537. After 1997, however, growth in the number of pawnshops ceased, so that by 2003, the number of shops was nearly unchanged at 11,683. Carr and Schuetz (2001) estimate that there were 42 million transactions per year with gross revenue of $3.3 billion, although they do not provide a source for this estimate.

Several factors are cited in explaining the growth of the industry during the 1980s and early 1990s. Johnson and Johnson (1998) cite liberalization in state laws governing the industry during this period as in important factor, although they do not provide any information to support this contention. These authors also argue that the development of national chains during the 1980s fueled industry growth by achieving economies of scale and by improving the industry's image by making stores more attractive and in better locations. On the demand side, similar factors are cited as those fueling growth in CCOs and payday lenders – less availability of small loans from the consumer finance industry and growing numbers of unbanked households with no formal credit alternatives.

However, as noted above, by the late 1990s growth in the pawn broking industry appears to have stalled. Caskey (2003) argues that the slowdown in the pawn broking industry is related to the rise of payday lending. Caskey cites several instances where large, national pawnshop chains have had to introduce payday loans in order to compete with this industry. Payday loans represent an obvious

[29] Robert W. Johnson and Dixie P. Johnson, *Pawn broking in the U.S.: A Profile of Customers*, Washington, DC: Georgetown University, The Credit Research Center, July 1998.

alternative to pawnbrokers. In many states, the interest rates charged are similar. Payday lenders can also accommodate the small loan amounts that are typical of pawnbrokers. There are also several advantages of payday lenders. First, borrowers do not have to leave collateral, which makes the transaction easier, less disruptive for the borrower, and less stigmatizing. Second, borrowers do not have to haggle over the value of the pawned item to determine the loan amount and payday loans are not limited to the value of the item. However, as noted above, pawn transactions do not require a checking account and so may continue to be an important source of small, short-term credit for unbanked households.

3.1.5. Rent-to-own Stores

Overview of the Rent-to-own Transaction

Rent-to-own stores are often included in reviews as one of the segments of the AFSP industry (see, for example: Hermanson and Gaberlavage, 2001; Carr and Schuetz, 2001). Caskey (1997) provides a good overview of this industry. Rent-to-own transactions are most common with household furnishings, appliances, and consumer electronics. The term of these deals ranges from one to three years, with 18 months the most typical length. Most agreements call for weekly payments of about $20. Payments are usually made at the store in cash or by money order. In addition to the payment for the item purchase, clients are often encouraged to purchase theft and damage insurance. Since the buyers are liable for the goods in these events, the insurance is generally purchased. Caskey reports that the total payments usually add up to two to three times the value of the item, with associated APRs of 100 to 250 percent. Hermanson and Gaberlavage report that the total costs are two to five times as much as the initial purchase price. The industry reports that only 20 to 30 percent of customers successfully complete these transactions and purchase the item (Caskey, 1997).

There is little information on the nature of clients of rent-to-own stores. One of the only sources is a survey conducted by Caskey (1997) of low-income households in Atlanta, Oklahoma City, and Eastern Pennsylvania. This survey found that 5 percent of respondents had engaged in a rent-to-own transaction in the previous 2 to 3 years, which was the same as the share who had used a pawnshop in the last year. Customers of rent-to-own stores were somewhat more likely to be unbanked than low-income households generally (65 percent versus 77 percent of those surveyed). While many households may have had alternative means of financing these transactions, many did not as only one-third of rent-to-own customers had a major credit card. Thus, the unbanked and those with constrained credit appear to represent an important segment of the rent-to-own clientele.

Trends in the Rent-to-own Industry

There is little information about trends in the size of this segment of the industry. Carr and Schuetz (2001) report an estimate, without identifying any source, that the industry accounts for 3 million transactions annually, totaling $4.7 billion, including $2.35 billion in fees. According to the estimate cited by Carr and Schuetz, the rent-to-own industry is larger than the pawn industry and generates fees that are larger than the check cashing or payday lending industry. Hermanson and Gaberlavage (2001) present a graphic showing the trend in the number of CCOs, pawnbrokers, and rent-to-own shops between 1995 and 1999 based on data from InfoUSA. While they do not report specific figures for the rent-to-own shops, the graphic indicates that the number of businesses grew from about 5,000 in 1995 to about 12,000 in 1999. Thus, this segment of the industry appears to have grown quite rapidly.

The growth of the rent-to-own industry appears to be fueled by the same factors as other consumer lending products – rising demand for instant credit among credit constrained households. However, one factor favoring the growth of this industry is that it is subject to less regulation than other sectors. As Caskey (1997) reports, since the deals are structured as short-term rental contracts, these transactions are not governed by state usury laws, although some states do explicitly regulate the terms of these types of agreements.

3.1.6. Auto Title Lenders

Overview of the Auto Title Loan Transaction

Hermanson and Gaberlavage (2001), Caskey (1997) and a report by the Illinois Department of Financial Institutions (1999) provide a profile of this segment of the industry. Caskey reports that this type of lending is legal in only a handful of states. The loans are similar to pawnshop transactions in that the borrower pledges their collateral against a short-term loan. However, the loans are for larger amounts than the typical pawnshop transaction and the borrower continues to possess and use the collateral during the loan term. The borrower must own a vehicle without any liens so that the vehicle's title can be held as collateral. In some states the borrower actually sells the vehicle to the lender and then executes a rent-to-own contract with the lender to regain ownership when the loan is paid off. In other states the lender will require a power of attorney to transfer the title of the car if the borrower fails to make the agreed upon payments. Lenders may also require that the borrower leave a set of keys to expedite the lender taking possession of the car. But, in general, the underwriting process is fairly simple. There is no credit check required, although lenders will likely verify places of employment and residence as well as obtain a few personal references to help locate the borrower should they default.

Loan amounts are typically between a quarter and a third of the market value of the vehicle. Caskey reports that a typical loan amount in Georgia in 1997 was $275. Loans are typically for a single month (30 days), with payments either weekly or biweekly. In terms of the rates charged, the one example cited by Caskey is for Georgia where lenders can charge 5 percent interest and a 20 percent monthly service charge, which together equate to a 300 percent APR. This is similar to the Illinois study, which found an average APR among title lenders of 290 percent. However, both Caskey and the Illinois Department of Financial Institutions report that loans are rarely paid off within the initial loan term. Rollovers of these loans are common, which will raise the APR.

One of the complaints about this industry is that lenders are often motivated by the potential for making a profit on reselling the car once it is repossessed as many of the lenders operate used car lots. Caskey (1997) reports that one title loan lender in Georgia estimated that between 70 and 85 percent of borrowers redeem their titles in that state. Nonetheless, this same lender noted that there were two types of title lenders – those motivated by the profits from the finance charges and those motivated to obtain cars for resale at bargain prices.

Trends in the Title Lending Industry

The literature reviewed for this study did not provide any information on this size of this segment of the AFSP industry or trends over time.

3.1.7. Small Loan Companies

Overview of the Small Consumer Loan Transaction

Caskey (1997) includes a profile of small consumer loan companies, although his study is one of the few to include this type of firm in a typology of AFSPs. These firms are similar to payday lenders in that they make small consumer loans with a fairly streamlined underwriting process providing loans to borrowers almost immediately. He distinguishes these firms from multi-product consumer finance companies, such as Household Finance, that provide home equity loans, auto loans, and credit cards. These firms specialize in loans less than $1,500 – a category that is below the minimum amount lent by the multi-product firms. They exist in only about one-quarter of states, mostly in the South. An example of this type of firm is World Acceptance Corporation, a publicly traded company specializing in this type of loan. As of 1996, they had 300 offices in six Southern states. The company's average loan amount ranged from $321 in Oklahoma to $420 in South Carolina, with an average term of eight months.

While these loans have some features that are similar to payday loans, there are also some key differences. First, the loans are for a longer period of time—up to a year, but more typically for six months. Second, the loans require periodic payments rather than a simple one-time payment as with a payday loans, although loan payments are often structured to coincide with the borrowers payday. Loan amounts can be higher than payday loans, but are usually less than $1,000 and are typically closer to $300.[30] Finally, these loans may require that borrowers pledge collateral, such as cars, household furnishings, or electronic equipment. However, lenders do not usually inspect the goods or perfect their lien, so the pledging of collateral is primarily a motivational factor.

One advantage over payday loans is that the APRs tend to be somewhat lower, although still high by the standard of credit cards or bank overdraft protection. Caskey reports that the loans generally include a series of fees in addition to interest payments, including an origination fee, monthly maintenance fees, and fees for insurance covering disability, life, unemployment, and loss of collateral. Recall that for payday loans typical APRs are between 390 and 520 percent. Even with these fees included, APRs for $500 loans were about 100 percent. Since many of the fees are fixed, APRs are higher for small loans. But even for loans of $150 the APRs were less than 300 percent.

Caskey's survey found that small loan borrowers did not differ from other low-income households in their tendency to be banked. In fact, he found that a slightly higher share of small loan customers had transaction accounts than all low-income households surveyed (83 percent versus 77 percent). Thus, clients of small loan firms may be similar to payday borrowers who are by definition banked.

Trends in the Small Consumer Loan Industry

It is not clear how prevalent these firms are or whether they have experienced growth along with other segments of the AFSP industry. Aside from Caskey (1997), these firms have not received much attention in the literature as no other review of the AFSP industry has included these firms (see for example: Barr, 2004a; Hermanson and Gaberlavage, 2001; and Carr and Schuetz, 2001).

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[30] The maximum allowed varies with state law. Caskey's study focused on area in Georgia, Oklahoma, and Pennsylvania. Across these areas, the maximum allowed was 620 in Oklahoma and $3,000 in Georgia. This type of loan was not available in Pennsylvania as limits on small loan rates made them unprofitable.

3.2. Patterns of Use of AFSPs

Many assessments of the users of alternative financial services focus on whether individuals are "banked" or not, that is whether individuals have access to checking, savings, or other transaction accounts at a bank, savings and loan, credit union or other federal or state regulated banking organizations. These studies examine how those consumers without a checking, savings, or other transaction account go about obtaining basic financial services including cashing checks, paying bills, sending wire transfers to family and friends. Though many of the "unbanked" utilize the services of check cashing operations (CCOs) and other alternative financial services providers, somewhat surprisingly, several of these studies note that significant shares of "banked" individuals also frequent these AFSPs.

Another strand of the existing literature focuses on consumer access to cash advances and smaller short-term loan services. Of course, many banks provide these types of loans in the form of over draft protection, or short-term loans or revolving debt instruments. Yet having a checking account appears to be no guarantee that consumers – especially low-income, low-wealth, credit-impaired individuals – are able to obtain short-term advances or small loans from their banking institution. Increasingly consumers are turning to payday lenders, pawnbrokers, and refund advance lenders to obtain cash advances and/or short-term loans. By definition, consumers using the services of payday lenders are "banked" in that they must leave a post-dated check as collateral for the cash advance. Having a checking account is not a requirement for obtaining a short-term loan from a pawnbroker or refund anticipation lenders but like payday lenders these AFSPs providers fill the void left by the fact that many consumers are unable or unwilling to obtain these loans from a mainstream bank.

This section begins with a review of the existing literature on the "unbanked," especially in relation to the use of check cashing operations. The section then examines the use of payday lending. Next comes a review of the relatively few studies that examine the spatial distribution of check cashing operations and other AFSPs. Finally, the section concludes with an examination of the factors that influence the growing use of CCOs, payday lending, and other AFSPs.

3.2.1. Consumer Demand for Alternative Financial Services

As previously noted, there is a growing literature on the characteristics of households and individuals who are "unbanked", especially in relation to the utilization of check cashing operations and other AFSPs. For example, as part of their periodic assessment of family finances, the Federal Reserve estimated that in 2001 some 12.7 percent of all American households do not have a checking account, while 9.1 percent have not have any type of transaction account whatsoever (Aizcorbe, et. al., 2003).[31] Among families without a checking account in 2001, 50.4 percent reported having had such

[31] This study draws on data from the Federal Reserve Board's Survey of Consumer Finances (SCF) for 1998 and 2001, as well as previous years to place the 1998-2001 changes in a broader context. Some 4,309 families were interviewed for the 1998 survey, while 4,440 were interviewed for the 2001 survey. Since among other things the survey focuses on household wealth, the survey over samples high wealth families and develops a weighting system to make estimates of the full population. Transaction accounts include checking, savings, and money market deposit accounts, money market mutual funds, and call accounts at broker houses.

an account in the past.[32] Though still high, these most recent figures present a slight decline from figures recorded in 1998 and a more substantial decline since 1992 when fully 16.6 percent of families lacked a checking account, and nearly 13 percent had no transaction account. Families that did not have a checking account or other transaction account tended to be disproportionately low income and low wealth, to be less than 35, to be nonwhite or Hispanic, to be a renter, and to be someone who was not working or retired. Somewhat surprisingly, homeowners nevertheless account for approximately one third of all households who do not have a transaction account of any type.

Several studies have used survey results to further examine the characteristics of "unbanked" households and their use of check cashers and other alternative financial services. Using data drawn from a special survey of households living in low-income neighborhoods in New York and Los Angeles, Dunham (2001) presents an assessment of the behavior of "banked" and "unbanked" individuals, where banked individuals are defined as having one or more deposit accounts.[33] Dunham notes that not all unbanked individuals use only the services of nonbanks, nor do all banked individuals use only the services of banks. Dunham estimated that 37 percent of the population living in low-income census tracks was unbanked, while additional 11 percent had a bank account, but typically use bill payment or check cashing services in carrying out many of their routine financial activities. Alternatively, many unbanked individuals use the services of banks, particularly those who cash a paycheck drawn on the bank in question.

Relative to the banked population, Dunham's study presents data suggesting that unbanked individuals tended to be much less educated, younger, more likely to be foreign born, and more likely to have low household incomes and much more likely to receive government income support such as welfare, SSI and/or food stamps. Counter to claims of some, Dunham found that, in general, the unbanked spend very little on check cashing services. This results from the fact that unbanked individuals either had no income, were paid in cash, cashed their check for free at the supermarket or at the bank that issued the check or had a friend or relative cash their checks. Overall, some 52 percent of all unbanked did not incur any costs to convert paychecks or other sources of income into cash and another 18 percent paid less than $50 per year. In contrast, some 16 percent paid more than $100 per year and only 6 percent paid more than $150. Compared to unbanked individuals who pay under $50 per year, the unbanked who pay at least $150 tend to have higher incomes, be better educated, younger, less likely to be foreign born, Hispanic or female and receive government benefits.

Using the same database, Vermilyea and Wilcox (2002) extend Dunham's analysis and examine the relationship between the socio-economic status and residential location characteristics of individuals and their use of bank accounts. The specific questions addressed in this study include: controlling for

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[32] See example Kennickell et al. 2000 for a similar analysis using the 1998 Survey of Consumer Finances. Other studies have noted that a majority of the "unbanked" individuals were minorities, while as many as one-third of all minority households were "unbanked" (Good, 1999).

[33] The study uses a survey conducted by the Office of Comptroller of the Currency between October 1998 and March 1999 of 2,000 individuals in low-income areas of New York and Los Angeles. This survey was specifically designed to examine factors associated with bank account use and so targeted a population with a high chance of being unbanked. Low-income census tracts have a median household income less than 80 percent of the median household income of the metropolitan area.

other characteristics, are there racial differences in the use of banking services; to what extent do individual and neighborhood characteristics account for differences in the use of savings relative to checking accounts; to what extent does proximity to a bank branch affect the decision to be banked; and to what extent do language barriers (Spanish) affect whether one is banked? This study estimates binomial logit and multinomial models of whether an individual has a bank account of any kind, a savings account, or a checking account. The results suggest that individuals with lower average income, education, and wealth (proxied by health insurance, homeownership, and car ownership) and individuals who are temporarily unemployed are less likely to have a bank account. When individuals with these characteristics are banked, they are more likely to prefer savings to checking accounts. They also find that while there was no racial difference in whether an individual was banked, minorities were less likely to have a checking account. In addition, the study finds that the racial composition (particularly share Hispanic) of the neighborhood affects account usage, although proximity to a bank does not.

Using Chicago data, Rhine (2001) explores checking account ownership and the use of currency exchanges, where currency exchange is an entity licensed to do business in Illinois offering four types of financial services: cashing checks, purchasing money orders, paying bills, and wiring money transfers.[34] Of particular interest is the inclusion in the analysis of a series of attitudinal variables. Those households that reported that they did not have a checking account because they "do not like to deal with banks," "prefer to keep records private," or "do not trust banks" are labeled as having a "distaste for checking accounts," while those households that reported that they did not have a checking account because they "do not have enough money to open an account," "do not write enough checks, "minimum balance/fee too high," or "bank hours/location inconvenient" are labeled as feeling that a mainstream "product has unfavorable characteristics." Using these and other demographic and income variables, the study presented estimates of a model of the probability of being unbanked and using a currency exchange.

The findings strongly support the importance of currency exchange operations in meeting the financial services needs of the unbanked. In general, unbanked households are more likely to be renters, to be black or Hispanic and to have lower-incomes and live in low- or moderate-income census tracts. Moreover, unbanked households are 14.6 percent more likely than their banked counterparts to patronize a currency exchange, while unbanked households residing in a low- or moderate income neighborhood are 7.6 percent more likely to use a currency exchange than unbanked households residing elsewhere. Even controlling for household and neighborhood income, unbanked blacks and Hispanics are more likely to use currency exchange services than whites.

One issue that has received relatively little attention in the literature is the question of whether demand for money transfer services by immigrants seeking to send funds back to their native countries increases demand for check cashing services. This has not been a service that was readily available through banks, although several large banks have recently begun to develop this product line.[35] Several of the studies discussed above have found that Hispanics and immigrants are more

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[34] The Rhine (2001) study uses the 2000 annual Metro Chicago Information Center Survey of a random sample of 2483 households.

[35] See, for example, "Citi's Southbound River of Money," *Business Week*, July 5, 2004.

likely to use check cashers, but these studies have not examined whether this is related to the need for wire transfer services. The findings from the analysis of AFSP locations in Dallas presented in Part II of this study indicate that AFSPs are more likely to be located in areas with fewer citizens suggest that this may be an important factor in the demand for these services. More research is clearly needed on this question.

As noted earlier, individuals utilizing the services of payday lenders differ from those who frequent check-cashing establishments, because among other things customers obtaining payday loans by definition have a checking account. In a review of the existing literature on payday loan customers, Fox found that the typical customer appeared to be "a relatively young person, employed, more likely to be female, married, and a renter." The average income in most of the studies reviewed by Fox was approximately $25,000.

Stegman and Faris (2003) used data gathered from a statewide North Carolina telephone survey to examine the likelihood that a family patronizes a payday lender.[36] The study demonstrated that even controlling for other family characteristics, African American families in North Carolina are more than twice as likely to have taken out a payday loan in the last two years than have non-Hispanic white families. In contrast, Hispanics are less likely than non-Hispanic whites to patronize payday lenders, a finding consistent with other research that suggested that low-income Hispanics were more likely to access short-term credit from pawnbrokers than from payday lenders (see Kidd, Faris, and Stegman 2002).

In addition, the model also indicated that each year of age reduces the likelihood of using payday lenders, while additional schooling does not reduce the likelihood of patronizing a payday lender. In fact, high school dropouts are much *less* likely to use payday lenders than are college graduates. In addition, among active customers, the lower the education, the less frequent the borrowing. In contrast, the model confirms what the authors' term, "the primacy of a family's credit circumstances over education." In particular, households with impaired credit – as measured by a history of bounced checks or collection agency referrals – are more likely than others to use payday-lending services.

The paper also presents a complex picture of how the presence of mainstream banks affects payday loan use. As expected, the number of FDIC-insured banks and thrifts in a household's neighborhood reduces the likelihood that a family will patronize a payday lender, but the impact is small. In contrast, each new payday loan outlet opened in the neighborhood during the period 1998 to 2000 increases a family's likelihood of using payday loans by 6 percent. This is consistent with the notion that rather than substitute for services previously offered by mainstream financial institutions, payday lenders are reaching customers not well served by existing institutions.

Elliehausen and Lawrence (2001) present the most detailed description of payday lending customers.[37] They note that payday advance customers are primarily moderate-income consumers

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[36] Using data from the NCFSS, a statewide telephone survey of 1,501 North Carolina families with incomes under $30,000 conducted in 2000.

[37] This study utilized data obtained from a telephone survey with a nationally representative sample of customers of companies belonging to the industry trade association, the Community Financial Services

who are often in the early stages of the family life cycle. Indeed, over half have incomes between $25 and $50 thousand dollars, while over 40 percent are young married couples under the age of 45. Relative to the general population, they are more likely to use consumer credit and have higher levels of consumer debt relative to income than the population as a whole. In this regard, over 40 percent of payday advance customers owned their homes compared with two thirds of the general population.

Elliehausen and Lawrence (2001) argue further that the requirement that payday advance customers have a checking account is likely to reduce the ability of many lower-income families to utilize payday-lending services. Referencing a study by Johnson and Johnson (1998), Elliehausen and Lawrence note that payday borrowers tend to have higher incomes than pawn broker customers, a finding consistent with the fact that lower-income families are less likely to have a checking account (or a regular job for that matter) and hence must turn to pawn brokers to meet their need for short term advances. Alternatively, higher income families undoubtedly have less need for payday advance credit because higher income families have better access to other sources of credit (including tapping the equity in their homes) and have substantially greater holdings of liquid assets to meet any short-term cash needs. Even so, the relative high share of payday advance customers owning their own home suggests that there may be considerable overlap between the segment of homeowners using payday advances, and those owners turning to cash out refinancing of their homes to meet other outstanding consumer debt obligations.

3.2.2. The Spatial Distribution of AFSPs

One factor that has been cited by a number of studies as contributing to the growth of subprime lending is the lack of access by lower-income and minority households to basic banking services from mainstream financial institutions (for example, ACORN, 2002, and Bradford, 2002). Unfortunately, the spatial analyses of AFSPs pose difficult data and methodological issues. Unlike banking data on the location of federally regulated depository institutions and their branches, researchers examining the spatial distribution of AFSP must piece together data from a variety of state regulators and private sources.

Moreover, assessment of the spatial distribution of AFSPs poses complex analytical issues. One common approach in studies examining the location of AFSPs is to compare the average characteristics of tracts where AFSPs are located to either all other tracts or tracts where banks are located (Lesly and Luxman, 1999; and Temkin and Sawyer, 2004). Lesly and Luxman identify core areas in Boston, Hartford, and Providence where check cashers are most common and compare the characteristics of these areas to the state as a whole in terms of income levels, poverty rates, and receipt of public assistance. Temkin and Sawyer compare the average racial composition and poverty

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Association of America (CFSA). Overall, the association has over 60 member companies operating approximately 5,000 offices. This represents about half of the 10,000 estimated offices providing similar shorter-term loans nationwide. Overall, some 427 telephone interviews were completed between December 28, 2000 and January 9, 2001. In addition to gathering basic information on the age, education, family income, and martial status of the respondent, the survey also gathered information about the respondent's previous use of consumer credit, their attitudes and awareness of the costs of alternative sources of credit, as well as their satisfaction with their use of payday lending services. Given the limited sample size, no information was provided concerning the geographic distribution of the respondents.

rates of tracts with at least one AFSP[38], tracts with at least one bank, and the entire geographic area studied (the core county of the selected metropolitan areas). Temkin and Sawyer use tract population as weights in estimating average tract characteristics, which is the methodology used in estimating exposure indexes more commonly associated with analysis of racial segregation.

Recognizing the difficulty of estimating spatial correlations between various tract characteristics (racial and income characteristics, homeownership rates, and credit risk measures) and the concentration of AFSPs, banks, and subprime lending, other studies use the average distance to the nearest firm of the same type or a different type. For example, Bachelder and Ditzion (2000) measure the average distance from AFSPs to the nearest AFSP and the nearest bank as a measure of whether AFSPs are clustered together and away from banks.

In what was perhaps one of the first studies on the location of AFSP, Lesly and Luxman used Dun and Bradstreet data to examine the spatial location of 113 Check Cashing Operations (CCO) located in the six state New England Region. The study presented a detailed evaluation of the demographics of three dense clusters of CCOs located in Providence (9 CCOs), Hartford (12 CCOs), and Boston (12 CCOs). Based on this analysis, the authors note that CCOs tend to operate in heavily trafficked urban and suburban areas, usually with high concentrations of low- and moderate-income households. For example, 93 percent of the census tracts in the Boston cluster (defined as Roxbury and Dorchester neighborhoods) had incomes less than 80 percent of area median. Despite the low incomes, the authors note that clusters are not necessarily without mainstream banking operations. For example the Boston cluster included 24 depository institutions and 12 CCOs. Indeed, mainstream banks outnumbered CCOs in each of the three clusters examined in detail and often were located in close proximity to check cashing locations. Thus, it is appears that physical proximity was not a major factor in determining who those who frequented CCOs.

AARP (2001) examined the spatial distribution of licensed payday lenders in California in 2000 according to the social and economic characteristics (ethnicity, income, and wealth) of the communities in which they are located.[39] The AARP analysis confirms that low-income Californians and Californians living in a minority community are more likely than others to live within one mile of a payday lender. Overall, some 38 percent of Californians live within one mile of at least one payday lender. This percentage varies by race with only 27 percent of white non-Hispanics living within the one-mile service area, compared to 57 percent of African-Americans and 49 percent of Hispanics. Similarly households living within the one-mile service area had lower levels of income and wealth relative to household living further away.

The concentration of payday lenders in low-income and low-wealth communities is dominated by the statistics for the Los Angeles- Long Beach metropolitan area, and to a lesser extent Orange County, San Jose, Sacramento, San Diego and San Francisco. For example, in Los Angeles – the state's

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[38] Temkin and Sawyer include check cashers, payday lenders, and pawnshops in their analysis of AFSPs.

[39] The AARP study obtained data on 2011 licensed Payday Lenders licensed to do business in the state. Of these, the vast majority – 1956 – are located in one of the state's 25 metropolitan areas, while only 42 are located in non-metropolitan and rural areas. Using GIS technology, AARP identified the zip codes for each payday-lending establishment, and identified a "one-mile service area" defined as the portion of a zip code that is within one mile of at least one Payday Lender.

largest metro area – 61 percent of all households live within one mile of a payday lender, with the percentage varying from 42 percent for white non-Hispanics to 76 percent for African-American and 70 percent for Hispanics. Relatively fewer Californians living in smaller metropolitan areas live within one mile of at least one Payday Lender, a feature that largely reflects the fact that the population in these MSAs is less densely concentrated. Even so, it is interesting to note that unlike the situation for the larger MSAs, the relative income and wealth differences by proximity to a Payday Lender are smaller – or indeed in some cases disappear entirely – in these smaller markets.

In reviewing previous studies that have examined the geographic location of check cashers and other AFSPs, one issue that stands out is the difficulty of concluding whether the location of these firms are truly concentrated in low-income and minority areas. Previous studies have examined the preponderance of these firms in census tracts by income level and minority composition. In most cases, the location of AFSPs is also compared to the geographic distribution of banks. The differences in the geographic distribution of these firms can be subtle. In an interview with one researcher who has examined this issue, she noted her impression that AFSPs tend to be located in low-cost retail space that is conveniently located relative to the transportation network.[40] She felt that since this describes the locational choices of a wide range of businesses, there was little evidence that AFSPs were particularly concentrated in low-income and minority areas.

3.2.3. Why Consumers Use AFSPs

Despite the growing literature on AFSPs, there remains considerable debate as to why consumers resort to using AFSP, and whether such use reflects the fact that AFSPs represent a legitimate response to a market need. Some argue that many lower-income consumers cannot afford a traditional bank account because of high maintenance fees, or that the concentration of "unbanked" households in minority neighborhoods reflects the lack of banking organizations with branches located there (Barr, 2001). Stegman and Faris go further and suggest that the basic business model, at least for payday lenders, is designed to trap unsuspecting borrowers into escalating debt payments. In any event, advocates have pushed for state and federal initiatives to encourage banks to offer low-cost basic accounts to lower-income participants, and have vigorously protested any effort to close a branch bank in a lower-income minority neighborhood.

According to the FRB study discussed earlier (Aizcorbe, 2003) there are many reasons why households may choose not to do business with a mainstream financial institution. When asked why they did not have a checking account, 28.6 percent reported that they did not write enough checks to make having such an account worthwhile. Another 14 percent said that they did not have enough money to make having a checking account worthwhile. Finally, another 22.6 percent said they do not like dealing with banks – a response that showed the largest increase since 1998 – 4.1 percentage points. Notably, families currently without a checking account, even though they had one in the past, were more likely than all families to dislike banks (18.2 versus 22 percent) and were more likely to cite what the authors classify as economic reasons – 12.8 percent (as opposed to 10.2 percent for all

[40] Interview with Sharon Hermanson, AARP Public Policy Institute. Hermanson and Gaberlavage (2001) briefly discuss the location of AFSPs, but do not present a detailed discussion of the issue. The author noted that this was because the findings did not show a significant concentration of AFSPs in low-income areas.

families) said that the service charges were too high, while 6.3 percent (as opposed to 3.6 percent for all families) said that they had some sort of credit problem. Recognizing that half of all families now without a checking account once had one, these findings are consistent with the importance of helping those families that currently are "banked" effectively manage their financial and credit situation in order not to fall out of existing banking relations.

Consistent with these findings, recent studies suggest that being unbanked may be less a question of expense and access, and more a question of having the right mix of services. Indeed, according to the Survey of Consumer Finance, only 1.2 percent of the unbanked cited lack of convenient hours or locations of branch banks as the reason they did not have a checking. Many low-income consumers generally have no savings, but instead live paycheck to paycheck and cannot afford to wait for a deposited check to clear. Others operate in a largely cash environment, and only occasionally need to cash or write a check. As result, while a majority of "unbanked" individuals incur costs to secure alternative banking services, in most cases, these costs are not very high. Indeed, only 16 percent of the "unbanked" incur annual costs of more than $100 or more for cashing checks and/or purchasing money orders (Dunham, 2001).

Other studies downplay the fact that the unbanked lack access to mainstream banks. Indeed, a study by Dove Consulting (Bachelder and Ditzion, 2000) documented the fact that check-cashing operations generally offer convenient service, service that is often preferred by customers to that offered by mainstream banks. Among check cashing establishments surveyed in each of four cities – Boston, Atlanta, San Antonio, and San Diego, some 96 percent were open on Saturday, and 26 percent on Sundays. Over all, the survey found check-cashing establishments were open from 63 to 77 hours per week. In addition the Dove survey noted that fringe banking operations offered a cultural sensitivity and preferred product mix often perceived to be lacking at mainstream institutions. For example, the Dove consulting report noted that staff employed by fringe banking establishments in their survey spoke nine different languages. These entities also had a more attractive menu of services, including money orders, lottery tickets, and public transportation passes.

Echoing the findings of Bachelder and Ditzion, Dunham (2001) concludes that the survey from Los Angeles and New York suggests that many people may be unbanked, "not because they face barriers to obtaining bank accounts, but because they can better economize on the costs of financial services without having a bank account." She observes, however, that mainstream banks have the potential to meet the financial services a significant share of the unbanked population. Citing industry sources, Dunham argues that banks need to generate revenues of $100 per bank account (in transaction fees, earnings from balances, and fees from credit cards and other services) to cover their costs and earn a reasonable profit. While some 84 percent of all unbanked spend less than $100, Dunham notes that 16 percent already spend $100 or more on banking services, and by pooling accounts with others in their household, as many as 24 percent of the survey population might find a bank account less costly than their current financial services activities. This, of course, assumes that banks are able to match alternative financial service providers in terms of customer service and convenience, as well as price.[41]

[41] See also – Financial Access in the 21St Century, 1997, OCC Washington DC available at http://www.occ.treas.gov/occfinac.pdf. In particular, remarks by Seamus McMahon at First Manhattan Consulting, pp. 25-26.

Using Chicago data, the assessment of use of currency exchanges by Rhine et al. (2001) also supports the hypothesis that attitudes – including perceived unfavorable banking product characteristics and a distaste banks generally – play a key role in determining the probability that an unbanked household will use currency exchange services. The study further demonstrates that these two attitudinal variables are important determinants of the probability that a Black household uses the services of a currency exchange, while Hispanic households appear to be mostly influenced to utilize currency exchanges as a result of perceived unfavorable bank product characteristics, but less so by their distastes for utilizing the services of a bank.

Convenience was also a theme of Lesly and Luxman (1999). Based on a limited number of interviews with banking and CCO officials, they conclude that CCOs routinely process utility, credit card, and other bill payments through the ACH (Automated Check Handling System). In addition, they offer reasonably priced money orders and wire transfers. In contrast, most banks operating in near proximity to the CCO study area also cashed checks for customers, but did not offer convenient and competitively priced payment services. Moreover, based on interviews with check cashing customers in the New England region, Lesly and Luxman note that customers state that they encounter "less hassle at CCOs, and value the fact that CCOs have a wide range of personalized service and hours (some are opened 24 hours a day seven days a week) well matched to their 'cash and carry' style of financial management."

Lesly and Luxman note that the decline of personal service at banks reflects the impact of cost cutting measures and the rise of ATMs, yet this does not mean that depository institutions necessarily have to cede ground to CCOs. For example, they note that as of 1999, there were no licensed check cashers operating in Vermont. Instead, they quoted several banking officials as saying that their institutions offered some check cashing services for non-depositors – including charging no fee to cash a government check or a small fee to cash a non government check. One official quoted in the study noted that his bank felt that this was a good way to attract new customers, and earn a small fee in doing so.

Andre Associates present a more formal assessment of consumer attitudes about basic banking services. This report documents findings from a series of focus groups of low-income and ethnic customers conducted for Union Bank of California in May of 2001. Focus group participants identified five ways in which check cashers were superior to mainstream financial institutions including banks: 1) easier access to immediate cash; 2) more accessible locations; 3) better service in the form of shorter lines, better hours, Spanish speaking tellers, as well as the availability of targeted list of products offered at a single location; 4) more respectful and courteous treatment of customers; and 5) greater trustworthiness. Focus group participants were particularly suspicious of alternative products offered by mainstream financial institutions. While conceding that check-cashing fees were high, focus group participants felt that the pricing policies of check cashers were more transparent. In contrast, they felt that the complex pricing schemes governing bank savings and checking accounts made them feel that they were being cheated or tricked because they don't have sufficient resources or know how to work the system to avoid fees.

In a similar fashion, Lynch (2002) argues that check-cashing operations fill an important niche by offering financial services to low-income and low wealth individuals. Lynch focuses on downtown

New Haven, and presents a the results of a series of interviews he conducted with check cashing customers, as well as senior management of several check cashing companies with branches in the New Haven metropolitan area. Noting that check cashing establishments are located in close proximity to mainstream financial institutions, Lynch dismisses lack of physical access as a cause of the rapid growth in the number of check cashing operations operating nationwide. While advocates call the growth in "unbanked" customers and increase in number of check cashing operations as a national problem, Lynch hails it as a creative response of the market place to expanding the range of financial services available. Quoting at length from customer interviews, Lynch notes the many positive aspects of the check cashing service mix – convenient hours, limited reporting requirements, friendly atmosphere – that attract customers.

Lynch also describes the important differences between the business practices of banks and those of check cashers. While banks may immediately cash some government checks, many banks are reluctant to provide immediate cash for a third party check, especially one drawn on another bank. In these instances, banks typically wait for a check to clear before the customer can access the funds. In contrast, CCO customers get immediate access for their funds. Check cashers in effect make short-term loans in anticipation of being able to successfully process the check. One check-cashing manager observed: "I am not in competition with banks at all. They don't do what we do. They're in the lending business and saving business. Cashing checks costs them money. We put our own money on the counter every day. We take risks banks don't."

Given this perspective, Lynch is very critical of policy efforts to provide alternatives, noting the limited reach of such efforts as the Electronic Funds Transfers or subsidized "lifeline accounts." Instead, Lynch argues that it should be left to the market place to develop ever more sophisticated products that meet the financial needs of the poor. Examples including payroll debit cards, and the new smart automated check cashing machines now appearing in 7-Eleven stores on a trial basis. This innovation will not only enhance customer services, but foster competition that will reduce the costs of these services. According to Lynch, this is already happening as new well-capitalized players (he cites efforts by VISA and Union Bank of California as example) enter the market, and compete for the slice of the financial services marketplace once dominated by check cashing establishments.

The Union Bank focus groups also revealed interesting differences in consumer attitudes about various types of alternative financial services providers, including check cashers, pawn brokers, and payday lenders. Although focus group participants agreed that each of these types of businesses provide convenient and culturally sensitive service, they generally held more positive attitudes toward check cashers. Study participants noted that check cashers charge a one-time fee for services provided. In contrast, patronizing payday lenders and pawnbrokers can expose the customer to future fees and a continuing debt repayment obligation. As a result, about one third of respondents rated payday lenders and pawnbrokers negatively, while others described them as "necessary evils" but conceded that when lacking alternatives they would utilize their services.

Elliehausen and Lawrence (2001) present perhaps the most extensive assessment of the reasons that consumers obtain payday loans. Building on previous research in marketing and psychology, Elliehausen and Lawrence use telephone survey data to calibrate a "Buyer-Behavior Model" of the decision to use the services offered by payday lenders. While economic analysis tends to focus on the outcomes or choices made by consumers, "buyer-behavior models" focus on the decision making

process, including how consumers acquire, understand, and use information in decision making concerning the purchase of a good or service, and how they evaluate the outcomes of a decision once made. This last step involves identifying the extent to which consumer satisfaction with the purchase decision works to reinforce their initial attitudes about the product, or whether dissatisfaction with the experience leads them to either revise their initial attitudes or evaluate their search process.

Using the "buyer-behavior" approach, Elliehausen and Lawrence (2001) offer a rich set of insights concerning payday lending. For example, payday advance customers are generally aware of the cost of their credit. Indeed, nearly all payday advance customers were aware of the dollar amount of the finance charge on their most recent new payday advance. In contrast, most recall receiving information on the annual percentage rate (APR) of the advance, but few could recall the actual APR. Elliehausen and Lawrence argue that this is consistent with a decision making model that does not focus on APR as a criteria, but rather the extent to which consumers use the dollar amount of the finance charge as the criteria. The authors further argue that the focus on dollar costs is consistent with the fact that consumers often turn to payday lenders to avoid other costs – for example fees associated with returned checks and late payments – which are also typically expressed in dollar amounts, not APRs.

Despite their failure to pay much attention to what the authors concede are the high APR associated with payday advances, in general, customers in the survey were aware of the high costs associated with payday advances. Even so, 75.2 percent of survey respondents reported being either "very satisfied" or "somewhat satisfied" with the experience. Among the small percentage of customers (12.2 percent) who reported being "somewhat dissatisfied" or "very dissatisfied," over 60 percent reported that high costs were the source of their dissatisfaction.

Finally, the authors report on borrower income, finances, and previous experience in accessing credit. Despite reporting moderate family incomes[42], most survey respondents reported having some difficulty in managing their credit. All of this despite the fact that some 40 percent of payday advance customers were homeowners, and that the vast majority of these households had at one time obtained a mortgage to purchase their home. Even so, some three-fourths of payday advance customers reported having been turned down by a creditor or not given as much credit as they applied for in the last five years. Of those that did have retail or bank credit cards, over half reported not using these cards for fear that they have exceeded their credit limit. Moreover, payday loan customers were almost four times more likely to have filed for bankruptcy than all adults.

Based on these data, Elliehausen and Lawrence note that when faced with a need to a cash advance to help them make ends meet, many households turn to payday lending to solve their problem. Most payday advance customers use advances infrequently – about half of the customers surveyed had advances outstanding for less than a total of three months of the year, and nearly four-fifths had advances outstanding less than half of the year. A common pattern is for consumers to take an advance and then repay it. A majority of respondents report that the longest consecutive sequence of advances was less than a month.

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[42] The survey conducted for this study found that 51.5 percent of clients of payday lenders had family income between $25,000 and $50,000, compared to 29.0 percent of all families. However, only 25.4 percent of payday borrowers had family income above $50,000, compared to 39.6 percent of all families.

3.3. The Potential for Abuse in The AFSP Industry

Even as some argue that being "unbanked" and utilizing "fringe" financial institutions may simply reflect a rational consumer response in a competitive market place, others continue to stress the benefits of being served by a traditional bank. For example, there is preliminary evidence suggesting that everything else being equal, the "unbanked" are less likely to save or otherwise accumulate wealth (Dunham, 2001). The benefits of savings are many fold: in the short run savings can help buffer economic distress; longer term savings pave the way for the acquisition of other assets, including a home.

Stegman and Faris (2003) also point to the potential for outright abuse. In particular, they argue that financial performance of payday lending outlets is enhanced by their ability to generate repeat customers – that is customers that repeatedly roll over high priced day loans. They begin this analysis by presenting data gathered on a sample of 164 check cashing outlets conducted by the North Carolina Commissioner of Banks. According to the authors, payday loans may make sense for occasional users. Yet when customers roll over high-cost short-term loans, they can easily end up trapped in vicious cycle that can result in them paying substantially more in fees than the amount borrowed. Despite industry claims to the contrary, Stegman and Faris present survey and other information that suggest that repeat customers fuel industry profits. For example Commissioner of Banks data suggest that while less than half of all customers took out more than 7 loans during 2000, these customers accounted close to three quarters of total revenue for the industry.

To further examine the factors that contribute to the profitability of payday lending operations, Stegman and Faris estimate two ordinary least squares multivariate models. The first seeks to explain total revenues for individual payday lending outlets. The second is a measure of gross income defined as total fees per outlet plus returned check fees, less the sum of outlet-level payroll costs, losses due to uncollectible loans, and subscription costs for a screening service to determine whether the borrower has any outstanding payday loans with another companies. These two revenue measures are assumed to be a function of the number of company outlets, the number of customers per outlet, as well as the use of computerized office systems to originate, screen, and collect loans. Given the paper's focus on the impact of "rollovers," the model also includes a measure of the percentage of customers who borrow at least monthly. Finally, the model also includes APR, and whether or not the company offers check-cashing services and whether or not the company is new to North Carolina.

The results confirm the importance of scale economies, as well as the importance of managing the number of bad loans and what the authors describe as "the primacy of location and convenient access" in generating maximum street traffic. Also of note is the finding that use of a screening service to weed out potentially problematic loans does not enhance revenue. The authors contend that this reflects the fact that such screening devices turn away so many customers that they negate any advantage in helping payday lenders identify "good" borrowers. Finally, their results were consistent with the proposition that the presence of repeat customers enhanced the financial performance of payday lenders.

The paper concludes by noting that while payday lenders meet a large and growing demand for short-term credit, there is ample potential for abuse – particularly abuses linked to efforts by payday lenders

to convert more and more occasional users into chronic borrowers. To address these issues, the authors provide a series of recommendations. For example, they argue that payday lenders should be required to limit customer access to rollovers and check to determine if a customer has payday loans outstanding with several different establishments. They also call for greater involvement of mainstream banking organizations in the business; a move that they argue would help to limit abuse. And finally, they argue that the rise of payday lending is another reason to expand financial literacy education, and otherwise promote programs designed to help consumers better manage their credit needs.

While acknowledging the importance of reaching out to the unbanked, Caskey (1997) notes that having a bank account is no cure all. Unfortunately, problems with credit histories and debt service burdens are widespread among lower-income people in general, including those with bank accounts. For example, based on telephone survey of 900 lower-income households living in Oklahoma City and Atlanta in 1996, some 42 percent of families without deposit accounts reported that they had been two months late on some bills in the previous year. Among survey respondents with deposit accounts, 28 percent also reported being two months late on some bill payments.

Finally, Caskey notes the linkage between "living from paycheck to paycheck" and having difficulty in obtaining credit from mainstream organizations. Problems with their credit histories and payment records prompt many individuals to seek out informal sources of credit or turn to high-cost alternative financial services providers including pawnshops, car title lenders, payday lenders and small loan companies. While useful in helping them avoid the crisis of the day, Caskey estimates that interest rates for these alternative sources of credit are generally over 100 percent APR and often as high as 300 percent.

Caskey notes that low-income unbanked individuals rarely complained about the expense or inconvenience of cashing checks or paying bills. Rather they complained mainly about the insecurity and stress of frequently running out of money. Whether banked or unbanked, many people interviewed spoke of feeling physically and emotionally drained from facing frequent personal financial crisis and worrying about their financial future. This was especially true of low-income, low-wealth individuals who also reported that they frequently ran down their balances to zero. When asked why they choose not to open an account, respondents frequently cited lack of money to save, privacy or other reasons. According to Caskey, the desire to keep financial records private could arise from a number of reasons: desire to hide assets from creditors or avoid child support payments, or a feat that owning a bank account will reveal a person's status as an illegal immigrant. While these privacy issues can be real, Caskey notes that some people expressed concerns about privacy issues even when there was little apparent legitimate basis for these concerns.

Section 4: Regulation of Subprime Lenders and Alternative Financial Service Providers

The mortgage banking and financial services market place has changed dramatically over the past quarter century. Federal regulations once focused on the deposit gathering and lending activity of banks and thrifts. At the same time, regulation of other aspects of financial services was left to a patchwork of state and local regulations. Yet increasingly the growing reach of nonbank mortgage lenders and providers of financial services raise questions as to whether the current regulatory regime is up to the task of protecting consumers in this rapidly changing financial services landscape.

In light of what appears to be a regulatory lag, this section explores the evolution of the Community Reinvestment Act (CRA) and the regulation of bank lending. Next, the section reviews literature on alternative approaches to regulation of financial services more generally. Recognizing that enhanced market competition may promote innovation and also expand consumer choice in the marketplace, the section ends with discussion how federally regulated entities are developing new products and programs to recapture the market share recently lost to the growing number of nonbank subprime lenders and alternative financial services providers.

4.1. Community Reinvestment Act (CRA)

Widely recognized as one of the most significant and arguably the most controversial regulatory intervention into the U.S. capital markets, there is a fairly substantial literature on CRA. While most studies do not examine the link between subprime lending and CRA, this literature will nonetheless help inform our understanding of the factors that are associated with geographic lending patterns. Moreover, in recent years, attention has shifted to CRA's impact on the provision of basic banking services in low- and moderate-income areas. As a result, the more recent CRA literature also has implications for discussion of the rise of Alternative Financial Services Providers.

Haag (2000) provides a good starting point for our review. This paper reviews recent academic, policy, and industry literature on the Community Reinvestment Act and related topics. In a more recent review of the literature, Barr (2004b) assesses the implications of CRA in the context of other efforts to enhance access to capital by lower-income people and communities, including the Equal Protection Opportunity Act, the Home Mortgage Disclosure Act, the Truth in Lending Act and the Home Owners Equity Protection Act. And finally, the Joint Center for Housing Studies has completed a series of studies on the impact of CRA in light of the significant changes in the structure of the banking and mortgage banking industry. These include Joint Center research done in cooperation with the U.S. Department of Treasury and The Brookings Institution (Belsky et. al., 2001, Litan et al., 2000). The Joint Center (2002) also completed a comprehensive assessment on CRA for the period 1993-2000. The Joint Center's latest report (2004) examines the spatial distribution of home lending, and presents further assessment of the how changing mortgage markets impact efforts of consumers and regulators alike to guard against predatory and other potentially abusive lending patters. Along with results obtained from Haag and Barr, these Joint Center reports are the basis for much of the information on CRA presented in this section.

4.1.1. Early History and Impact

The CRA was enacted in 1977 to recognize an obligation on the part of federally insured depository institutions to help meet the credit needs of the communities in which they operate. CRA directed bank regulators to evaluate depository lenders' effectiveness in meeting the credit needs of their communities, including those of lower-income borrowers and neighborhoods, consistent with safe and sound banking operations. Two of the Act's provisions that later proved most important required regulators to allow public comment on the institution's community lending record, and to consider an institution's CRA performance in evaluating consolidation and expansion applications.

By the 1980s, there was a growing sense among community advocates that the performance assessments and ratings specified in the initial legislation had done little to expand lending in underserved markets. Assessments of the effectiveness of CRA regulation are part of a larger set of issues relating to the uniformity of enforcement of CRA by federal regulators. For example, Swinder (1994) notes that throughout the 1980s, fully 97 percent of institutions examined received one of the two highest ratings (on a five point scale). Zinman (2001) adds that during the first decade of CRA enforcement, there were years in which some regulators conducted no CRA exams at all. Finally, a General Accounting Office (GAO) study reviewed 40 CRA evaluations and found general evidence of inconsistent grading from one examiner to another (GAO, 1995), while Thomas (1998) reviewed 1,407 CRA exams and found significant variation both between and within regulatory agencies.

This is not to say that CRA had no impact in the early years. Armed with a legislative mandate that a bank serve the "the credit needs of its entire community, including low- and moderate-income (LMI) neighborhoods," community activists confronted banks and demanded that they expand lending (Bradford and Cincotta, 1992). Not all banks responded, but some did engage with community groups and began to experiment with new loan underwriting criteria and to develop new mortgage products designed to expand access to credit in many underserved communities. Arrangements between community groups and lenders often were codified into formal commitments or 'CRA agreements,' where banks pledged to meet specific lending or service delivery targets.

Despite this progress, there could be little doubt that more needed to be done to expand access to credit to low-income communities. This awareness was heightened by the publication in 1988 of the Atlanta Journal and Constitution's Pulitzer Prize-winning 'Color of Money' (Dedman, 1988) series documenting the disparities in mortgage lending between blacks and whites in Atlanta. This not only stimulated discussion of the failure of banks to serve 'community needs,' but also linked CRA and Fair Lending in the public debate. The Fair Lending Act of 1968 prohibited discrimination in mortgage lending, a prohibition that was enhanced with the passage of the Equal Credit Opportunity Act of 1972, and the Community Reinvestment Act of 1977. Stimulated in part by the continuing community activism around racial disparities in lending twenty years after the passage of the initial legislation, Congress enacted the Fair Housing Amendments Act of 1988, a law that significantly expanded the scope of the initial legislation and strengthened its enforcement mechanism (Schill and Friedman, 1999).

The failure of CRA to have a more pronounced effect on low-income lending lay largely in its failure to provide regulators with tools to punish poor performance or reward successful behavior. In 1989, Congress strengthened both HMDA and CRA in several key ways through the Financial Institutions

Reform, Recovery, and Enforcement Act (FIRREA). FIRREA enhanced HMDA disclosure requirements to include the race, ethnicity, gender, and income of individual mortgage loan applicants and the disposition of their mortgage loan applications. FIRREA also mandated public disclosure of each institution's CRA rating and performance evaluation, established a four-tiered descriptive rating system to replace the prior numeric scale, and required the banking regulators to prepare a detailed written evaluation of the institution's CRA record.

Heightened Congressional concern about the effectiveness of CRA oversight also coincided with more aggressive use of existing authorities by bank regulators. In 1989, the Federal Reserve denied an application by the Continental Bank Corporation to acquire Grand Canyon Bank of Scottsdale on CRA grounds. In an equally significant move, the same day that it announced its decision regarding Continental, the Fed released a policy statement outlining a more aggressive stance concerning CRA, including a checklist of items that regulators should consider in deciding whether to permit an application to merge to go forward, and a statement acknowledging the importance of public hearings and community input in the decision-making process. The growing Congressional concern about lending discrimination also prompted the Department of Justice to expand its fair lending enforcement activity (Galster, 1999).

As described by the Joint Center (2002), the changes in CRA continued into the 1990s as the banking industry and community advocates complained that CRA evaluations still relied too heavily on giving credit for efforts to meet the needs of their communities rather than on actual results. In 1995, Federal banking regulators refined CRA enforcement procedures to focus explicitly on covered depository institutions' success in meeting their obligations under CRA by examining actual performance in their assessment areas – the geographic areas where the institution has its main office, branches, deposit-taking ATMs – and neighboring areas in which the institution has originated or purchased substantial portions of its loans. The 1995 regulations went furthest toward standardizing, quantifying and objectifying performance criteria for large retail depositories. Recognizing the growth of largely unregulated Alternative Financial Services Providers, the 1995 changes also expanded CRA's focus on the provision of basic banking services. In a newly expanded service test, the 1995 regulations state that examiners should evaluate banks on the effectiveness of alternate systems for delivering retail banking services in low-income areas and to lower-income individuals.

4.1.2. Studies of the Impact of CRA on Residential Mortgage Lending

Despite the more than twenty-five year history of CRA, only a few studies have attempted to evaluate the impact of the Act on lending and the provision of financial services to low-income people and areas. The majority of studies that have attempted to assess the impact of CRA have relied on HMDA data. Because HMDA data initially lacked borrower information on income and racial characteristics, early studies attempted to assess variations in the supply of mortgage credit across areas defined by income and race, to the extent possible controlling for anticipated variations in mortgage demand. Megbolugbe and Cho (1993) conducted a study into mortgage credit flows at the metropolitan level. Evanoff and Segal (1996) review a handful of studies that modeled these flows at the census tract level (including Ahlbrant, 1977; Hutchinson, Ostas and Reed, 1977; Avery and Buynak, 1981; Bradbury, Case and Dunham, 1989; Shlay, 1988; Shlay, 1989; Holmes and Horvitz, 1994; Perle, Lynch, and Horner 1993).

Most census tract level studies focused on a single metropolitan area. In these studies, the most common dependent variable is the level of mortgage lending, expressed as the number or dollar volume of loans, and in some cases standardized by the number of owner-occupied homes in the tract or metropolitan area to control for variations in the level of mortgage demand. The independent variables focus on economic (e.g., median household income), demographic (e.g., shares of population or households classified by race, family type, age of household head, and median household size), housing demand/supply (e.g., the number of building permits issued, vacancy rates, and the share of owner-occupiers), and mortgage supply (e.g., number of branch offices and total amount of deposits) indicators. These studies consistently found that each class of control variables influenced mortgage credit flows, and hence should be included in any models attempting to identify an independent CRA influence on these flows. This research did not produce conclusive results about CRA's impact on credit flows, however, with some studies finding negative disparities in credit flows to areas with lower median incomes and higher minority concentrations, and others indicating that there was insufficient evidence to support such a claim (Evanoff and Segal, 1996).

Beginning with the release of loan-level data on individual mortgage applicants' income and race in 1990, research on lending patterns shifted to studies of mortgage rejection rates, most often by race. In the so-called 'Boston Fed study' (Munnell et al., 1992; Munnell, et al., 1996), researchers used enhanced HMDA data to assess the extent to which mortgage rejection rates reflected discriminatory lending practices. The Boston Fed's researchers examined thousands of loan application files and concluded that race did indeed play an important, independent role in causing rejection rates for black applicants to be higher than for white applicants, even after controlling for the risk characteristics of the individual applicant. They argued that the likely mechanism is grounded in the fact that loan officers presume that most whites are credit worthy, while most blacks and Hispanics are not. The researchers speculated that this discrepancy surfaced in the context of borderline minority loan applications, whose credit files could in many cases have been repaired if lending officers had informed minority applicants of the corrective action needed as often as they did for whites.

The initial Boston Fed results were subject to heated debate and critique, with some subsequent studies on the same data set purporting to reverse its findings (Horne, 1997) and others upholding the initial result (Carr and Megbolugbe, 1993). Several papers (Phillips and Yezer, 1996; Phillips, Trost, and Yezer, 1994; Rachlis and Yezer, 1993) critique the Boston Fed study at a fundamental methodological level, stating that rejection rate models cannot generate valid results that bear on the presence or absence of discrimination – in large measure because key control variables such as loan amount, down-payment and terms are endogenous to the overall mortgage lending process. Tootel (1996) dug deeper to investigate whether lending patterns in Boston resulted from discriminatory practices based on borrower or neighborhood (i.e. redlining) characteristics. He found that lenders were "reluctant to make loans to minorities wherever they apply, and [the discrimination] is not reflective of a reluctance to extend credit in poor areas that happen to be minority" (1996:1078). Lacker (1995) summarized the debate by noting that there continues to be a wide range of opinions concerning the interpretation of the Boston Fed study.

Unlike the Boston Fed Study, Belsky et al. (2000) noted recent CRA-related research has generally steered clear of comparisons of rejection rates by income class and instead attempted to detect a CRA influence on flows of mortgage credit. Evanoff and Segal (1996) found that during the period from 1990 to 1995 CRA-eligible loans (that is, loans made to lower-income households or households

living in lower-income areas) were an increasing share of originations made by CRA-covered institutions and their affiliates. The authors also found that CRA-regulated institutions and their affiliates had much greater shares of their originations in CRA loans in the 1990s compared with the 1980s. The authors did not control, however, for the fact that during the 1990s banks and thrifts were required to report on the activities of affiliates even in areas where they did not have branch offices, whereas they did not have to report on these activities during the 1980s. But Evanoff and Segal did also examine white-black differences in denial rates and applications and found that they narrowed both for lenders covered and not covered by CRA, suggesting that forces beyond CRA were influencing mortgage credit flows over the period.

In a more recent study, Gunther et al. (1999), examined CRA-covered and non-covered lenders' loans for the purchase of 1-4 family homes. They found that financial institutions not covered by CRA increased their portfolio share of low-income neighborhood originations from 11 percent in 1993 to 14 percent in 1997. Meanwhile, CRA lenders' portfolio share of such loans opened and closed the period at about 11.5 percent. Gunther and colleagues also compared loans to low-income borrowers across the two lender types, finding that non-CRA lenders' portfolio share of loans to these borrowers rose from 25 percent in 1993 to 32 percent in 1997, while CRA-lenders' portfolio share fell from 26 to 25 percent. The authors use these findings to argue that deregulation and technological advances in the financial services industry were more likely than CRA to have been responsible for the increased access to credit that low-income borrowers and neighborhoods now enjoy. This argument was challenged by Immergluck (1999), however, who raised a number of methodological objections that undermine several of the study's findings.[43]

Another way to assess the impact of CRA is to analyze the mortgage activity of institutions that have been especially active in acquisitions and mergers. The theory behind such analyses is that since regulators review a financial institution's record under CRA in evaluating merger and acquisition applications, consolidating institutions should be especially attentive to CRA-eligible activities in order to smooth the way for regulatory approval. Avery et al. (1999b) found that the proportion of CRA home purchase originations by consolidating organizations and their affiliates typically increased in the counties in which they had branch offices. Moreover, CRA-eligible loans as a share of total home purchase originations increased more among consolidating banking organizations than among organizations that did not engage in merger activity in the same counties. The authors summarize their findings as consistent "with the view that CRA has been effective in encouraging bank organizations, particularly those involved in consolidation, to serve LMI and minority borrowers and neighborhoods."

Finally, a final group of studies have examined the impact of CRA by comparing lenders that have signed CRA agreements with those that have not. Shlay (1999) examined lending data for six metropolitan areas, testing the hypothesis that metropolitan areas where CRA organizing activity is highest should have better records of lending to underserved areas and borrowers. She found that

[43] Immergluck's criticisms include the fact that Gunther et al. include loans by mortgage banking affiliates of CRA-regulated banks in analyzing trends in lending even though these loans are not generally included in CRA exams. In addition, Immergluck also argues that using independent mortgage banks as the point of comparison with banks is not a relevant comparison as banks offer a much broader array of products and services and so are driven by different market forces.

lending increased to low-income and minority borrowers and neighborhoods in all cities examined, suggesting that the extent of CRA organizing in a particular city is not necessarily predictive of the increases in lending to underserved markets.

Schwartz (1998) also looked at the effect of CRA agreements on lender behavior. He compared mortgage and home improvement lending in 1994 by banks with and without CRA agreements. His results indicated that the presence of an agreement appeared to make a positive impact on bank lending to low-income and minority households and neighborhoods, with the most dramatic difference being on lending to black households. Schwartz also found that those institutions with agreements had higher approval rates for low-income and minority borrowers than institutions that had not entered into such agreements. He did not look, however, at lending behavior before and after signing agreements, and he did not control for other factors that may have generated the patterns he observed. For example, it is possible that the decision to sign an agreement is endogenous – that is, lenders with a greater capacity or willingness to meet CRA obligations sign agreements, in effect taking credit for actions they would have taken anyway.

A recent paper by Bostic (2001) looks for an effect of signing an agreement on overall lending in the counties in which the participating lender operates branches. Using a specially constructed panel of counties that includes information on CRA agreements provided by the National Community Reinvestment Coalition, Bostic finds that the number of newly-initiated CRA agreements in a county is significantly associated with three-year changes in conventional mortgage lending, particularly in lending to low-income and minority borrowers, and to low-income neighborhoods. He also found, however, that these effects do not persist over time, waning almost completely after three years. Bostic concludes that the effectiveness of CRA agreements in increasing lending activity is ultimately determined by the persistence and sophistication of community groups in monitoring compliance with CRA agreements.

The Joint Center (2002) is one of the few studies that examine CRA in the context of the growing subprime market. As noted in this study, CRA regulations do not provide lenders with differential credit for prime or subprime loans, or distinguish between home purchase or refinance loans, but there are other ways CRA may influence subprime lending patterns. For example, agreements between lenders and community groups that commit lenders to specific prime mortgage lending volumes in targeted areas has become commonplace as lenders seek to gain community support for proposed mergers. In addition, other subprime lenders have pledged to refer any applicant for a subprime mortgage that could qualify for a prime mortgage to a prime loan provider.

As the Joint Center observes, CRA could directly change the behavior of lenders covered by CRA (hereafter CRA lenders) in various ways. For example, CRA could induce CRA lenders to lower the out-of-pocket costs faced by CRA-eligible borrowers – defined as lower-income borrowers and/or borrowers living in lower-income areas – by lowering interest rates. Alternatively, CRA could prompt CRA lenders to ease approval standards, thereby deepening the pool of qualified mortgage loan applicants. Finally CRA could spur CRA lenders to do additional marketing, outreach and counseling, thereby lowering the cost of loan search by CRA eligible borrowers. Each of these activities alters the supply of credit in ways that favor lower-income borrowers, and in doing so increase the number of CRA eligible borrowers able to access mortgage credit.

In addition to simple descriptive statistics, the Joint Center presented multivariate analyses to demonstrate that CRA is having an important, but relatively small, impact on mortgage lending. Using the Joint Center Enhanced HMDA Data Base that combines HMDA for the 1993-2000 period with Federal Reserve Board, HUD, and Census data on the lender and market characteristics, the Center estimated three sets of econometric models. The first set of models look at how CRA may have directly influenced CRA lender behavior. The second and third types of models look for the consequences of changed CRA lender behavior, in terms of their overall share of CRA eligible lending market, and in terms of changes in housing markets in CRA-eligible neighborhoods. Taken as a group, these three models support the notion that CRA has had a small but significant impact in expanding the number of CRA eligible borrowers able to obtain mortgage financing.

First and foremost, there can be little doubt that CRA lenders have changed their behavior. In particular, of their total lending CRA lenders originate a higher proportion of loans to low-income people and communities than they would if CRA did not exist. However, consistent with the notion that CRA lenders seek out the least risky and least costly way to meet CRA goals, much of the increased lending was directed toward lower-income people living in higher income areas.

Since the HMDA data did not include mortgage interest rates, credit scores, or other variables, it was impossible to determine directly whether the changed behavior on the part of CRA lenders resulted in a market wide expansion of total lending to lower-income people and communities. Instead, the Joint Center used a number of indirect tests to determine whether CRA expanded the overall supply of mortgage credit in the marketplace, or simply shifted some fixed amount of lending from non-regulated to CRA regulated entities. Here the evidence was mixed. CRA-regulated entities appear to have gained market share in the provision of loans to low-income people and communities. This is consistent with the idea that some of the CRA impact was simply shifting lending activity away from non-CRA and toward CRA regulated entities.

Though consistent with the notion of shifting, this last set of results in no may constitutes proof that CRA regulated lenders only made additional loans that would have otherwise been made by non-CRA regulated lenders. Given the inability to estimate total aggregate supply of mortgage credit with and without CRA, it is impossible to know whether this shift accounted just some or all of the observed increased in CRA eligible lending by CRA lenders. Therefore to examine whether CRA did indeed raise aggregate lending to CRA eligible borrowers, the Joint Center examined the impact of CRA on housing price appreciation and home turnover (or sales). This series of equations documented that low-income neighborhoods targeted by CRA also experienced more rapid price increases and higher property turnover rates than other neighborhoods, findings that are consistent with the proposition that CRA has expanded the aggregate provision of credit in these neighborhoods.

While the Joint Center's results confirm that 25 years after enactment, CRA still works to expand lending to lower-income borrowers, they also indicate that CRA's impact may be waning. Specifically, the report argues that the past decade has witnessed a dramatic restructuring of the mortgage industry, including the explosion of new forms of lending, the growing importance of mortgage brokers and mortgage banking operations, and the expansion of secondary mortgage markets. Government-backed, subprime, and manufactured home loans account for a large share of lower-income and minority lending growth, and organizations that specialize in these loans often are not subject to detailed CRA evaluation. These changes have combined to weaken the link between

mortgage lending and branch-based deposit-gathering on which CRA was based, and consequently may also be reducing CRA's effect on the mortgage market.

4.1.3. Changing Industry Structure and the Decline of CRA's Regulatory Reach

While the empirical results confirm that CRA regulated lending institutions operating in their assessment areas are more likely to make loans to low-income people and communities, the Joint Center (2002) observes that the effect of CRA appears to be declining. In particular, today banking organizations operating outside of their CRA assessment areas constitute the fastest growing segment of the residential mortgage market, followed closely by the growth of lending by large, independent mortgage companies not subject to CRA regulation at all. As a result, between 1993 and 2000, the number of home purchase loans made by CRA-regulated institutions in their assessment areas as a share of all home purchase loans fell from 36.1 percent to 29.5 percent.

According to the Joint Center, these changes have combined to weaken the link between mortgage lending and branch-based deposit gathering on which CRA was based, and may be working to reduce the effect of CRA on the mortgage market. In addition to reducing the overall share of loans subject to the most detailed CRA review ('assessment area' loans), the impact of regulation varies significantly from one market area to the next. Of the 301 metropolitan areas examined by the Joint Center, the share of all loans that are assessment area loans varies from a low of 6 percent in Denver, Colorado to 74 percent in Dubuque, Iowa. Moreover, basing CRA review on an assessment area concept results in an unevenness of CRA oversight as smaller depository institutions operating in a single area will have detailed CRA review on virtually all the of their loans, while scant review is applied to the fastest growing segment of home purchase lending, namely those loans made outside of areas where organizations maintain deposit taking operations, and no review is done of loans made by the independent mortgage companies not covered by the act from the beginning.

The diversity of mortgage lending operations, and the decline in the share of all loans that are made by CRA-regulated lenders in CRA assessment areas, have spawned numerous proposals to alter the CRA focus on traditional deposit-taking entities operating from a network of branch locations. Some argue that the current definition of assessment areas makes little sense in a world of electronic banking and national scale mortgage lending operations (Thomas, 1998). Specific proposals include dramatically expanding assessment areas for CRA-regulated institutions to include both markets where regulated entities maintain deposit-gathering operations as well as all places where they conduct mortgage-lending operations. Others proposals call for the extension of CRA to independent mortgage companies and consumer finance companies that currently fall entirely out of the regulatory reach of CRA (Campen, 2001).

More recently, the focus of CRA reform has shifted to include discussion of the service test. As noted earlier, CRA legislation mandates that regulated entities be evaluated in terms of the extent to which they provide financial services to low-income people and communities. Yet in light of the historical focus on residential mortgage lending, the service test appears to receive little attention in the CRA exam process. This is unfortunate. While the revolution in mortgage finance has substantially weakened the linkage between the location of branch banking operations and mortgage lending, retail banking services is one place where location appears to still matter.

Recent research by Stegman et al. (2001) based on an analysis of nearly 2,000 CRA exams conducted between 1996 and 2001, concludes that the service test provides only minimal incentives for lenders to extend financial services to current 'unbanked' individuals or others in need of less costly banking services. Stegman observes that in a typical CRA examination, the service test gets a fraction of the space and emphasis accorded to the lending test. Yet beyond possibly constraining a bank's ability to close branches in lower-income markets, the current service test appears to have little impact on the provision of financial services to lower-income individual. For example, while banks have succeeded in providing physical access to branches and ATMs, there is ample evidence that most banks still have difficulty competing with Alternative Financial Services Providers in meeting the needs of lower-income residents and communities.

Stegman et al. also suggest reducing the current CRA focus on physical access and instead focusing more on results. For example, instead of getting credit for having a branch located in a lower-income neighborhood, banks instead would be evaluated according to the number of checking and deposit accounts currently being utilized by lower-income individuals and/or people living in lower-income census tracts. By focusing on programs that generate results, the revised CRA exam would help to reward those banks that are leaders is reaching out to the unbanked, disseminate best practices in the field and to pressure banks reluctant to expand services to do so. In this way, Stegman argues, CRA could help stimulate expansion in low-income access to banking services today, much as CRA worked to expand access to mortgage credit.

4.2. Regulation of the Changing Financial Services Marketplace

In addition to CRA, much of the nation's most important consumer protection legislation has been in place for a decade or longer. These include the Equal Credit Opportunity Act (ECOA) that bars discrimination against minority borrowers, and the Home Mortgage Disclosure Act (HMDA) that gathers data to enhance the ability of both public regulators and housing advocacy groups to track the performance of thrifts, banks, and other financial services organizations in mortgage lending. In addition, that other disclosure laws such as the Truth in Lending Act (TILA) to require lenders to provide information to enable consumers to be more informed and effective shoppers for mortgages, while the Home Owners Equity Protection Act (HOPEA) is designed to limit the provision of certain loan products to protect consumers from certain loan products.

Unfortunately consumer protection regulations have been slow to adjust to the dramatic changes sweeping the mortgage banking and financial services market place. For example, Congress debated for almost four years before passing the Gramm-Leach-Bliley Financial Services Modernization Act of 1999 that rationalized the safety and soundness regulation of newly emerging financial services giants. While an important landmark in banking regulation, Gramm-Leach-Bliley failed to modernize the CRA and other significant fair lending legislation, nor did it significantly expand federal oversight of the growing number of nonbank entities engaged in subprime mortgage lending or the provision of check cashing, payday lending and other alternative financial services.

The failure to "modernize" consumer protection regulations reflects among other things the continuing divide over appropriate regulatory intervention into the financial services arena. Some argue that expanded regulations are needed to protect consumers from predatory lending or abusive practices of high-cost check cashers, payday lenders and other Alternative Financial Services

Providers. Others contend that new regulations do little good and may even undermine the ability of the financial services sector to create new and cost effective methods for meeting the banking services and credit needs of low-income, low-wealth, and credit impaired borrowers. Recognizing the significance of this debate this section summarizes the extensive literature on alternative approaches to financial sector regulation.

4.2.1. Alternative Regulatory Approaches

In a series of papers, Michael Barr questions whether the persistence of market failures in U.S. credit and capital markets has limited the access of low-income and/or minority individuals to financial services on terms comparable to other market participants. Barr examines access to basic banking services (2004a), mortgage lending (2004b) and small business lending (forthcoming). With respect to mortgage lending, Barr (2004b) assesses the contention that lower-income and minority borrowers pay more for mortgage loans than justified by their income, credit record, and other factors used to price mortgage risk. He notes further that in addition to facing higher prices, many low-income and minority borrowers also face "predatory" practices in the marketplace than can severely limit their financial well being.

Barr recognizes that claims concerning the continued existence of abusive or discriminatory practices are hotly contested. Referencing the work of such notable economists as Kenneth Arrow and Gary Becker, Barr concedes that there exists a substantial body of literature suggesting that competition in credit markets "has driven (or will drive) out discriminatory or abusive practices, and that market failures are illusionary." Indeed, many critics claim that efforts to propose government regulations or other policy interventions are misguided because they "are trying to address a nonexistent problem." Barr notes further that much of earlier legal scholarship suggested that laws intended to increase access to credit were having limited positive effect, but were inadvertently working to raise the overall cost of mortgage credit. For example, Macey and Miller (1993) argue that CRA has provided limited benefits, but have imposed substantial costs on lenders.

Although Barr takes care to assess all sides of the debate, he concludes that there is reason to believe that "market failure exists." Moreover, Barr believes that these market failures combine to limit access to credit and capital for low-income and minority borrowers, and that in fact there is ample justification for government intervention into the market place. Focusing largely on the role of federal regulation and policy, Barr concedes that even where the need for intervention exists, the federal government may be ill-equipped to engage in capital market issues and must be careful to fashion interventions that clearly do more good than harm.

Although largely critical of regulatory intervention in practice, Benston (2000) identifies what he considers to be six distinct justifications for what he terms regulatory intervention. These include: 1) to maintain consumer confidence in the financial system; 2) to assure that a supplier on whom consumers rely does not fail; 3) to assure that consumers receive sufficient information to make "good" decisions and are dealt with fairly; 4) to assure fair pricing of financial services; 5) to protect consumers from fraud and misrepresentation; and 6) to prevent invidious discrimination against individuals. Among, these, he concedes the need for capital standards regulations relating to the "safety and soundness" of financial institutions, but argues that other consumer protection regulations specific to financial services are neither necessary nor desirable.

In contrast, Mansfield (2003) shares Barr's belief that properly crafted regulations can enhance the efficiency of the marketplace, while at the same time provide for much needed consumer protection. She takes issue, however with the mix of current regulatory activities. Dividing consumer protection laws into two groups – regulation by substance and regulation by disclosure – Mansfield observes the current policy focus on disclosure as a key element for promoting consumer protection in the United States today. In theory, when consumers are provided with accurate, comprehensible information it allows them to both protect themselves and to protect others in that by refusing to do business with bad actors they help to drive these bad actors from the market place. Current examples include the Truth in Lending Act (TILA), which requires disclosure of certain loan terms, and the Real Estate Settlement Procedures Act (RESPA), which mandates a standard for disclosing settlement costs in real estate loan transactions.

Alternatively, regulation by substance could protect consumers by prohibiting entirely certain features of mortgage contracts. Examples here include state regulations that prohibit the use of some prepayment penalties in high cost mortgages or the financing of single-premium credit life insurance as part of the mortgage transaction. Other regulations of this type include state imposed mortgage interest rate caps and limits on late charges. Mansfield notes that regulation by substance is often attacked in policy circles as interfering with the operation of the free market. If consumers can obtain better terms on their mortgage by agreeing to accept a prepayment penalty feature – so the argument goes – these regulations limit consumer choice and their capacity to decide what mortgage product is best for them.

In a recent paper, Engel and McCoy (2002) present yet another rational for intervention into the mortgage market – namely the legal theory of suitability – to impose a new set of obligations on subprime lenders and brokers operating in the marketplace. Drawing from securities regulation, the duty of suitability builds on the notion that in complex financial transactions, disclosure alone does not provide adequate protection. Just as securities dealers have to demonstrate that investors have the degree of sophistication needed to evaluate the terms of various securities offerings, the imposition of the duty of suitability in the subprime market, rejects the notion of "let the buyer beware." By shifting the responsibility for safeguarding the customers' interest to the subprime lender and broker, the duty of suitability approach makes sellers of products responsible for internalizing the harm caused by the information asymmetries. For example, the duty of suitability would add the affirmative obligation for mortgage brokers and lenders to warn credit-impaired borrowers of risk of foreclosure inherent in high-cost lending, as well as inform them of less costly alternative products.

4.2.2. Regulation of Alternative Financial Services Providers

Unlike mortgage lending where the focus of regulatory activity has taken place at the federal level, the battle over appropriate regulation of AFSPs is being waged largely at the state level. Unfortunately, there is wide variation across states in the regulation of different types of AFSPs. As noted earlier in Section 3.1, an AARP review found that as of 1998 only 28 states regulated some aspect of the check cashing industry, and of these, only 20 regulated the fees that could be charged (Eskin, 1999). Of the states that did set fee limits, in most cases the limits were above the range most commonly charged in the industry. Regulation of payday lenders also varied widely across states. Another AARP survey found that as of October 2000 some 24 states and the District of Columbia had

regulations designed specifically for the payday lending industry, another 19 states included payday lenders under more general small loan regulations, while 7 states had no specific regulations limiting the fees charged for either small loans or deferred payment payday loans (AARP, 2000).

Recognizing the reluctance of Congress to enact new federal regulation of AFSPs, consumer advocates have stepped up activity to expand and enhance state level regulation. For example, AARP has proposed model state legislation designed to reduce or eliminate the most serious problems associated with check cashing and payday lending. These model statutes are a mix of what Mansfield (2003) would call regulation by substance and regulation by disclosure. The AARP Model Check Cashing statute combines the best aspects of various state statutes and is targeted to address the real risks to consumers in using these outlets including high check-cashing fees and deceptive practices (Eskin, 1999). In addition to requiring all check cashing businesses to register with the appropriate state agency, the model statute seeks to limit fees charged. Like statutes in Delaware, Illinois, and West Virginia, the model statute expresses fee limits in two ways: a set percentage of the face amount of the check or a flat maximum amount, which ever is lower. Finally, the statute seeks to expand consumer disclosure by requiring each check casher to post a schedule of fees with illustrative examples in a visible location in each place of business.

The recent rise in payday lending, and especially the entry of check cashing operations into this line of business has revealed serious limitations in state regulation in that arena. AARP's model statute seeks to fill the regulatory void (Renuart, 2000). Once again the statute is a mix of regulation by substance and regulation by disclosure. In addition to enhancing the capacity of states to regulate the growing payday loan industry, the model statute includes provisions that would stop the charging of usurious fees prohibit the rolling over or refinancing one payday loan with another. On the disclosure side of the ledger, the model statute codifies what TILA disclosures payday lenders are required to make and specifies that all loan transaction documents be written in simple English and in the language in which the transaction was negotiated. As a result, if the negotiations over the payday loan were conducted in Spanish, then the accompanying loan documents must be written in both English and Spanish (AARP 2000).

These AARP's efforts are apparently yielding fruit, as a number of states have enacted various elements of these model statutes as state law. For example, in 2000, the Maryland State Legislature passed the "Check Cashing Act." As a result, for the first time all providers of check cashing services must be licensed by Maryland's Commissioner of Financial Regulation (Sherblom, 2002). In addition to requiring that check cashers post their fees in a visible manner in their place of business, the Maryland law also capped these fees at 2 percent (up to a limit of $3) to cash a government check, 4 percent (up to a limit of $5) for a payroll check, and 10 percent (up to a limit of $5) for a personal check. Although this fee schedule was notably more generous than the one included in the AARP model statute, consumer advocates hailed the Maryland legislation as significant.

Whether newly enacted state legislation is, in fact, protecting consumers from abuse, however, remains an open question. Anecdotal evidence suggests that even in states that have enacted check cashing and payday lending legislation, enforcement of these laws has been lax. For example, in 1998 the Pennsylvania legislature passed the Check Cashing Licensing Act designed to license providers and limit fees. Even so ACORN, a community advocacy organization, reported in 2003 that the largest check-cashing chain in the Philadelphia area was openly defying state law by refusing

to post fees it charges to cash checks and by failing to adhere to state caps on the fees that it did charge (ACORN, 2003). Despite the fact that in Pennsylvania check cashers are explicitly prohibited from issuing payday loans, ACORN also reported that one large check cashing operation was engaged in a payday lending business supported by what ACORN described as a massive advertising campaign. Apparently this was made possible by forming a partnership with a Delaware bank. Finally, ACORN charged that the Department of Banking had no procedures in place to systematically monitor the activities of check cashers. At best, the regulatory system that does exist appears to be limited to responding to consumer complaints.

In a similar fashion, the Consumers Union issued a report in 2003 entitled "Pay Lenders Continued to Ignore State Laws Related to Fees and Protections." Again the allegation was that payday lenders operating in the state failed to comply with the current fee caps set forth in Texas regulations and appeared to ignore Texas law prohibiting the renewal of payday laws (Consumers Union, 2003). Apparently, as was the case in Pennsylvania, Texas payday lenders were emboldened to skirt state law by forming a partnership with federally regulated banks and taking advantage of what has come to be known as "rent a charter," or federal provisions that allow banks to make loans across state lines under terms allowable in the state where they are headquartered (CFA and U.S. PIRG, 2001; Caskey, 2003). Under these arrangements, payday lenders make the loan in the name of the bank, but either purchase the loan from the bank or share in the proceeds with the bank.

Recognizing the complexity of diverse – and often poorly enforced – state regulations, some question whether these regulations provide consumers any real benefits. Elliehausen and Lawrence (2001) for example, cite survey data suggesting that while most consumers who took out a payday loan recalled being notified concerning that Annual Percentage Rate (APR) charged for the loan, few respondents felt that this information had any bearing on their decision making process. Similarly, while it would be hard to argue that the posting of a fees schedule is harmful, Guttentag (2001) notes that even awareness of price information may prove insufficient to deter consumers from taking on high priced debt.

Lynch (2002) offers a conservative critique of the growing literature on AFSPs. While advocates call for additional regulation in this area, Lynch hails the rise of AFSPs as a creative response of the market place, and warns that efforts to regulate these newly emerging entities could do more harm than good. Other economists argue that the competitive market will provide ample incentives to pressure industry participants to promote consumer protection. While conceding that efforts to expand public disclosure could help enhance the efficiency of market operations, Benston argues that there is no particular reason to develop separate regulatory regimes in the banking and mortgage arenas. Moreover, Benston doubts that government officials will have sufficient information to decide what types of information would actually help consumers make "good decisions" concerning banking services or mortgage products. He also argues that producers have strong incentives to provide customers relevant information, and consumers have equally strong incentives to demand that producers provide this information. As a result, the determination of the appropriate level of disclosure should be left to the workings of the market place. Finally, Benston does note the potential role of government at all levels in addressing consumer fraud, but suggests that this role not be performed by the same regulatory agency charged with monitoring the "safety and soundness" of financial institutions. Rather he argues that issues of consumer fraud be handled by a separate

government entity that has a broad mandate to investigate and address consumer complaints – not just in the financials services arena, but more generally for all goods and services.

Finally, limited information about the characteristics of consumers using AFSP hinders efforts to develop appropriate regulations of AFSPs, if additional regulations are needed in the first place. For example, Berry (2004) shares the view that at least in part low-income and low-wealth individuals utilize check-cashing services as one of several ways to access basic banking services. He also notes that current regulations of banks – including requirements regulating customer documentation – may actually deter some customers from establishing accounts. This may be particularly important for minorities that may harbor a mistrust of "mainstream" financial institutions. Many immigrants may have additional concerns stemming from a lack of valid social security identification. Berry observes that regulatory reforms that increase the ability of mainstream institutions to utilize "matricula cards" or other forms of identification may be important in expanding access to basic banking services among immigrants.

4.2.3. Disclosure as a Method of Consumer Protection

Historically, disclosure laws have been widely regarded as the preferred form of consumer protection. For example, Camerer et al. (2003) and Jolls et al. (1998) argue that the existence of "asymmetry of information," justify regulatory efforts to provide additional information to consumers. Conservative scholars in particular focus on disclosure, generally arguing that this approach avoids the "paternalism" inherent in efforts to ban certain types of mortgage or financial services products from the marketplace.

Even among those who believe that in theory that disclosure laws and regulation could help enhance the efficiency of mortgage and financial services marketplace, there remains a sharp division on the current set of laws and regulations now in force. For example, Camerer et al. (2003) argue that HOPEA disclosures represent an adequate response to consumers' need for more information about high cost. In contrast Barr (2004b) expresses what he terms "a healthy dose of skepticism about the effectiveness" of the current set of disclosures. While HOPEA and TILA do help provide consumers with information needed to facilitate comparison shopping by consumers, according to Barr "in some cases too much information is provided, in other cases too little." Barr concludes that there are serious deficiencies in the current array of disclosure laws and regulations that require serious reform.

Mansfield (2002) is similarly skeptical about the effectiveness of disclosure as a method of consumer protection in the mortgage market. Mansfield argues that existing mortgage disclosure laws and regulations do a less than adequate job of ensuring that consumers have the information needed to make an intelligent mortgage choice. Mansfield catalogues how mortgage brokers – and particularly push marketers – continue to encourage consumers to secure mortgages with excessive rates or fees, or terms that are not in the best interests of the consumer. Central to her concern is difficulty consumers have in getting accurate information on the costs and the risks associated with a particular mortgage product.

As a remedy, Mansfield proposes that mortgage brokers and originators be required to make readily available basic pricing and product information, including a rate sheet. The rate sheet is information provided to the mortgage broker or employees writing loans for a lender or wholesale funder of loans.

Mansfield next observes that while rate sheet information is common knowledge among real estate professionals, mortgage brokers have strong incentives to conceal this information from the borrower because brokers generally can garner a higher fee for "selling a borrower" a loan at a rate that exceeds this minimum. Mansfield notes also that while current regulations require brokers to disclose the rates associated with the loan being offered to the borrower, there is no requirement to disclose the brokers' knowledge concerning the "best rate" available for a loan of that type made to a borrower of given credit or risk characteristics. By requiring brokers to disclose what they know to be the "best available" mortgage terms in the marketplace (as presented in the rate sheets), Mansfield contends that consumers would be better equipped to protect themselves from abuse and police the market by driving bad actors out of business.

The Joint Center for Housing Studies (2004) extends this concept by calling for creation of a national system similar to automobile "blue books" or consumer reports that have successfully guided those shopping for automobiles and other consumer durables. Rather than rely on the mortgage industry to provide pricing information, the Joint Center argues that government regulators or other suitable non-profit organizations should create and periodically update a "home mortgage pricing guide" that includes available information on the best loan prices and terms available for a borrower of any given credit profile, income, and ability to make a downpayment. The Joint Center argues that mortgage pricing information is in effect a "public good," and there is a governmental role in providing the pricing information needed to support the efficient operation of the mortgage market. Federal regulators operating under applicable Fair Lending and Fair Trade authorities also must expand their efforts to ensure that consumers obtain the pricing information needed to make informed choices. Of course, one challenge to implementing such a blue book is the fact that interest rates change constantly so that the "blue book" would also have to be constantly updated.

As noted earlier, industry experts suggest that even increased price transparency may be insufficient to insure that individuals are effective shoppers. Guttentag (2001) calls for the creation of a system of borrower brokers in which for-profit mortgage brokers agree to a fixed up-front fee that would compensate them for using their expertise to shop for the best mortgage. For a fee, consumers could secure the services of a market professional who would be contractually and legally accountable for finding them information about the best terms available in the marketplace. Moreover, these brokers would be contractually bound to work in the "best interests" of the borrower, and hence the borrower would have legal remedies should this broker fail to make a good faith effort to perform as expected. Of course, many borrowers may not be aware of whether or not they obtained the best deal possible, but should questions later arise about the mortgage the buyer would have some legal remedy, which is not generally the case at present.

4.3 Changing Industry Structure and the Operations of Regulated Banking Entities

The provision of residential mortgages, consumer loans, and basic banking services requires extensive marketing, customer support, account management and servicing operations. Large-scale operations are able to spread the high fixed costs associated with these tasks across a larger customer base. In addition to these classic "scale economies," larger organizations benefit from "scope economies" that enable them to use data and information gathered from a large customer base to develop and cross-sell specialized and potentially more profitable products. However, policy analysts

and advocates express concern that these trends could limit the access to mortgage capital and other banking services in lower-income and/or minority communities, since many successful community banking and residential lending programs have benefited from a detailed knowledge of local market conditions and flexible decision making commonly associated with smaller, locally based institutions.

Over the past decade, a substantial literature has emerged that assesses the impacts – both positive and negative – of bank consolidation on the well-being of lower-income and/or minority communities. As a result, this section first explores the impact of banking industry consolidation on the spatial distribution of retail banking operations. It then looks at how these factors are also influencing the spatial distribution of mortgage banking operations. The section finally examines how the industry is responding to the competitive pressures that have arisen as a result of the rapid growth of AFSPs in lower-income communities across the country.

4.3.1. Factors Affecting the Spatial Distribution of Banking Operations

Caskey (1994) documented changes in the presence or absence of banking offices in specific neighborhoods and found that in four of the five metropolitan areas examined, the share of census tracts with a majority of African-Americans residents that contained no bank branches was more than twice as high as the share of non-minority census tracts with no banking offices.

Avery et al. (1997b) extend this analysis of location of banking offices using a specially constructed database that combines information on banking office locations, mergers and consolidations, failures of commercial banks and savings associations for the period 1975 to 1995, as well as 1970, 1980 and 1990 census data on economic and demographic characteristics of individual neighborhoods. The study found that while the number of banking institutions declined by 35 percent from 1975 in 1995, the number of banking offices actually increased by 29 percent over the same period. According to the authors, these trends were the result of both regulatory factors and economic factors. Economic forces include risk diversification considerations, changing technology that generated significant scale economies for larger banking organizations, as well as new methods of providing banking services including the rise of ATMs. Regulatory factors examined included the deregulation of interest rates and deregulation of intrastate and interstate banking, as well as the focus of the Community Reinvestment Act on expanding access to mortgage lending and banking services in low- and moderate-income areas.

The paper does note that low-income areas did experience a 21 percent decline in banking offices over the period, but in part this reflected the decline in population in these areas. In assessing the decline in banking offices in low-income central city areas that occurred over the period, the paper noted that declines were largely focused in areas best characterized as commercial districts, or areas with little residential population. In contrast, low-income central-city residential areas had relatively few banking offices per capita at the beginning of the period, although this number remained stable over the period. The authors note that these shifts are consistent with broad trends in the movement of population and economic activity to the suburbs, and hence did not support the observation that mergers in general have more strongly impacted the number of bank branches in low-income areas than in other areas.

Even so, there is some evidence that trends in bank consolidation (or mergers involving institutions operating branches in the same ZIP code) have been associated with a relatively larger decline in the number of offices per 10,000 residents in low- and moderate-income areas. The authors note, however, that these same areas had relatively larger per capita share of banking offices at the beginning of the period, and suggest that the decline in the number branches in this instance simply reflected an effort on the part of merging institutions to reduce the redundant banking capacity that drove the consolidation in the first place.

The consolidation of banking operations and the decline of smaller community banks is also playing out in rural and small town America. Based on a series of case studies conducted in rural Colorado, the Joint Center for Housing Studies (2002) noted that in recent years, several large national and regional banking organizations are developing strategies to penetrate rural markets. Some banks are using advanced telecommunication and data processing technology to open branches in less heavily populated portions of the state. Others are building a specialized expertise in agricultural lending, while others still are focusing on the state's booming resort and retirement communities.

Analysis completed by the USDA, Economic Research Service provides further evidence on the transformation of the structure of the banking industry in small town and rural America.[44] For example, the 1994-2000 period saw the decline of smaller (assets of less than $250 million) local banks in rural areas. Only 3 percent of all rural counties are now served exclusively by local banking organizations – down from 9 percent in 1994. Equally dramatic has been the decline (from 32 percent in 1994 to 17 percent in 2000) in the share of counties served by only small banking firms. In contrast, the share of counties served by only non-local banking firms is growing (from 32 percent to 50 percent) while the share of counties served by at least one large banking firm (assets greater than $1 billion) rose from 58 percent in 1994 to 69 percent in 2000.

While Avery et al. (1997b) and the Joint Center for Housing Studies (2002) focus on technology, scale economies and other economic factors, Berger and DeYoung (2001) present a different approach to the determinants of bank location and industry consolidation. The authors note that geographic expansion may allow efficiently managed organizations to "export" their superior managerial skills and policies and procedures to distant affiliates. Alternatively, operating in many regions may *reduce* efficiency as senior managers move to areas where they have less core competence, or as organizational diseconomies arise, including the problems associated with monitoring the behavior of junior mangers in a distant locale.

Berger and DeYoung investigate these questions using estimates of cost and profit efficiency for over 7,000 commercial bank holding companies (BHCs) between 1993 and 1998, where BHCs are entities that own affiliates and/or otherwise operate in more than one geographic region. These data are used to compare the efficiency of banks located in the same geographic region as their parent organization to the efficiency of banks located in regions contiguous to their parents and to banks located in non-contiguous regions. In addition to simple bivariate analysis, the paper presents a multivariate analysis of the efficiency of the affiliate bank as a function of the efficiency of the lead bank as well as the

[44] United States Department of Agriculture, Economic Research Service, 2001. Unpublished tabulations of June 30, 2000 Summary of Deposits file of the FDIC and 2000 Report of Condition and Report of Income of the Board of Governors of the Federal Reserve System.

distance between the two banks and other variables. By interacting the variable relating to the efficiency of the lead bank with distance between banks, the authors present an estimate of how the positive influence of the lead bank can diminish with distance. Finally, the paper examines factors relating to the overall efficiency of BHCs with 10 or more affiliates in an effort to determine whether any particular geographic strategy – such as statewide, regional, or national banking organizations – is more efficient.

The paper confirms the proposition that organizational control tends to diminish as affiliates move farther away from the parent, but that these distance-related efficiency effects tend to be modest. At the same time, the organizational analyses suggested that operating an efficient banking organization might not conform to any one particular geographic strategy. This finding supports the notion that even though the total number of banking organizations may continue to decline, a variety of banking organizational types (for example organizations that operate in a single state, across state lines, across regions, or nationwide) are likely to coexist in the future without any one type of organization having sufficient efficiency to drive the others out of business.

4.3.2. Studies on the Spatial Distribution of Banking and Mortgage Lending Operations

Recognizing that banks offer a bundle of services to both consumers and business, it stands to reason that changes in the spatial distribution of banking offices will differ from one product line to another. As a result, it is difficult to isolate the effect of consolidation of banking organizations and changing spatial distribution of branches on low-income and/or minority access to home mortgage capital. Avery et al. (1999a) reported that the number of home purchase loans made by banking organizations involved in consolidation consistently declined over the 1975 to 1995 study period in counties in which acquired banking organizations operated banking offices. Since overall lending by consolidating organizations did not decline over the period, Avery et al. interpret this decline in lending as reflecting a trend toward geographic diversification by the merged entity. At the same time, in order to be approved for merger under existing banking regulations, participating entities must demonstrate that they are in full compliance with CRA lending requirements, and so often make commitments to expand lending to lower-income people and communities in the future. As a result, it appears that even as consolidating organizations are working to geographically diversify aggregate lending, at the same time their CRA related obligations and commitments prompts them to increase the *proportion* of total loans made to lower-income and minority borrowers faster than did organizations not involved in consolidations.

Increasingly home mortgage origination systems are operated via telephone, fax and now the Internet, so that the link between the location of the borrower and the location of the lender may be less important than even a decade ago. As a result, many banks have abandoned operating some or all of their residential mortgage operations out of “sticks and bricks” branches, but instead have created or acquired large mortgage banking subsidiaries that utilize technology to operate from centralized locations that serve entire metropolitan areas or larger regions. These trends have also supported the growth of mortgage brokers, who, working on a fee-for-service basis, handle the front-end of mortgage application process, a process that still requires a presence in local market area, and some face-to-face-communication with the loan applicant (Joint Center for Housing Studies, 2002)

In the face of technological change and the growth of large mortgage banking operations, many smaller, locally based banks have abandoned home mortgage lending entirely, attempting instead to develop market niches in business lines where their local presence and knowledge of local markets gives them a competitive advantage. For example, by capitalizing on their local market knowledge and by working to cultivate relations with small business and property owners, smaller banks and locally based institutions continue to hold onto a significant share of the market in small multifamily lending. Smaller banking institutions also continue to be relatively more active in small business lending than larger institutions (Immergluck and Smith, 2001). But while the relatively high cost of underwriting mortgages on small multi-family properties has to some extent kept larger institutions out of this niche, but improving data quality and availability on project characteristics and loan performance may enable larger institutions to enter these markets as well (Herbert, 2000).

One of the issues that may be related to the absence of regulated financial institutions in low-income and minority areas is the fact that retail bankers are drawn to markets offering opportunities for cross-selling other profitable services. Scheessele (2002), for example, cites the argument that prime lenders generally rely on servicing fees and cross selling opportunities for profits, while loan origination may actually produce financial losses. In commenting on proposed changes to CRA, the Woodstock Institute (2002) has noted that there is no systematic evidence that banks lose money on lending in low-income communities. But even if lending is profitable, the lower wealth in low-income and many minority communities will provide lenders with fewer cross-selling opportunities and so less incentive to pursue opportunities in these markets. A related issue is that lenders may be more willing to make loans to borrowers with whom they have an established relationship. These established relationships provide lenders with information about the credit quality of borrowers that may be more reliable than other measures (Avery et al., 1997b). Since high-income individuals are more likely to have such established relationships, lenders may face informational barriers to entering markets where they do not already have a customer base.

Whatever the impact of the changing spatial distribution of banking offices, the Joint Center (2004) documents dramatic increases in the number of lenders active in lower income and minority neighborhoods. For example, in 1993, in predominantly minority, lower-income census tracts, there were 15.7 home purchase loans made on average. These loans were made by an average number of 8.4 lenders, including an average of 2.4 of the nation's top 25 lenders. By 2001 these figures had jumped to 30.3 loans, made by an average of 15.1 lenders, including 5.9 of the nation's top 25 lenders. Moreover, the number of loans made to predominantly minority, lower-income census tracts almost doubled from 1993 to 2001, as did the number of total lenders and top 25 lenders active in these areas. By 2001, the top 25 lenders accounted for close to half of all loans made in predominantly minority, lower-income areas – a figure that reflects the growing share of activity of these mortgage giants in neighborhoods across the country.

4.3.3. The Response of Mainstream Banks to Competition from Alternative Financial Services Providers

Caskey (2002) examines the potential for both the private and public sectors to help fashion innovative products for lower-income households that better suit the tastes, preferences, and the ability to pay. For example, Caskey presents a strategy that banks could use to help "unbanked" households join the financial services mainstream, by encouraging participating banks to open special

branch offices, called "outlets" that are conveniently located in supermarkets or other areas convenient for low-income customers. In addition, Caskey advocates that banks create a bundle of financial services including check cashing, low-cost money orders, and deposit accounts designed to help people accumulate savings and other products specially designed to meet the needs of the currently "unbanked." Caskey argues that such an effort would not only enhance the bank's reputation in the community, it would also enable banks to better compete for the billions of dollars of business now directed toward fringe banking operations.

In a similar vein, Richter and Tan (2002) examine alternative business models that depositories could use to reach out to currently "unbanked" individuals to establish deposit accounts and begin to accumulate assets. In examining the growth of the "unbanked," the study noted that AFSPs have amassed a good record in meeting what the authors term "first order needs" and "immediate financial needs." First order needs include removing barriers that limit access by low-income and minority individuals to banking services. The key here is the ability of AFSPs to offer flexible identification procedures, which make transacting business more comfortable for many low-income customers, especially those that lack legal documentation or may have other reasons for keeping their identity private. Also this study notes that in general, the fees charged by alternative financial services providers are more straightforward than what they term "unpredictable bank fees" including charges for bounced checks or failing to maintain a minimum balance. Finally, AFSPs generally offer more convenient hours and more culturally sensitive service, attributes that help them capture the business of many low-income borrowers who feel uncomfortable taking their business to a mainstream financial institution.

Having reduced the barriers that enhance the "ease of use" of there institutions, the authors further note that AFSP offer a mix of services that are well designed to meet the immediate financial needs of low-income customers. For example check cashers provide customers with instant access to their funds. In addition, over time check cashers have been able to bundle ancillary products – including bill payment, money orders, wire transfers, currency exchange and other services – well designed to meet a wide range of the day-to-day financial services needs of their clients. Finally, some check cashers and single purpose payday lenders offer low-income customers short-term, small-dollar loans to fund immediate needs. Recognizing that the fees for these services are high, the study nevertheless concluded that the "choice to go to a fringe provider is generally a rational one."

To help mainstream institutions better meet the financial services needs of lower-income families and tap into what appears to be a profitable business opportunity, Richter and Tan examine eight separate public and private initiative designed to help not only meet the banking needs of low-income families, but also help these families build assets and achieve financial independence. These initiatives are grouped into three broad approaches or business models: 1) Access Accounts or first-time bank accounts that seek to help unbanked establish mainstream financial relationships by dealing with the problems of inadequate income and poor account management issues; 2) Check Cashing Depository Accounts that seek to transition unbanked households to depository and low-cost credit services by using check cashing products as an access point for engaging low-income customers: and 3) Alternative Emergency Credit programs that seek to break the cycle that grips many low-income customers by offering low-cost, short-term loans.

Richter and Tan then present a detailed assessment of these initiatives and rate each model in terms of its ability to address "first order needs," "immediate financial needs," and eventually "long-term financial needs." Recognizing that none of the models reviewed meets all of these needs, the authors note that a comprehensive effort to help the unbanked get on an "asset building track" could combine the key features of the different programs into a suite of products that allow customers to meet their immediate needs while setting the conditions in place to better meet long-term needs. One natural sequence would be for customers to transition from being transactors to savers to borrowers to owners. But not all low-income people can follow that pathway, especially those that first and foremost must address their need for emergency credit. In these instances, the depository can offer transaction products that reduce immediate costs and savings products that begin the process of asset accumulation.

Given the limited experience of depository institutions with crafting alternative financial products, the authors concede much more needs to be done. While Richter and Tan suggest that by altering product mix, depositories can increase market penetration, revenue, and therefore profitability, additional research is needed to develop and test models that reduce and/or share the fixed costs of providing service—cost savings they suggest that can be achieved by various partnering arrangements between depository institutions, AFSP and non-profit community financial institutions.

Weisbourd (2002) offers another comprehensive assessment of the impact of technology on the ability of mainstream banks to offer a wider range of products targeted to lower-income consumers. The report notes that technological change is transforming the mainstream market, making it easier for customers to access all financial services and enabling the industry to create and distribute more customized products. Now that AFSPs have demonstrated the existence of a market for financial services among lower-income borrowers, mainstream banks and other traditional financial services providers are entering this emerging lower-income financial services market. New technology lowers the costs of providing basic services to smaller accounts. For example, the growing use of 'smart ATMs' enables mainstream banks to expand their product offerings to include a wider range of check cashing, bill paying, and payroll services – activities that are central to the attractiveness of AFSPs to lower-income customers.

Even so, Weissbourd argues that progress in this area has been slow and that there exists an "enormous pent up demand for financial services" in lower-income communities. He identifies what he believes to be a series of barriers that hinder the movement of traditional financial services providers into lower-income communities. In particular, Weissbourd argues that lack of information gathering and sharing limits the capacity of traditional institutions from effectively developing customize products to serve lower-income communities.

In a final section, Weissbourd identifies a series of policy interventions or strategies that he argues will expand access to financial services for lower-income consumers. Such strategies include: 1) developing new points of access to financial services (for example, the workplace); 2) promoting new products (for example "smart credit cards" or "smarter ATMs"); 3) developing better information on different segments of the lower-income market (for example establishing a mechanism to feed information from check cashers and other outlets serving lower-income people to consumer credit rating bureaus); and 4) publicizing and replicating promising business models (for example foundation funded research evaluating existing efforts to penetrate the low-income market).

Finally, there is a growing literature evaluating the effectiveness of new product innovations. For example, Frumpkin and Widdes (2003) track the recent rapid rise in the availability of payroll cards in the marketplace and assess whether payroll cards can serve the major needs of unbanked individuals, or those who do not have a deposit or checking account. Typically, the payroll card is offered by an employer to employees in place of a paper check or direct deposit to distribute wages. Wages are deposited into the special payroll account created to use the card to withdraw the cash at an ATM or purchase goods and services. The authors note that the recent entrance of VISA and MasterCard into the market place should dramatically expand the attractiveness of the payroll card approach. In one product, previously unbanked employees have the capacity to meet their check cashing and bill paying needs without being forced to manage a checking account, while at the same time obtaining the benefits of direct deposit and a nationally branded debit card. In addition, the product enables banks to provide better service to their commercial customers by providing them with the ability to lower the costs associated with payroll distribution while at the same time offering a new benefit to their employees.

Even while stressing the tremendous potential of this product to address some of the financial service needs of the unbanked, the authors note that the widespread acceptance of this product in the marketplace is not assured. Citing data prepared by Celent Communication, the authors caution that less than 10 percent of the market potential for payroll cards has been realized. Expanding this share may prove a challenge. For example many unbanked consumers have already become comfortable using check cashers to take care of many financial transactions including paying bills and purchasing money orders and may therefore be resistant to participating in a payroll card program. The authors note further that some segments of the unbanked population may prove particularly difficult to convert to payroll cards, especially segments of the Hispanic population that already tend to be uncomfortable with conducting their banking business via an ATM

Banks may also be reluctant to embrace the product. While banks are eager to provide services that benefit large employers, they will do so only if the new service is profitable. This in turn hinges on the cost of providing the service, as well as the extent to which they view the unbanked as a potential market for cross-selling other bank products. Product ideas include short-term advances – the payroll card equivalent of a payday loan – as well as well as the potential of providing auto loans, or otherwise meeting the financial services needs of currently unbanked population.

In concluding, the authors note that many banks are only now in the early stages of their evaluation of the potential profitability of the payroll card product. Despite all the potential benefits for the unbanked, few banks have in place any clear plans to convert payroll-card holders into traditional bank account holders. As a result, while the payroll card market is likely to continue to grow, whether this product will help currently employed but unbanked consumers enter the financial mainstream and start the process of savings and wealth accumulation remains to be seen.

Section 5: Conclusion

This report reviews the growing literature on the rise of various new residential mortgage, consumer loan and financial service products being provided by nonbank organizations. Of course, banks – defined here as federally insured, deposit-taking institutions – never had a total monopoly on the provision of these services. What is different today is that once smaller and often less formally organized segments of the industry have grown to be fierce competitors for even the best capitalized and most effectively managed depositories. These trends have generated the rapid rise in new nonbank firms and organizations specializing in diverse activities such as bill paying, check cashing, payday advance lending and subprime mortgage lending.

While each of these products is distinct in many ways, there are important similarities. To begin with, while there are important differences across the spectrum from unbanked households to homeowners obtaining subprime mortgages, for the most part the customers for alternative financial products are largely low-income, low-wealth and credit impaired. In addition, the provision of these services largely falls largely outside of the federal regulatory umbrella that covers the activities of deposit-taking institutions – the "so-called" mainstream banks. Instead, regulation in this arena is left to what at best can be called a "patchwork" of state and local oversight. This in turn gives rise to concerns about the adequacy of regulation – particularly as it relates to consumer protection and equality of access – in this arena.

Nonbanks have long been active in lending and the provision of cash management services. Depending on the specific product type, these trends are either well advanced or in the early stages of development. Twenty-five years ago locally based banks were the dominant source of mortgage lending, and most mortgage loans were funded by bank deposits. There were, of course, alternative sources of mortgage capital, but they were largely the domain of direct loans made by wealthy individuals and business, or the occasional mortgage banking operation. The Community Reinvestment Act of 1977 stimulated mortgage lending in lower-income and minority communities, but didn't address issues relating to mortgage bankers or other nonbank lenders. Nor did it anticipate the rise of securitization of mortgage loans that gave rise to new sources of capital and helped spawn the subprime mortgage lending. Instead, and very sensibly, CRA set lending requirements aimed at the then heart of mortgage lending activity – banks, thrifts, and other depository institutions.

Today, much attention is given to the "unbanked," yet a century ago not having a formal relationship with a bank was the norm. As a result, the whole range of activities now lumped together under the label "Alternative Financial Service Providers" has also long been with us. In the past more people lived on a "cash and carry" basis than today. As businesses turned to the use of checks as a means of payment, many workers would cash these checks at the grocery or corner store. If a family or individual ran short on cash, they could always get what today is called a payday advance loan at the proverbial "company store." And they could obtain mortgages – typically high down payment, short term secured loans – from those banks that did exist, or from those wealthy individuals willing to engage in these transactions

Despite the rich and varied history of the markets for mortgages, consumer loans, and financial services, little is known about the factors that have given rise in recent years to products as diverse as

subprime mortgage loans, payday advances, refund anticipate loans, and pawn brokering, check cashing, and bill paying services. These products appear to be a market response to the financial services needs of largely low-income, low-wealth, and credit impaired consumers. Yet rather than probing the demand side characteristics of the market, until recently much of the literature has taken a decidedly supply side orientation. Indeed, much of the research focus has been on banks and their ability to provide mortgage loans or short term advances to low-wealth and credit impaired borrowers. The research has also focused on why people are "unbanked" and why banks are unable to provide basic banking services that meet the needs of low-income, low-wealth consumers, or even some higher income customer who simply want more convenience than many banks had grown accustomed to providing.

Even the language commonly used to describe this set of activities supports the notion that the focus to date – at least implicitly – has been on the supply side of equation. Consider for example the widely utilized acronym AFSP or "Alternative Financial Services Providers." The acronym could just as well have been ASFC for "Alternative Financial Services Consumers." Indeed, to place the greater emphasis on supply and demand dynamics, it would make sense to drop the word "alternative" all together and simply refer to the class of services being bought and sold in the marketplace simply as financial services.

Similarly, subprime loans were initially defined by who supplied the capital to fund them. In particular, subprime loans were loans that did not meet the credit standards needed for them to be sold to Fannie Mae and Freddie Mac or insured by FHA. In addition to not describing what these loans are – namely loans fashioned mainly to meet the needs of credit impaired borrowers – the term subprime today does not even accurately define the involvement of FHA, Freddie Mac and Fannie Mae in this segment of the higher-risk mortgage market.

While limiting in many ways, the focus on banks and federally chartered mortgage banking operations is nevertheless understandable. Fair and equal access to mortgages, consumer loans, and cash management services is vital to the well being of families and individuals, and banks historically have been the most important providers of these services. The fact that federal regulations also focused on banks was equally understandable, given the increased societal concerns about eliminating discriminatory practices in the banking industry and the fact that the modern banking industry was largely the creature of federally chartered institutions and federally backed deposit insurance.

The supply side focus is also evident in another important strand of the literature – namely efforts to examine the changes in the spatial distribution of banking offices and the impact of these changes on the ability of low-income and/or minority families to access basic banking and mortgage lending services. Again, this is focus is understandable given the concern over the withdrawal of many federally regulated banks from inner city neighborhoods in the 1960s and 1970s. Yet, despite the fact that among others things mortgage lending has been largely decoupled from the physical location of deposit-taking operations and that an increasing shares of retail banking business takes place through ATMs, electronic deposits, and other methods not linked to the location of bank branches, the focus on the physical location of banks continues to be an important focus of research on access to home mortgages and banking services – and especially research concerning federal regulation of the banking industry.

Unfortunately the focus on the supply side issues – particularly the focus on banks and bank locations – has fostered a somewhat limited body of research on the supply and demand characteristics of the market for various loans and financial services. Only recently has there been serious research on the reasons that many customers turn to nonbanks to meet their need for financial services. As with any market, the inability or unwillingness of some suppliers to serve a particular market is obviously a part of this decision making process. But surprisingly little is known about how low-income, low-wealth families make choices – and indeed manage to survive – in today's increasingly complex capital markets.

The literature that does exist suggests that for many low-wealth and low-income customers having a deposit or checking account or otherwise being "banked" may not be essential or at least worth the cost. Similarly, while obtaining short-term cash advances from a payday lender or pawnbroker may be expensive, these activities may also represent the best choice available given the limited financial strength and weak or non-existent credit history of many individuals. Finally, while the rise of risk-based pricing has helped millions gain access to mortgage credit, it may be understandable that some credit impaired homeowners turn to high-priced subprime lenders to secure funds to repay other consumer debt – even if this transaction brings them just one step closer to a possible foreclosure and resulting financial ruin.

The focus on the location of banks and nonbank service providers may also yield misleading results unless set in a broader framework that considers both supply and demand factors. For one thing, the location of retail firms may largely be dictated by transportation networks and zoning regulations, which may explain why research into the location of AFSPs and banks have found that they are often located in the same neighborhoods. Additionally, the tendency for subprime lenders and various nonbank providers of financial services to focus heavily on low-income and low-wealth communities undoubtedly reflects the locational decisions of these entities. But it also reflects the fact that because of larger housing market dynamics, low-wealth, low-income and credit impaired families and individuals tend to be concentrated in certain neighborhoods.

Basic economics suggests that understanding the supply and the demand sides of a market is essential to understand likely trends in an industry. But admittedly this is no easy task – especially as it relates to understanding consumer behavior in spatially influenced markets. Arguing that in general economists have tended to take a relatively simplistic view of consumer choice, the emerging field of "behavioral economics" is taking a fresh look at what is known and not known about consumer decision-making. This has led to important new insights about how individuals evaluate the price and the quality of the goods and services that they consume, how they search for goods and services over spatially influenced markets, and how they make choices in the market place – especially as they relate to complex transactions involving multiple fees or choices that that involve multi-year payments plans.

The behavioral economics literature is growing, but more must be done to better understand why some consumers all too frequently make what appear to others to be "irrational choices." Of course, many of these seemingly "irrational choices" may be the product of simple fraud and abuse, but available behavioral economics literature suggests that the reality is more complex than that. Sorting out how low-wealth, low-income consumers, as well as consumers with poor and or no credit histories, go about making choices between "mainstream" and "alternative" mortgage and financial

services is perhaps the biggest challenge facing those policy analysts, government officials and regulators operating in the rapidly evolving mortgage and financial services marketplace.

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Part II

Empirical Analysis of the Dallas Metropolitan Area

Section 1: Introduction

The last two decades have been marked by significant growth in both the volume and variety of consumer financial services. These changes have resulted from a variety of factors, including innovations in financial markets, bank deregulation, increased capacity and lower cost of computers for storing and analyzing data, and changes in consumer demand for credit. One of the changes in financial services that has been evident is the growth of subprime mortgage lending. According to HMDA data, between 1993 and 2001 the volume of mortgages originated by subprime lenders grew ten-fold, from about 100,000 mortgages to more than a million (ACORN, 2002). Further evidence of the rapid growth in subprime lending is evident in data from *Inside Mortgage Finance*, which indicates that the value of subprime mortgage originations increased from $35 billion in 1994 to $213 billion in 2002.

A notable characteristic of subprime lending is that it has grown most rapidly in minority and, to a lesser extent, low-income neighborhoods. While the advent of more flexible underwriting standards provides opportunities for more households to access mortgage credit, there have been concerns that some subprime lenders have used predatory practices to impose excessive fees and interest rates. In extreme cases, these predatory practices may lead to loss of the home through foreclosure. Even in less extreme cases, borrowers can pay much more in interest rates and fees than is warranted by the degree of credit risk they represent. Finally, whether predatory or not, to the extent that subprime loans exhibit higher foreclosure rates, this type of lending can impose costs and destabilize the minority and lower-income communities where subprime lending tends to concentrate.

Another significant change in consumer finance that has been evident over the last several years has been rapid growth in alternative financial service providers (AFSPs), such as check cashers, payday lenders, pawnshops, and other businesses that make short-term consumer loans. As with subprime lending, growth in this industry has been accompanied by concerns that these businesses may be charging usurious fees for their services and are disproportionately targeting low-income and minority households.

A common thread between the growth of subprime mortgage lending and growth in alternative financial service providers is that these businesses are filling roles normally associated with banks. One explanation that has been offered for the growth in these types of lending is that regulated banks have left low-income and minority communities, leaving a void that is being filled by these higher cost lenders (ACORN, 2002; Stegman and Faris, 2003; Manning, 1999). While there does seem to be a greater concentration of AFSPs in low-income and minority neighborhoods, a variety of research has also concluded that the use of non-mainstream financial service providers is not necessarily explained by a greater physical presence of these lenders in low-income and minority neighborhoods (Bachelder and Ditzion, 2000; Lesly and Luxman, 1999; Doyle et al, 1998).

Another commonality between subprime mortgage lending and the services provided by AFSPs is that they cater to the needs of households with blemished credit histories. Recently, the literature examining geographic patterns in subprime lending has begun to incorporate measures of average credit risk at the neighborhood level (Calem, Hershaff and Wachter, 2004); National Community Reinvestment Coalition, 2003). These studies have confirmed the importance of credit risk as an

explanatory factor in the prevalence of subprime lending, although race continues to be statistically significantly associated with subprime lending even after controlling for credit risk.

While there has been a fair amount of research into trends in both subprime mortgage lending and the growth of AFSPs in low-income and minority communities, there have not been any studies that have examined the relationship between the trends in subprime lending, alternative financial service providers, and the location of bank branches. Nor have existing studies used regression analysis to analyze the neighborhood characteristics associated with the location of AFSPs or banks.

The purpose of this study is to explore whether there are similarities or differences in the extent to which neighborhood race and ethnicity, income levels, and credit risk measures explain the distribution across neighborhoods of subprime mortgage lending and the location of both alternative financial service providers and regulated depository institutions.[1] The study will also examine whether the prevalence of subprime lending, AFSPs, and banks in a neighborhood are correlated. It is intended as a preliminary examination of these basic questions. Aside from addressing these questions, other important goals for the study include an investigation of the availability and usefulness of different sources of data needed to address these issues and an exploration of analytic approaches needed to support the type of spatial analysis intrinsic to these questions. Given the effort needed to assemble the necessary data, the focus of this study is on a single market area. Many of the questions of interest, however, would best be examined by comparing findings across market areas. Hopefully, this work will lay the groundwork for further studies of this type covering other market areas.

The primary approach used in the study is to estimate regression models predicting either the neighborhood's share of mortgage originations made by subprime lenders or the number of AFSPs or banks in the neighborhood. In addition to measures of income, racial-ethnic composition and credit risk, these models also include other neighborhood characteristics thought to be related to the demand for these services. Each of the models also includes measures of the prevalence of other financial services—that is, subprime lending, AFSPs, and banks–in these areas to examine whether there are interrelationships in the supply of these services. In order to control for the tendency of retail activity to agglomerate in specific neighborhoods due to such factors as transportation networks and land use regulation, we also include information on the location of other retail establishments for which consumer demand may not be as strongly correlated with race-ethnicity and income—specifically, drugstores and supermarkets. The results of these models are compared to identify similarities and differences in the factors explaining the geographic patterns for each of these types of activities.

This study also explores various descriptive measures of the neighborhood characteristics where financial service establishments are found. One of the challenges in evaluating whether these establishments tend to be concentrated in neighborhoods of specific income and racial-ethnic profiles is that establishments may locate in areas with high concentrations of commercial retail activity but may serve a broader set of neighborhoods that surround these commercial centers. We explore the use of different statistical measures to capture the proximity of households by race-ethnicity and income to different types of establishments.

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[1] Following the usual custom in research of this type, census tracts are used in this study as the definition of neighborhoods. The terms tract and neighborhood will thus be used interchangeably.

1.1 Outline of the Report

The next section of the report provides details on the criteria used to select Dallas as the market for study and discusses the sources of data used. Section 3 then presents an overview of the issues that are of concern for this study – the growth of subprime lending and AFSPs and the view that the limited availability of banks in low-income and minority areas may have contributed to the growth of these other sources of credit. This section draws upon the more detailed literature review that is presented in Part I of this report.[2] Section 4 provides information on the extent to which national-level trends in the use of subprime lenders, the growth of AFSPs, and trends in bank branch location discussed in Section 3 have been evident in Texas. Section 5 then presents a descriptive analysis of the geographic patterns of subprime market shares and the location of AFSPs, and banks. The results of the regression analysis evaluating the relative importance of neighborhood income, racial-ethnic composition, and credit profile in explaining geographic patterns in the use of subprime lending and the prevalence of AFSPs and banks is presented in Section 6. Section 7 provides the study's conclusions and discusses implications of these findings for further research.

[2] "A Review and Synthesis of the Literature on Subprime Lending and Alternative Financial Service Providers, " William C. Apgar, Jr. and Christopher E. Herbert, U.S. Department of Housing and Urban Development, Office of Policy Development and Research, forthcoming.

Section 2: Site Selection and Data Sources

2.1. Site Selection

Given that one purpose of this study was to explore the process for assembling data related to the location of alternative financial service providers, banks, and neighborhood credit risk measures, a single metropolitan area was selected as the focus of study. The market selected was the Dallas, TX primary metropolitan statistical area.[3] There were several criteria used to select this market:

- ***The market area had a large number of black homeowners***: Given the strong association that has consistently been identified between the use of subprime lenders and both individual black borrowers and the share of blacks in the neighborhood, we wanted to ensure that the selected market had a sufficiently large number of black homeowners. Thus, market selection began by focusing on the 21 metropolitan areas with at least 50,000 black homeowners.

- ***The market had a significant Hispanic population as well***: Previous studies of subprime lending have found that there are significant differences in the prevalence of subprime lending between black and Hispanic neighborhoods. While there is a consistent relationship between neighborhood share black, there is less consistency with the share Hispanic. Also, since Hispanics are more likely to be unbanked than other minorities, these households may have higher demand for AFSPs. Dallas was one of eight market areas where Hispanics comprised more than 10 percent of households.

- ***State laws were not overly restrictive regarding payday lending***: A number of states place restrictive limits on the interest rates that can be charged on small loans, effectively outlawing payday loans. Payday lenders may still operate in these states through arrangements with state-chartered, FDIC-insured banks that can import interest rate limits from the states where they are based. Nonetheless, the AFSP industry may not be as active as in states with laws enabling payday lending. Texas does allow payday lending under state law, although the maximum interest rates are at the low end of the spectrum of states with enabling legislation.

- ***Data was available from private vendors on residential foreclosures***: One of the measures of credit risk for mortgagees that this study was designed to evaluate is the rate of residential mortgage foreclosure. Unfortunately, there is no consistent source for these data. For the most part, studies that have examined patterns of residential foreclosures have relied on data collected by private firms for the purpose of selling this information to parties interested in identifying opportunities to either purchase foreclosed properties or to market refinance loans to borrowers in trouble. Such data was known to be

[3] This definition of the Dallas metropolitan areas includes the counties of Collin, Dallas, Denton, Ellis, Henderson, Hunt, Kaufman, and Rockwall.

available in six markets, including the three central counties of the Dallas metropolitan area.

- ***Data was available from State agencies on regulated AFSPs***: Another issue considered was whether state regulators gathered information on the location of AFSPs. One goal of the study was to compare the completeness of various data sources for establishment locations. The availability of state regulator data was needed as a check on the completeness of other data sources. All but one of the market areas had information available for at least one category of check casher, payday lender, or pawnshop, while only six had information available on all three types. None of these six had a known source of foreclosure data. Dallas had information available on two types of AFSP as Texas maintains data on the location of both pawnshops and payday lenders, while check cashers are not regulated. While not ideal, the lack of data on check cashers was viewed as not a significant concern given the strong overlap between payday lenders and check cashers.

In the end, the most important factors in selecting Dallas as the area for study were the presence of a sizeable black and Hispanic population, coupled with the known availability of residential foreclosure data and the active presence of payday lenders. No other sites combined these characteristics. We feel that an analysis of the Dallas market will provide some insights into the patterns of subprime lending, AFSPs, and banks in other market areas. However, as suggested by the discussion of selection criteria above, there are a number of market characteristics that will affect the patterns observed, including the racial-ethnic composition of the population and the state laws governing the supply of financial services. As a result, any conclusions from this study based on a single metropolitan area must be viewed as preliminary. Several recent studies have examined factors associated with neighborhood patterns of subprime lending across a small number of metropolitan areas (Calem, Hershaff and Wachter, 2004); National Community Reinvestment Coalition, 2003) and found that while there are similarities across markets in the importance of race, income, and credit risk measures, there are also some differences. Similarly, Temkin and Sawyer (2004) examine differences across eight metropolitan areas in the neighborhoods where AFSPs are concentrated and found that there are some differences between these markets. In short, the findings from this study will need to be tested across a broader swath of market areas.

2.2. Data Sources

There are four types of data used in this study:

- Establishment locations;
- Tract credit risk measures;
- Subprime lender market shares; and
- Tract demographic and housing stock characteristics.

One of the goals of this study was to investigate available options for the first two types of data, while the last two types are readily available from public sources. The options considered and the source of data used are discussed in detail below, while specific variables used in the analysis are discussed in detail later in the report.

2.2.1. Geographic Location of Establishments

The two key types of establishments for this study are AFSPs and banks, although we were also interested in the location of supermarkets and drugstores as a point of comparison to the financial service establishments. Private vendors of establishment location data, such as Dun & Bradstreet, Info-USA, Experian and Acxiom, are the most readily available source of these data and have the advantage of covering all types of establishments and virtually all areas of the country. However, there are two concerns with these private data sources. First, it is not known how complete the data are, particularly for small enterprises like pawnshops and check cashers. Second, and more importantly, in these databases, the type of establishment is identified using standard industry classification (SIC) codes, based on a method of categorizing businesses developed by the U.S. government. The government-defined SIC codes do not include enough detail to identify businesses such as check cashers, payday lenders and pawnshops.

But private vendors have developed more disaggregated SIC code categorizations to more precisely identify business activities. But since this level of categorization is not standardized, it leaves open the question of how consistent and accurate these categorizations are. More specifically, SIC codes are standardized to the 4-digit level, while the specialized firms of interest to this study are generally identified at the 6-digit or 8-digit level. For example, pawnbrokers fall within the standard 4-digit category of Used Merchandise Stores (5932), and within that they are generally reported in the 6-digit category of this type of establishment "not elsewhere categorized" (593299). To separate pawnbrokers from other firms in this category, Info-USA identifies pawnbrokers by the SIC code 593229, while D&B and Experian use the 8-digit code of 59329904. Meanwhile, Acxiom does not separately identify pawnbrokers at all. An examination of a range of SIC codes from each of these vendors of establishment data is needed to determine how the relevant AFSPs are categorized.

Because banks and many AFSPs are regulated by state and federal agencies, data is also available on establishment locations from these regulators. The advantages of the regulator data are that it would be expected to be fairly complete and would accurately identify whether the establishments were involved in providing the type of services of interest. However, there are also concerns with using data from regulators. First, there are differences across states in terms of which types of businesses are regulated as well as the extent to which these data are available in electronic format. In Texas, the Office of Consumer Credit Commissioner (OCCC) regulates non-depository institutions that make the following types of consumer loans:

- Payday and signature loans (unsecured loans up to $500);
- Pawnshop transactions;
- Refund anticipation loans;
- Consumer installment loans; and
- Retail credit accounts.

All businesses engaged in these activities must be licensed by OCCC. The OCCC is able to provide information in electronic format for the location of each business licensed to provide these services in Texas (although one question is whether these data provide a complete listing of all branches of these

licensed firms). Importantly, check cashers that do not make loans are not licensed by the state of Texas and so no data is available from state regulators on the location of these businesses.

In terms of depository institutions, a key source of information is a publicly available, electronic database maintained by the FDIC on all branches of all banks for which it provides deposit insurance. This includes all depository institutions with the important exception of state and federally charted credit unions whose deposits are insured by the National Credit Union Administration. Unfortunately, data is not readily available on the branch locations of these types of institutions from the National Credit Union Administration, so there is no source of data from government regulators as a check on the accuracy of data from private vendors.

Since data on establishment locations from private vendors is readily available for all market areas and covers all types of businesses, research on the location of AFSPs and banks would be facilitated if these data were found to provide an accurate count of these different types of firms. One goal of this study was to compare the information available from private vendors with that available from state and federal regulators. To undertake this analysis we obtained data from two private sources, a special time series compilation of Dun & Bradstreet (the NETS database) and InfoUSA, to compare to the data on regulated AFSPs from the Texas OCCC and on federally-insured banks from the FDIC.[4] Appendix A presents the details on the comparison of these data sources. In short, our comparison of these data found that the private data provided a sufficiently comprehensive and complete count of the establishments of interest to be used as the basis for this analysis. Of the private data sources, we found the NETS data to be the preferred source for several reasons. First, because this dataset was constructed to support research on establishments over time, it is carefully cleaned to screen out duplicate firm listings and to identify when establishments cease to exist. Second, Dun & Bradstreets' 8-digit SIC code classification system allowed for more precise identification of the types of businesses of interest. The NETS data also provided better information on the geographic location of establishments to be able to link these businesses to the census tract where they are located. Finally, by providing time series data on establishment counts and locations it is possible to examine changes in the prevalence of AFSPs and banks over time.

As noted, one of the challenges with the private establishment data is identifying which SIC codes correspond to the AFSPs of interest. Based on a comparison of the state regulator data with the NETS data as well as a comparison of business names with names of national firms known to be engaged in these activities, we chose to include the following SIC codes in our definition of AFSPs:

- Check Cashing Outlets are establishments reporting any of the following SIC codes as their primary, secondary or tertiary business:
  - Check cashing agencies (SIC code 60999901);
  - Check clearing services (SIC code 60990100); and
  - Automated clearinghouses (SIC code 60990101).

[4] Wall & Associates developed a special form of the Dun & Bradstreet data that links data on establishment locations from 1990 to the present. This database, the National Establishment Time Series (NETS) Database, provide an opportunity to examine changes in establishment counts and location over time.

- Pawnshops are establishments reporting the following SIC code as their primary, secondary, or tertiary business:
  - Pawnshop (SIC code 59329904).

- Rent-to-own stores were establishments with any of the following as their primary SIC code:
  - Home appliance, furniture, and entertainment rental services (SIC code 73590700);
  - Appliance rental (SIC code 73590701); and
  - Equipment rental and leasing, not elsewhere classified (SIC code 73590000).

Notably absent from the above list are payday lenders. One possible drawback of using data from private vendors for identifying AFSPs is that there is no specific SIC code for these establishments. However, our review of the data found that these businesses are essentially captured by SIC codes corresponding to check cashing services as either primary, secondary, or tertiary activities. While our review of data from the Texas OCCC on regulated payday lenders found that these establishments are, in fact, present in the Dun & Bradstreet data, they are not identified separately from check cashers. But given the strong overlap in these businesses, we would not separate these establishments for analysis in any case.

2.2.2. Neighborhood Credit Risk Measures

One of the goals of this study is to explore the relationship between neighborhood credit risk measures, patterns of subprime lending, the location of AFSPs, and bank locations. Recent research on geographic variations in subprime lending has been able to incorporate data on the distribution of credit scores at the tract level obtained through special arrangements with credit reporting agencies or other firms that had special tabulations of credit score information available. Unfortunately, these data were not available for this study.[5] However, several other approaches to measuring tract credit risk were explored to investigate their general usefulness for studies of this type. These include:

- ***Conventional prime mortgage application denial rates derived from Home Mortgage Disclosure Act (HMDA) data***: Several recent studies have included neighborhood-specific conventional loan denial rates from the current and previous years as a measure of the general credit quality of residents (Calem, Gillen and Wachter, 2004; Apgar, Caulder, and Fauth, 2004) and found them to be significant predictors of subprime market share. The idea is that mortgage rejections indicate the general credit quality of neighborhood residents. Given that HMDA data covers all metropolitan areas in the country, this is a potentially useful measure of credit risk for studies of this type.

- ***Residential foreclosure rates:*** Another potential measure of credit risk for analysis of subprime lenders' market share is the rate of residential foreclosures in a neighborhood. This measure is derived by obtaining foreclosure listings from private vendors, aggregating these listings to the tract level, and dividing by the number of owner-

[5] The source of data used by Calem et al. was a special tabulation of credit scores incorporated by Pci Corporation into a market analysis product designed for banks. However, this product was no longer available by the time this study was undertaken.

occupied units in the tract. For this study, data on residential foreclosures from 1993 through June 2002 for the three largest counties in the Dallas metropolitan area were obtained from the Foreclosure Listing Service, Inc., of Addison, Texas.[6] In these data, foreclosures are measured based on posted legal notices announcing the sale of foreclosed properties at public auction. While these notices are not a definitive measure of actual foreclosures, they provide a strong indication of the degree of serious mortgage delinquency. Given that lenders are concerned with the likelihood of default by borrowers, the recent foreclosure rate in the neighborhood would be expected to be a good proxy for this risk. Calem, Gillen and Wachter also included this measure in their analysis of subprime market shares, and found it to be a statistically significant factor in Philadelphia, although not in Chicago. A challenge with this measure of credit risk is that it is not available in all market areas and is of unknown quality.

- ***FHA Delinquencies and Foreclosures:*** Another source of data on mortgage credit risk that is more readily and widely available than private sources of residential foreclosures is FHA data on delinquency and claims among its loans. The FHA has developed a database that provides tabulations of this information at the tract level so that these measures are readily available.[7] However, while FHA is available in virtually all areas of the country, across the country many neighborhoods will have few—if any—active FHA loans. As a result, these measures of credit risk may not support analysis of all markets or all neighborhoods.

2.2.3. Subprime Lender Market Shares

The study will also use HMDA data to evaluate geographic patterns in subprime lending. Subprime loans will be identified using the methodology introduced by Scheessele where all loans by lenders who are primarily engaged in subprime lending are identified as being subprime.[8] One issue of concern for this study is that while the HMDA data available for use in this study was still reported using census tract boundaries defined for the 1990 decennial census, we will want to use data from the 2000 decennial census to define neighborhood characteristics such as race-ethnicity and income. Since tract boundaries change between censuses, the census tracts used in the 2000 decennial census are not the same as the tracts used in HMDA reporting. Nationally, 51 percent of 1990 tracts did not change boundaries between censuses, while 38 percent were recombined into multiple tracts, 9 percent were broken into separate tracts, and 2 percent were merged into single tracts.

Given that substantial changes can occur at the neighborhood level over the course of a decade, it was deemed to be important to match the HMDA data with data from the 2000 decennial census. In order to match 2000 tract data to the HMDA data the following approach was used. The geographic center of each the 2000-defined tracts was obtained and mapped into the boundaries for 1990 tracts. Each of

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6 See www.dfwforeclosures.com for information on this firm.

7 These tract level data on delinquencies and claims are known as Section 335 data. The Cranston-Gonzalez National Housing Act of 1990 called for FHA to make these data available to the public to analyze FHA-insured lending activity at the neighborhood level.

8 Scheessele, Randall M., 1999. "1998 HMDA Highlights," *Housing Finance Working Paper Series*, HF-009, U.S. Department of Housing and Urban Development, October 1999.

the 2000 tracts was then assigned the HMDA data for the tract that contained this central point for the 2000 tract. If tracts had experienced little or no change, this method successfully matches the HMDA data with the appropriate 2000 decennial census data. For tracts that experienced more significant change, the match results in 2000 decennial census data being linked to HMDA data for the area that is closest to the center of the 2000 tract. While this approach will result is some HMDA data being matched to more than one tract, overall it should accurately link neighborhood characteristics to the level of subprime lending around that neighborhood.

2.2.4. Neighborhood Characteristics

Finally, to evaluate how locational patterns of mortgage lending and AFSPs and banks relate to demographic and housing characteristics, we will incorporate data from the 2000 decennial census. The primary variables of interest will be the neighborhood's racial and ethnic composition and income level, but the decennial census also provides a variety of other variables that are related to the demand for financial services. These include:

- Racial and ethnic composition;
- Median household income in 1999;
- Share of population receiving public assistance;
- Homeownership rate;
- Median age of housing units;
- Share of population that are citizens;
- Share of adult population with some college;
- Median house values;
- Median gross rents; and
- Share of population that moved between 1995 and 1998.

Section 3: Overview of Key Issues

This section provides an overview of the three issues that are at the center of this study: the rise of subprime lending that began during the 1990s, the growth of the alternative financial service provider industry that occurred over roughly the same time period, and trends in the availability of mainstream banking services in low-income communities. In each case, our primary focus is on the extent to which these activities have been concentrated in—or, in the case of banks, absent from—low-income and minority communities. Each of these issues is discussed in turn.

3.1. Subprime Lending

Subprime mortgage lending began to grow rapidly in the early 1990s. According to HMDA data, the number of subprime loans increased 13 fold between 1993 and 2002, from about 100,000 to 1.3 million. Data from Inside Mortgage Finance provides further evidence of the rapid growth in subprime lending, which indicates that the value of subprime mortgage originations increased from $35 billion in 1994 to $213 billion in 2002 (Inside Mortgage Finance, 2003). As described in the literature review, there were a variety of factors that contributed to this growth, including the development of credit scoring methodologies that allowed lenders to better evaluate borrower risk and innovations in capital markets that enhanced lenders' ability to access capital markets to fund loans.

One of the most salient features of the growth of subprime lending is its disproportionate concentration in minority and low-income neighborhoods. The availability of HMDA data and identification by the U.S. Department of Housing and Urban Development (HUD) of subprime lenders reporting under HMDA have greatly facilitated the analysis of trends in subprime lending at the neighborhood level in metropolitan statistical areas (MSAs) throughout the country.[9] Numerous studies have used HMDA data to document the tendency for subprime lending to be more prevalent in minority and low-income neighborhoods. For example, using 2000 HMDA data, Scheessele (2002) reports that while subprime lenders accounted for 16.4 percent of refinance loans in high-income neighborhoods (areas with incomes greater that 120 percent of the area median income), these lenders accounted for 36.3 percent of these loans in low-income areas (areas with incomes less than 80 percent of the area median). The disparity in market share by neighborhood racial composition is even more striking. In 2000 subprime lenders accounted for 14.3 percent of refinance loans in neighborhoods where blacks comprise less than 30 percent of the population, but 47.8 percent in areas where blacks account for more than half of the population—more than three times as high a share.

This pattern is evident in a large number of market areas throughout the country. The importance of race as a factor in the geographic distribution of subprime lending is demonstrated by a comparison of subprime lenders' share of refinance loans in high-income Black neighborhoods compared to low-income areas that are mostly white. Scheessele finds that in 2000, subprime lenders accounted for 42.2 percent of refinance loans in high-income areas where blacks make up more than half of the

[9] Since HMDA data do not include loan terms (such as interest rate or points), there is no way to identify subprime loans from reported data. Through a series of phone interviews and review of industry literature, HUD creates an annual list that identifies those lenders that exclusively or primarily make subprime loans (see Scheessele (1999) for a discussion of the methodology used for creating these lists).

population. In comparison, subprime lenders accounted for only 29.5 percent of refinance loans in low-income areas where blacks were less than 30 percent of the population.

Given the availability of HMDA data at the census tract level, most studies of subprime lending patterns provide information on individual metropolitan statistical areas (MSAs) as well national totals. The most comprehensive reporting of MSA level data is in Bradford (2002), which covers all MSAs in the country, while ACORN (2002) provides information on the 60 largest MSAs. Both of these studies provide data on subprime lenders' share based on the race of the borrower, while Scheessele reports data on subprime lenders' shares by neighborhood income and racial composition for 27 metro areas. These studies have found that while there is a broad range across markets in subprime lenders' market shares both overall and for specific classes of borrowers and neighborhoods, subprime lending has grown significantly in virtually all parts of the country and the concentration of subprime activity in low-income and minority communities is found in the vast majority of markets.

The Joint for Housing Studies (2004) provides further documentation of what they call the "Prime Lending Gap" in minority neighborhoods. In 2001, prime conventional lenders (that is, all loans other than government insured or those made by subprime or manufactured home lenders) accounted for nearly three quarters of all home purchase lending to whites, but less than 50 percent of lending to Hispanics and only 40 percent of lending to African Americans. Noting that there are noticeable income differences, on average, between borrowers of different race and ethnicity, the Joint Center finds that the racial gap in prime home purchase lending persists even after controlling for borrower income. In addition, the share of African Americans and Hispanics refinancing their homes with conventional prime loans also trails the white share in each of the income categories presented. This is despite the fact that refinance lending is generally considered to be less risky than home purchase lending because loan to value ratios tend to be lower and lenders can review the payment history on the current loan to determine whether to extend new financing.

In recent years, many researchers have focused on what they call the "risk or race question" arguing that it is "race" not "risk" that explains the persistent prime lending gap.[10] For example, in a comprehensive review of neighborhood lending patterns in Chicago in the late 1990s, Immergluck and Wiles (1999) observed that conventional prime lenders served higher-income white areas, while FHA and subprime lending was concentrated in lower-income and minority communities. Characterizing this as a "dual mortgage market," they noted that the racial disparities were too great to be explained by differences in the credit quality of the borrowers. Instead, they argued that the observed patterns resulted from the failure of "mainstream lenders" to seek out credit worthy borrowers in lower-income and minority communities.

Of course, it might be expected that subprime lending would be more prevalent in these areas as low-income households are more likely to have higher credit risks and so are more likely to use subprime financing. As suggested in the Treasury-HUD study (2000), to some extent these geographic disparities may reflect geographic variations in credit characteristics of borrowers, differences in the types of loans generally obtained (e.g., small balance loans), and less competition from mainstream

[10] The phrase "risk or race" was suggested by a compressive study of subprime lending patterns prepared for the Center for Community Change. See Bradford, 2002.

lenders. However, while these factors are generally accepted to play a role in explaining the observed pattern, up until a few years ago there had been relatively little research that directly tested these hypotheses due to a lack of readily available information about the credit characteristics of borrowers and the spatial distribution of lenders.

The first study to include a measure of credit risk at the borrower level was Pennington-Cross, Yezer and Nichols (2000). This study benefited from a unique data set on homebuyers that included a variety of risk measures that are not generally available, including credit history and non-housing debt levels. The study also included geographic area characteristics, although most of these are at the metropolitan area and not the neighborhood level. The authors conclude that subprime borrowers do, in fact, have higher risk characteristics than borrowers in the conventional or FHA market segments, indicating that the subprime market is appropriately targeted at high-risk borrowers. Nonetheless, they also find that black and Asian borrowers have higher probabilities of obtaining subprime financing even after controlling for the risk factors of credit score, debt levels, and income. However, one drawback of this study is that it analyzes a relatively small sample of home purchase loans originated in 1996. Since most subprime loans are for refinance and subprime lending volumes were still growing rapidly in 1996, this sample may not be reflective of typical subprime lending characteristics in recent years.

Calem, Gillen and Wachter (2003) was the first study to incorporate tract-level measures of credit risk into a regression analysis of subprime lending at both the tract and borrower levels. The researchers obtained tract-level measures of the share of adults with credit scores in the bottom quintile of the credit score distribution in 1999 for the Chicago and Philadelphia metropolitan areas. Their models estimated tract-level subprime shares of purchase and refinance loans as well as borrower-level models of the use of subprime lenders. In addition to the credit score variable, their models incorporated other measures of credit risk, including the denial rate for conventional loan applications in the tract, the number of residential foreclosures as a share of owner-occupied units, and the capitalization rate for residential properties (proxied by the ratio of median rents to median house values). They found that the measures of tract-level credit risk were statistically significantly associated with subprime lending activity as expected. But, importantly, they also concluded that "even after inclusion of the full set of explanatory variables, in both cities we find a strong geographic concentration of subprime lending in neighborhoods where there is a large population of African American homeowners" (2002: 14). However, their results were inconsistent for Hispanics and Asians. While in most cases there was no statistically significant association between subprime lending shares and the Hispanic and Asian population, in some specifications there was actually a statistically significant negative coefficient, indicating that subprime shares were lower with higher shares Hispanic and Asian.

Several other studies have incorporated tract-level measures of credit risk into models predicting both tract-level subprime market shares and whether loans to specific individuals are subprime. A study by the National Community Reinvestment Coalition (NCRC, 2003) incorporates measures of households with low credit scores for 10 metropolitan areas in modeling the subprime share of both purchase and refinance loans in 2001. The independent variables include tract measures of the racial and ethnic composition, household income levels, credit score measures, residential capitalization rate, and property turnover rate. While the results vary somewhat across the market areas studied, in general they reach the same conclusion as Calem, Gillen and Wacther: that even with the inclusion of

tract credit risk measures, the share of households that are African American is generally positively associated with subprime lending shares. As in Calem, Gillen and Wachter, the share Hispanic is less consistently associated with subprime shares. While the share black is statistically significant in 6 of 10 purchase loan models and 9 of 10 refinance loan models, the Hispanic share is only significant in 1 purchase model and 5 refinance models.

Calem, Hershaff and Wachter (2004) expand on the first Calem et al. study by examining seven additional metropolitan areas using the same measure of tract credit scores in the previous paper, this time including Dallas. This effort differs slightly from the first Calem et al. study by focusing exclusively on modeling the probability that individual loans will be made by subprime lenders. They also use a somewhat shorter list of tract-level credit risk measures in that neither the residential foreclosure rate nor the HMDA conventional loan denial rate are included. The results of this analysis are similar to that for other studies: they find that tract-level credit risk measures reduce but do not eliminate the importance of race in predicting whether a loan is subprime. However, the credit score variables are less consistently statistically significant. They estimate models using HMDA data from 1997, 1999, and 2002. Of the seven metropolitan areas modeled, the credit score variable is significant in five cases using 1997 HMDA data, but only two when using 1999 and 2002 HMDA data. Of note for this study, the credit score variable was never significant in models of HMDA data for the Dallas metropolitan area. One interesting finding from this study is that the share of adults in the tract with a college education is found to be negatively associated with the probability of using a subprime lender even after controlling for income and credit risk. This finding is consistent with the hypothesis that less financial literacy, which might be expected to increase with education level, is associated with greater use of subprime lenders and AFSPs.

Apgar, Caulder, and Fauth (2004) also included tract level credit risk measures in a model predicting whether individual borrowers across the country obtained a prime conventional loan in 2001. They incorporated variables related to borrower characteristics, neighborhood demographics, neighborhood credit risk measures, and the characteristics of lenders operating in the neighborhood. Unlike the previous studies mentioned, they did not have access to credit score measures, but instead relied on conventional loan denial rates from HMDA, the residential capitalization rate, the turnover rate of owner-occupied properties, and income growth during the 1990s. All of these measures are found to be statistically significant and of the expected sign. Of the credit risk measures, they find that the HMDA denial rate has the largest impact on the probability of a loan being prime or not. Consistent with the other studies, the Joint Center study confirms that even after controlling for tract credit risk, the share African American in the tract is positively and significantly associated with a loan being non-prime. However, the results for Hispanics are mixed. While refinance loans are less likely to be prime as the share Hispanic in the neighborhood increases, they find that home purchase loans are more likely to be prime the higher the share Hispanics in the neighborhood.

In sum, in large part due to the availability of HMDA data and HUD's subprime lender classification methodology, there is now a substantial body of research that has examined the factors associated with the use of subprime lenders both at the neighborhood and individual borrower level. These studies have consistently found that individual black borrowers as well as black neighborhoods generally both have a higher probability of using subprime lenders even taking into account available measures of credit risk.

3.2. Alternative Financial Service Providers

Just as the subprime mortgage market was experiencing rapid growth during the 1990s, there was also rapid growth among businesses outside of the system of federally insured financial institutions that provide a range of financial services typically associated with banks. These firms include check cashing outlets, payday lenders, pawnshops, title lenders, tax refund anticipation lenders, consumer finance businesses with a focus on small unsecured loans, and rent-to-own stores. It is difficult to document the growth in this industry, as there are no consistent sources of the volume of business in these firms over time. The best indication of industry growth is counts of the number of establishments from sources like Dun & Bradstreet, Info-USA, or other establishment databases. Citing national yellow page listings, Caskey (2003) finds that pawnshops grew rapidly up until 1997 but has remained fairly stable since then. Check cashers and payday lenders, which, as noted above, cannot be separated in these data, grew at about a 14 percent annual rate from 1986 through 1998. Growth then accelerated after 1998, apparently fueled by growth in payday lending, to an annualized rate of 22 percent. (See the literature review for a detailed overview of the different types of AFSPs, trends in each segment of this industry, and the factors associated with these trends.)

Collectively, these types of businesses are generally referred to as alternative financial service providers (AFSP). As with subprime lending, several aspects of the growth of these firms have raised concerns among policy makers and advocates for low-income households. First, the costs of these services can be quite high – particularly when compared to similar financial services available from mainstream firms. For example, the annual cost of using a check casher for paychecks can amount to several times the annual cost of a low-frills checking account, while the annual percentage rate associated with short-term loans from AFSPs commonly exceeds several hundred percent compared to rates in the teens for credit charges or lines of credit associated with checking accounts or credit cards. Second, the users of these services are disproportionately low-income and minority. As a result, there is a concern that these businesses are taking advantage of either a lack of financial literacy among these groups or a lack of competition from mainstream financial service providers in low-income and minority communities to earn excessive profits. The implication is that the ability of low-income and minority individuals and families to save and accumulate wealth has been impaired by the growing prevalence of these establishments.

The rapid growth in the AFSP industry during the 1990s has its roots in a number of factors, including changes in the regulatory environment, rapid increases in immigration, and enhanced technology that enabled AFSPs to lower their costs of operations and more recently to check on the credit characteristics of individual customers. Given its diverse origins, the AFSP industry is not monolithic, as different types of firms have grown at different rates over the last few decades. Even so, many diverse types of financial services providers have discovered the profitability of serving what appears to be an unmeet demand for financial services among low-income, low-wealth, and credit impaired individuals.

Many assessments of the users of alternative financial services focus on whether individuals are "banked" or not, that is whether individuals have access to checking, savings, or other transaction accounts at a bank, savings and loan, credit union or other federal or state regulated banking organizations. There are also a variety of studies that have examined on the characteristics of clients

of payday lenders and other forms of short-term loans. These studies are extensively reviewed in the literature review.

For purposes of this study, the most relevant literature consists of studies that have examined the spatial distribution of AFSPs. Similar to the allegations that the rapid growth of subprime lending in low-income and minority areas is linked to a lack of mainstream banks in these neighborhoods, research on the proliferation of AFSPs has examined the association between these establishments and the availability of banks in these neighborhoods. One common approach in these studies is to compare the average characteristics of tracts where AFSPs are located to either all other tracts or tracts where banks are located (Lesly and Luxman, 1999; and Temkin and Sawyer, 2004).

Lesly and Luxman used Dun and Bradstreet data to examine the spatial location of 113 Check Cashing Operations (CCO) located in the six state New England Region. The study presented a detailed evaluation of the demographics of three dense clusters of CCOs located in Providence (9 CCOs), Hartford (12 CCOs), and Boston (12 CCOs). Based on this analysis, the authors note that CCOs tend to operate in heavily trafficked urban and suburban areas, usually with high concentrations of low- and moderate-income households. For example, 93 percent of the census tracts in the Boston cluster (defined as the Roxbury and Dorchester neighborhoods) had incomes less than 80 percent of area median. Despite the low incomes, the authors note that clusters are not necessarily without mainstream banking operations. For example in the Boston cluster the number of banks (24) actually outnumbered the number of CCOs (12). Indeed, mainstream banks outnumbered CCOs in each of the three clusters examined in detail and often were located in close proximity to check cashing locations. Thus, their analysis suggested that a lack of banks did not necessarily explain the prevalence of check cashers in low-income neighborhoods.

In a study of eight cities, Temkin and Sawyer (2004) compare the average racial composition and poverty rates of tracts with at least one AFSP[11], tracts with at least one bank, and the entire geographic area studied (the core county surrounding the selected cities). They find that in almost all of the cities, neighborhoods where AFSPs are located have a larger minority population share and higher poverty rates than the entire county. Tracts with banks, on the other hand, have larger white population shares and lower poverty rates than average. Thus, Temkin and Sawyer conclude that AFSPs are disproportionately located in low-income and minority areas, while banks are disproportionately in higher-income and white areas.

AARP (2001) examined the characteristics of neighborhoods served by licensed payday lenders in California in 2000 by examining the characteristics of those living within one mile of these establishments. The AARP analysis confirms that low-income Californians and Californians living in a minority community are more likely than others to live within one mile of a payday lender. Overall, some 38 percent of Californians live within one mile of at least one payday lender. This percentage varies by race with only 27 percent of white non-Hispanics living within the one-mile service area, compared to 57 percent of African-Americans and 49 percent of Hispanics. Similarly households living within the one-mile service area had lower levels of income and wealth relative to household living further away.

[11] Temkin and Sawyer include check cashers, payday lenders, and pawnshops in their analysis of AFSPs.

In their study of the cities of Atlanta, Boston, San Antonio and San Diego, Bachelder and Ditzion (2000) also estimated simple correlations between tract characteristics and the number of establishments engaged in check cashing or money transmission. The tract characteristics they examined were percent minority, median family income, and the share of adults working less than 50 weeks a year, all from the 1990 decennial census. They found a statistically significant negative relationship between median income and the number of AFSPs and a significant positive relationship with the share of adults working less than 50 weeks a year. They did not find a significant association with the minority share. However, since their data covered four different cities with different minority compositions and different prevalence of check cashers, the simple correlations may be inadequate to control for these cross-city differences.

In order to evaluate whether AFSPs are more likely to be found in areas that lack banks, one method used in previous studies has been to examine the extent to which AFSPs and banks are located in the same neighborhoods. The first study to use this approach was Doyle, Lopez and Saidenberg (1998), which examined the overlap between check cashers and banks at the zip code level in New York City. They find that while 29 percent of check cashers were found in zip codes that had no banks, 71 percent were in tracts where banks were present. Temkin and Sawyer also looked at the overlap between banks and AFSPs and found that in all eight cities studied the majority of tracts with AFSPs (59 percent) also had banks present. They conclude that this relatively high overlap between banks and AFSPs does not provide strong support for the argument that AFSPs are filling a void in areas without banks.

A final method used in the literature to examine whether AFSPs and banks are located in the same neighborhoods is to estimate the average distance between each AFSP and the next nearest AFSP and to compare this to the average distance to the nearest bank. The notion is that if AFSPs are found to be clustered nearer to each other than to banks, this would provide support for the notion that banks and AFSPs are not serving the same markets. The first study to report this measure is Bachelder and Ditzion (2000). They found that in three of the four cities they studied, check cashers were actually located closer to another bank than to another check casher. Temkin and Sawyer (2004) also estimated the median distances between AFSPs and banks and, in contrast to Bachelder and Ditzion, found that in six of the eight cities the median distance between AFSPs was smaller than the median distance between AFSPs and banks. Part of the difference between these two studies may be the broader definition of AFSPs used by Temkin and Sawyer, who include pawnshops and payday lenders in addition to check cashers. Nonetheless, there was not a large difference in these distances. Across these cities, the average distance between AFSPs was 0.21 miles compared to 0.27 for AFSPs and banks.

In short, the existing literature examining the location of AFSPs generally finds support for the observation that these establishments are, in fact, disproportionately located in low-income and minority neighborhoods, but they do not provide strong support for the argument that these establishments are more likely to be located in areas where banks are absent. Of note, none of the existing studies have used regression analysis to examine the association between neighborhood characteristics and the location of AFSPs. Nor have any studies examined the relationship between measures of neighborhood credit risk and the prevalence of AFSPs. The lack of research on these questions no doubt is related to the lack of readily available data on the location of AFSPs, such as the HMDA data provide for mortgage lending.

3.3 Banks[12]

As previously noted, a number of studies contend that the absence of banks from low-income and minority neighborhoods has contributed to the growth of both subprime mortgage lending and AFSPs. For example, in describing the high market share of subprime lenders in minority communities, Bradford (2002) argues that "the absence of active mainstream prime lenders in minority markets has increased the chances that borrowers in these communities are paying a high cost for credit." ACORN (2002) likewise argues that "banks for the most part have abandoned low-income and minority neighborhoods."

However, there has not been a great deal of research on trends in bank branch locations by neighborhood characteristics. Most of the arguments about the decline of bank branches in low-income areas can be traced to either Avery et al. (1997), which presents information on national trends in bank branches in neighborhoods by income level, or Caskey (1994), which presents information on trends in bank branches in five cities, including the income level and racial and ethnic composition of neighborhoods.

Avery et al. employ a specially constructed database that examines the location of bank branches nationally over a twenty-year period from 1975 to 1995. They find that the number of bank branches increased sharply between 1975 and 1985, from 58,911 to 81,161. However, between 1985 and 1995 the total number of bank branches actually fell by slightly more than 5,000 due to a significant contraction in the number of savings associations in the wake of the savings and loan crisis of the 1980s. In examining these trends in bank branches by neighborhood income, they classify zip codes into four household income categories: Low (less than 50 percent of the area median household income), Moderate (between 50 and 80 percent of the area median), Middle (between 80 and 120 of the area median), and High (more than 120 percent of the area median). They find that between 1985 and 1995 the number of bank branches declined in all zip code income categories except the highest. The rate of decline was greatest in the lowest income neighborhoods and lowest in middle-income areas. However, they also estimate the number of banks per 10,000 residents. They find that low-income areas actually had the highest ratio of banks to population in 1985 – 4.14 compared to 3.45 in high-income areas. By 1995, there was relatively little difference in this ratio between middle, moderate and low-income areas, ranging from a low of 3.36 banks for each 10,000 in population in moderate-income areas to a high of 3.46 in middle-income areas. High-income areas actually had the lowest ratio at 3.18 banks for every 10,000 persons. Thus, despite having the greatest rate of increase in banks between 1985 and 1995, high-income areas actually lost ground in terms of banks per person because population growth was much more rapid in these areas. The authors conclude that the shift of banks away from lower-income communities was consistent with the general movement of population to higher-income, suburban areas and resulted in a more even distribution of banks across neighborhoods.

Caskey (1994) documented changes in the presence of bank branches by neighborhood characteristics in five cities. His data were for 1970, 1980 and 1989. Caskey found that in two of the five cities,

[12] For simplicity the term "banks" is used to refer to depository institutions including banks, savings and loans, and credit unions.

there were fewer banks in lower income tracts (defined as having median incomes less than 67 percent of the city average), but in the other three were actually more banks in lower income neighborhoods. On the other hand, he found that minority areas were consistently less likely to have banks than white areas. The findings were particularly strong for tracts where African Americans accounted for a majority of the population. In all five cities the number of banks in majority African American neighborhoods was half the number in other neighborhoods. Areas with at least 40 percent Hispanics also had fewer banks, but the disparities were not as great as for African Americans. But while there were fewer banks in minority areas, Caskey did not find evidence of a consistent trend for banks to be declining in either minority or low-income neighborhoods. In two of the five cities (Atlanta and New York), bank branches did decline in both low-income and minority areas, but in the other three (Denver, San Jose, and Washington) trends in the number of branches were similar for all income and racial categories.

Aside from trends in the physical presence of banks in low-income and minority neighborhoods, another factor to consider is that since the 1980s mortgage banking firms have come to account for a majority of mortgage lending so a bricks and mortar presence is not required to make loans in a community. In fact, Apgar et al. (2004) argue that communities that previously had little or no access to mortgage money have had significant growth in lending. For example, in 1993, in predominantly minority, lower-income census tracts, there were 15.7 home purchase loans made on average. These loans were made by an average number of 8.4 lenders, including an average of 2.4 of the nation's top 25 lenders. By 2001 these figures had jumped to 30.3 loans, made by an average of 15.1 lenders, including 5.9 of the nation's top 25 lenders. Thus, even without growth in bank branches in these areas, there has been significant growth in mortgage lending activity. Nonetheless, this study also confirms that subprime lending activity is more prevalent in minority neighborhoods even after controlling for a range of neighborhood, borrower, and market characteristics.

In sum, the relatively little research that does exist on the issue of bank branch locations suggests, at best, a somewhat mixed picture. Avery et al. is important because it includes trends in the early part of the 1990s, a period when the subprime lending and AFSP industries were beginning to expand. They find that the number of bank branches in low-income areas was, in fact, declining during this period. However, they also find that the number of branches relative to population had been higher than average in low-income areas but by 1995 had fallen to a level that was comparable to other income categories. Perhaps the most notable finding from Caskey's work is that there are important variations across markets in the extent to which low-income and minority areas have fewer banks than upper income or white areas. In two of the five cities he studied, banks were underrepresented in low-income and minority areas, while in the other three there was little difference in bank presence by income or race. Nor did Caskey find a consistent pattern across the five cities for there to be greater declines in banks in low-income or minority communities. Apgar et al., on the other hand, suggest that trends in the mortgage industry that have placed greater emphasis on mortgage banking operations for extending mortgage credit have been associated with rapid growth in capital flows in these areas—even if there has been no growth in bank presence in these neighborhoods. While there are reasons to question the argument that the lack of a physical bank presence accounts for the rise of subprime lending in minority neighborhoods, this issue has not been directly examined in previous research analyzing subprime lending patterns.

Section 4: The Texas Context

While the issues that are the focus of this study are national in scope, our analysis is of a single market area in Texas. As a result, it is important to understand how the regulatory and market context in the Dallas, Texas metropolitan area may be similar to or different from the national trends discussed in Section 3. This section discusses any unique features of the selected market area and provides information on subprime lending trends, the growth of AFSPs, and trends in bank branches in the Dallas area.

4.1. Subprime Lending

Subprime lending grew more slowly in Texas during the mid 1990s than in the rest of the nation due to limits placed on home equity loans by the state constitution. Prior to 1998, the Texas constitution did not allow loans to tap equity in residential property except to make home improvements, pay taxes, pay inheritance, or to allow one spouse to buy out another in a divorce. This provision essentially outlawed cash out refinancings, which is one of the most common reasons for subprime refinancings. A constitutional amendment that took effect in 1998 removed most restrictions on home equity lending, giving a spur to subprime lending activity in the state. In 1997, subprime loans accounted for 9 percent of refinance loans in Dallas, roughly half the 18 percent share nationally. By 2000, the subprime share of refinancings in Dallas was 29 percent, exceeding the 24 percent nationally.

Analysis of 2000 HMDA data presented Bradford (2002) can be used to understand how subprime lending patterns in Dallas compare to other metropolitan areas.[13] Out of 154 metropolitan areas, Dallas ranked 13th in the subprime share of refinance loans for African Americans, with a subprime share of 61.7 percent compared to a national share of 49.3 percent. Thus, subprime lenders in Dallas had a much larger share of the African American refinance market than they did nationally. However, since Dallas also had a somewhat higher overall subprime lender share than other areas of the country it did not rank as high in terms of the disparity in subprime lending between blacks and whites. Bradford ranks metropolitan areas by the ratio of the black subprime refinance share to the same share for whites. The ratio for Dallas was 2.85 – so blacks were 2.85 times as likely to have a subprime refinance loan as whites. While the discrepancy between blacks and whites in subprime share is large, the ratio is close to the ratio for the nation as a whole with Dallas ranked 64th out of the 154 metropolitan areas on this measure.

In general, subprime lending in Dallas was not as disproportionately concentrated among Hispanics as it was among blacks. Subprime lenders' share of refinance lending to Hispanics was only about half as large as the share among African Americans and not much different than the national average. More specifically, for Hispanics the subprime lender share of refinancings was 30.7 percent, only slightly higher than the national average for Hispanics of 30.3 percent. As a result, there was also much less disparity in subprime lending between Hispanics and whites in Dallas. The ratio of

[13] Of note, the subprime lender shares reported by Bradford exclude government insured loans and so are somewhat higher than the shares reported by other sources that include all loans in estimating subprime shares.

Hispanic to white subprime refinance shares was 1.42, compared to a ratio of 1.74 nationally. Asians, who comprise a relatively small share of the Dallas area population, actually have a lower subprime refinance share compared to whites in Dallas.

In terms of disparities in subprime lending considering both income and race or ethnicity, Dallas actually fares better than most market areas. One of the characteristics of subprime lending is that race and ethnicity tends to be more strongly correlated with subprime lending than income levels. In many markets low-income whites have lower shares of subprime lending than high-income minorities. To examine how this pattern varies across metropolitan areas Bradford estimates a ratio of the subprime refinance share among upper-income minorities to the share among lower-income whites.[14] By this measure Dallas is actually below the national average among blacks, with a ratio of 0.99 compared to 1.29 for the nation as a whole. For Hispanics, the ratio for Dallas is further below the national average – 0.63 compared to 0.95.

In short, Bradford's analysis suggests that while subprime lenders have a very high share of African American refinance loans in Dallas, there is less disparity in subprime lending between Hispanics and whites. Asians, who comprise a fairly small share of the Dallas population, actually have lower subprime lender shares than whites. Also, in comparison to other markets, there is less disparity between low-income whites and upper-income minorities.

4.2. AFSPs

The three principal types of AFSPs are check cashers, pawnshops, and payday lenders. A key factor in the extent to which these types of establishments have proliferated is the degree to which individual states regulate these activities.[15] A review of state regulation of check cashers (Eskin, 1999) found that of the 50 states and the District of Columbia, 23 states, including Texas, did not regulate check cashing at all. Of the 28 states that did regulate check cashing, only 21 set limits on the fees that can be charged, and of these only 4 set limits that might be considered binding.[16] Thus, while check cashers face few limits in Texas, there are only a handful of states in the country that do place binding limits on the fees that can be charged.

Given the long history of pawnshops in this country, most states (40 out of 50) have regulations for these firms that place limits on the interest rates, terms, and loan amounts that pawnshops can offer. Johnson and Johnson (1998) argue that relaxation in state regulation during the 1980s helped to fuel the boom in this industry. Another factor that may have fueled the growth of this industry is the interest rate on loans through pawnbrokers was generally higher than the rate allowed by regulations governing small loans. In Texas, pawnshops are allowed to charge a fee of up to 20 percent of the loan amount per month for loans under $132, 15 percent for loans between $133 and $450, 2.5 percent for loans between $451 and $1,350, and 1 percent for loans between $1,351 and $11,250.

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[14] Upper income is defined as income above 120 percent of the metropolitan area median income and lower income is defined as less than 80 percent of the area median income.

[15] Rent-to-own stores are another fairly common type of AFSP. But these firms are generally not regulated.

[16] Surveys of check cashers have found that fees for cashing payroll or government benefit checks are generally about 2 percent. Only 4 states set limits that were below 2 percent.

These rates are among the highest in the country for small loan amounts, with only 8 states allowing higher rates. Thus, Texas regulations are among the most favorable in the country for pawnshops.

Finally, state regulation of allowable interest rates for small loans is a key factor in the development of the payday loan industry. In response to concerns about very high interest rates being charged on small loans in the early part of the 20th century, many states adopted a model small loan statute promoted by the Russell Sage Foundation that limited the annual interest rate on these loans to 36 percent – rates that are well below the rates payday lenders charge. There are 14 states that still have such limitations. Another 27 states, including Texas, have specific legislation to allow payday loans that place some restrictions on the interest rates and fees that can be charged, but these are generally high enough to attract a substantial number of payday lenders. Finally, there are 10 states where there are no limits on the interest rates that can be charged.

The limits placed on small loans in Texas are somewhat stringent in comparison to other states that have set limits. For loans under $440, lenders are allowed to charge a $10 fee plus $4 per month per $100 loaned. Under these rules, a two-week loan of $100 would have a fee of $11.87, which is equivalent to an APR of 309 percent. Since much of the cost of these loans is the $10 fixed fee, the APR drops for larger loans. For example, a two-week loan of $200 would have an APR of 179 percent. In contrast, of the other 26 states that allow payday loans, none has an APR less than 390 percent. Thus, while Texas law allows payday loans, state regulations are not nearly as favorable as in other states. However, state-chartered FDIC-regulated banks can export the interest rates allowed in the state where they are chartered to other states. This loophole has allowed payday lenders to make loans with much higher interest rates than allowed by state law.

Exhibit 1 presents data from NETS on the number of pawnshops, check cashers, and rent-to-own stores for the Dallas metropolitan area between 1990 and 2003. NETS data do not include a separate industry code for payday lending, and so these firms are generally categorized with check cashing firms. The data show a significant jump in the number of both pawnshops and check cashers in 1993. Given the abrupt nature of this shift, it is not clear if this is an actual increase in these establishments or a change in reporting. After 1993, however, there was very little growth in pawnshops. Between 1993 and 2003 the total number of pawnshops only fluctuated between 149 and 157. However, over the same period there was fairly substantial growth in the number of check cashers. Between 1993 and 1998, check cashers increased from 107 to 157, or an annualized growth rate of 8 percent. Growth then stalled through 2000, but resumed in 2001 with the number of check cashers increasing to 189 in 2003. Perhaps not surprisingly, this renewed growth coincided with the enactment of a state law enabling payday lending. The other category of AFSPs identified in the Dun & Bradstreet data is rent-to-own stores. As shown, these data suggest that the number of stores of this type has been fairly stable over the last decade.

Exhibit 1
Trends in Alternative Financial Service Providers in the Dallas Metropolitan Area

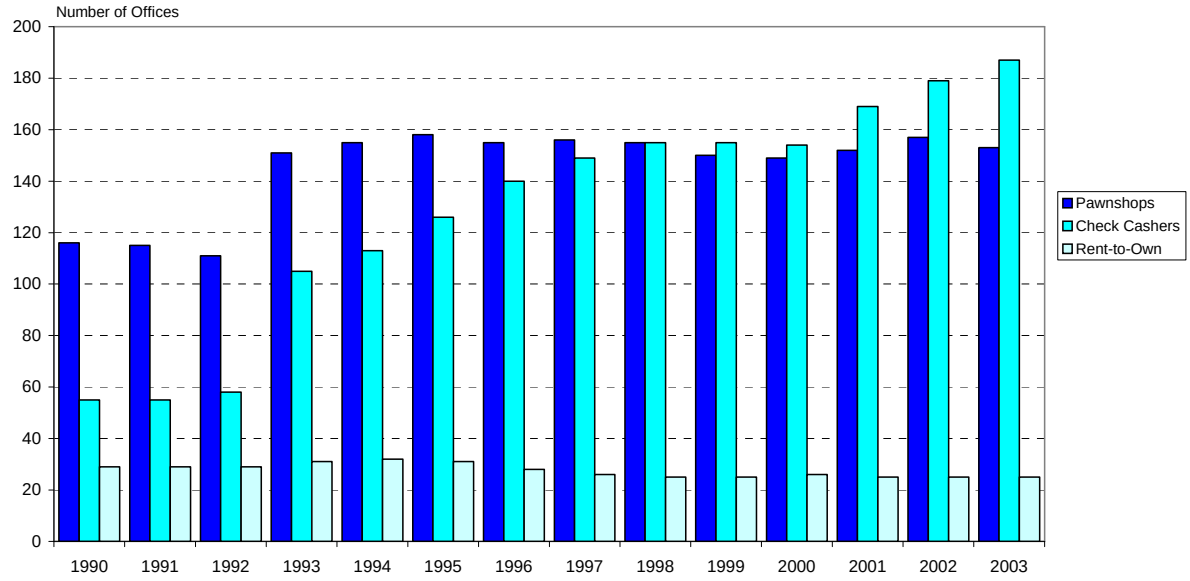


Exhibit 2
Change in Number of AFSPs in the Dallas Metropolitan Area 1993 to 2003 by Neighborhood Income and Minority Share

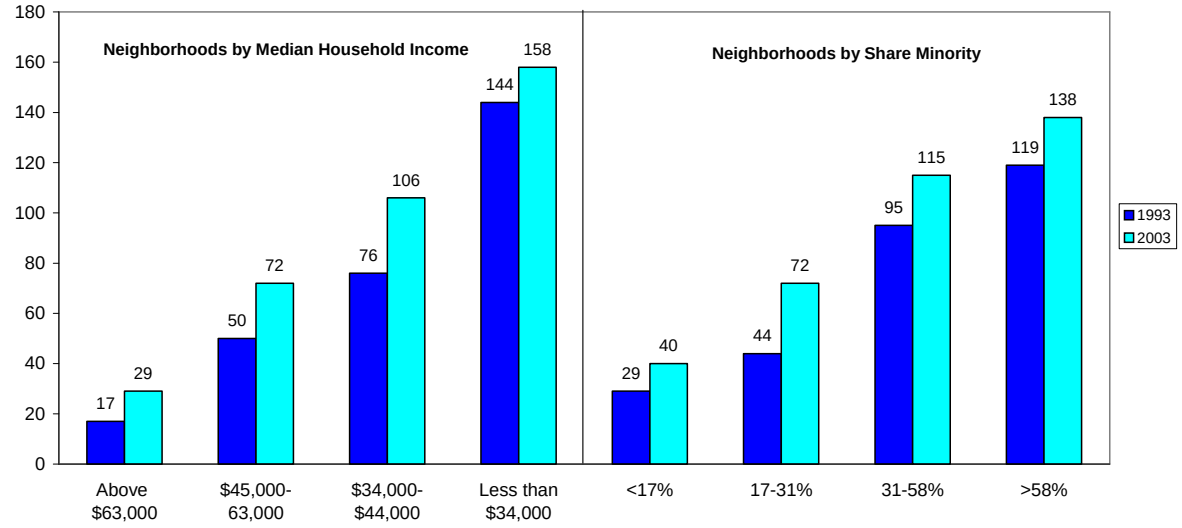


Exhibit 2 shows trends in the number of AFSPs by neighborhoods categorized by income level and minority share. After sorting tracts by household income and minority shares, respectively, the income and minority share categories were defined so that each of the four categories includes one quarter of the tracts in the Dallas metropolitan area. The specific cutoffs used for these categories are shown in Exhibit 2. As will be discussed in detail in the next section, AFSPs are disproportionately located in low-income and minority neighborhoods. But as shown, between 1993 and 2003 increases in the number of AFSPs were evident in all income and racial categories. In fact, the largest percentage increase in AFSPs was in higher income areas and in areas with moderate shares of minorities.

4.3. Bank Branches

The Dun & Bradstreet data provides an opportunity for examining trends in the number of bank branches in the Dallas area during the 1990s as well as trends by neighborhood characteristics. As illustrated by Exhibit 3, the number of bank branches declined slightly in the early 1990s, before starting to rise beginning in 1993. Bank branches experienced fairly consistent growth over the next ten years, increasing by more than 50 percent between 1992 and 2003.

Exhibit 4 shows how these overall trends in bank branches played out in different categories of neighborhoods by income and share minority.[17] While increases were greatest in areas with fewer minorities and those with higher incomes, there were, nonetheless, increases evident in all types of neighborhoods. Based on these trends it is not evident that bank branches were withdrawing from these neighborhoods in Dallas over the course of the 1990s.

[17] It would be interesting to examine how the number of bank branches per capita changed in these areas over time, but that would require an annual data series on census tract-level population, which is not available.

Exhibit 3
Number of Bank Branches in the Dallas Metropolitan Area
1990 to 2003

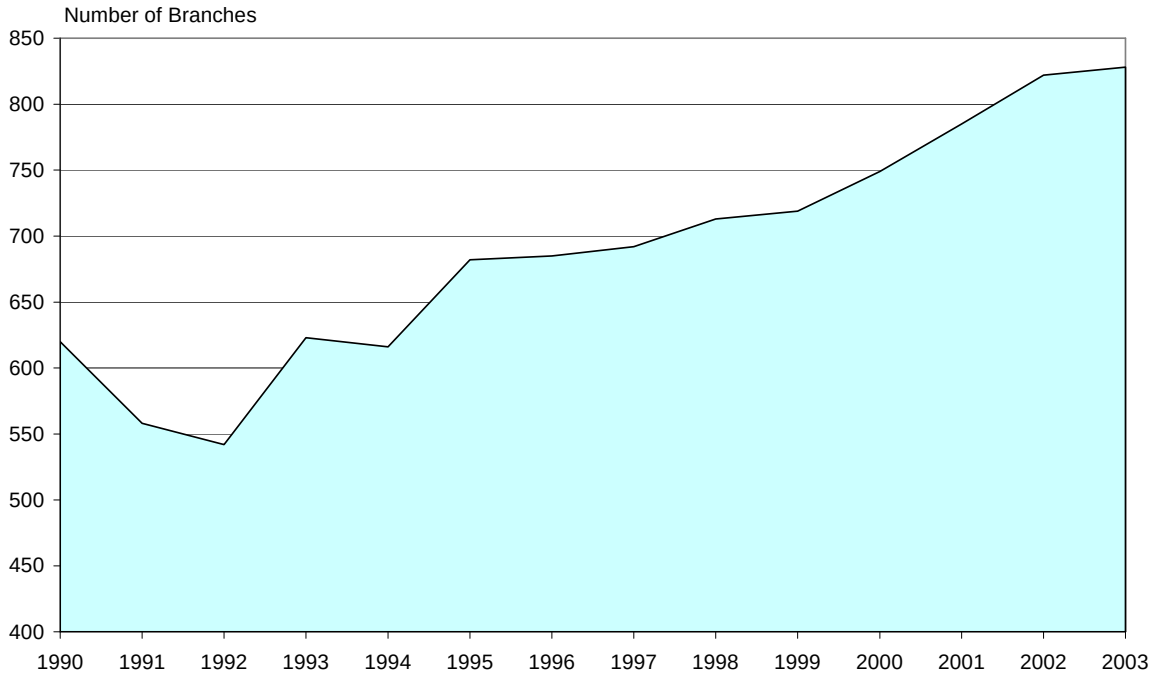
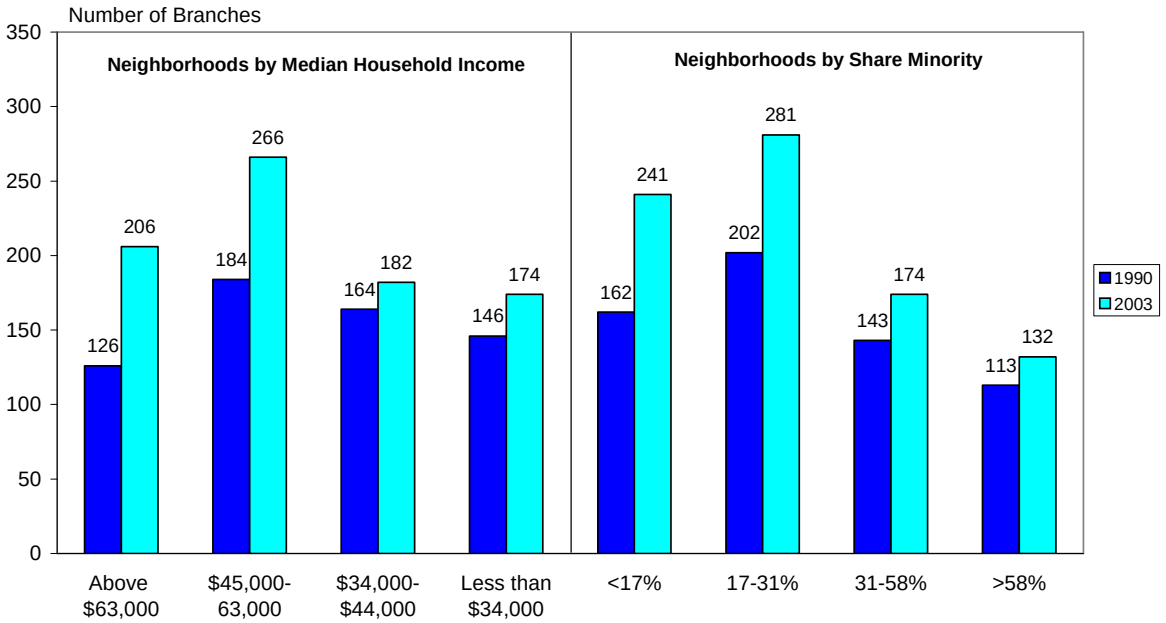


Exhibit 4
Change in the Number of Banks in the Dallas Metropolitan Area 1990 to 2003
by Neighborhood Income and Minority Share



Section 5: Descriptive Analysis

This section presents descriptive analysis on the relative prevalence of subprime lending, AFSPs, and banks in low-income and minority neighborhoods in the Dallas metropolitan area. This analysis lays the groundwork for the multivariate regression analysis presented in the next section. One of the goals of this study was to explore alternative approaches for describing the spatial distribution of AFSPs, including the use of exposure indices (a measure commonly used to analyze the degree of residential segregation) and a comparison of estimates of mean locations for different types of establishments and household types. A discussion of these approaches and the results produced are presented in Appendix B.

5.1. Neighborhood Income Level

To compare the prevalence of subprime lending, AFSPs, and banks by neighborhood income levels, we have divided neighborhoods into six categories based on the distribution of median household income at the census tract level in the Dallas area as of 1999.[18] The six categories were defined by first dividing tracts into four equal quartiles and then splitting off the bottom and top 5 percent of tracts to evaluate whether there are differences at the extreme ends of the neighborhood income distribution.[19] Tracts with fewer than 50 households were excluded from the analysis. Specifically, tracts are divided into the following groups: those with median household incomes below $23,000 (the lowest 5 percent of tracts), $23,000 to $33,999 (5th to 25th percentile), $34,000 to $44,999 (25th to 50th percentile), $45,000 to $62,999 (50th to 75th percentile), $63,000 to 100,999 (75th to 95th percentile), and $101,000 and higher (above 95th percentile). With 696 total tracts in the Dallas metropolitan area, the two extreme categories include about 34 tracts each. To put these categories in context, the median household income in the Dallas metropolitan area was $48,364.

Exhibit 5 compares the share of refinance mortgages by subprime lenders in 2000 in these neighborhoods with the share of tracts having at least one AFSP or one bank.[20] As shown, there is a very clear association between neighborhood income levels and the share subprime, which decreases steadily as tract income rises. The differences across neighborhood income levels are fairly substantial: subprime lenders have roughly five times the market share of refinance loans in the lowest income areas compared to the highest income areas.

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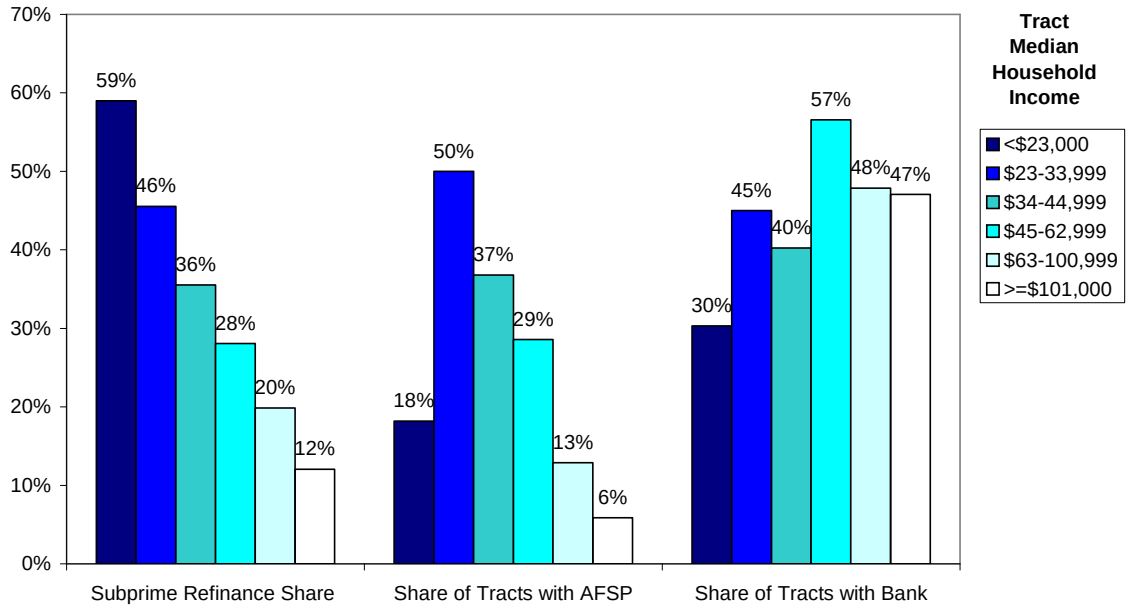
[18] All of the data on tract characteristics are from the 2000 decennial census. Income information captured by the decennial census is for the year prior to the census.

[19] This method of defining income categories was used to ensure that the categories had roughly even numbers of tracts, aside from the two extreme categories.

[20] Subprime shares from 2000 are used as this is closer in time to other explanatory variables used in the regression analysis presented in Section 5. The patterns are essentially the same if other years are used instead.

Exhibit 5
Subprime Lenders' Share of Refinance Loans and Share of Tracts with AFSP or Bank by Neighborhood Income Level in Dallas



There is a very similar pattern for the prevalence of AFSPs by neighborhood income level. With the exception of the lowest income neighborhoods, there is a steady decrease in the likelihood of a neighborhood having at least one AFSP as income rises.[21] In the lowest income areas, AFSPs are nearly as rare as in the highest income quartile. This may reflect the fact that these very low-income areas generally do not support very much commercial retail activity. This pattern is also evident in the share of tracts with at least one bank, as these very low-income areas are much less likely to have a bank than other income categories. Otherwise, there is much more similarity across income categories in the likelihood of having a bank present than is true of either the subprime lending share or the presence of AFSPs. Aside from the lowest-income areas, the other income category that stands out are neighborhoods with incomes between $45,000 and $63,000 (just above the median tract household income), which are 9 percent more likely to have a bank present than any other area. One indication that income is not as important in explaining the presence of banks is that areas with incomes in the lowest quartile (between $23,000 and $33,999) are essentially as likely to have a bank as areas with incomes in the top quartile (above $63,000).

These patterns suggest that while neighborhood income is strongly associated with the prevalence of both subprime lending and AFSPs, there is a weaker association between income levels and the presence of banks. It would be hard to argue based on the patterns shown in Exhibit 5 that the very

[21] As discussed in Appendix B, our analysis using exposure indexes to capture the presence of AFSPs in tracts surrounding a given tract found that this did not change the conclusion that lower-income households were more likely to live near AFSPs.

high shares of subprime lending and AFSPs in areas with incomes below $44,000 is due to having many fewer banks than upper income areas.

5.2. Neighborhood Racial and Ethnic Composition

As with neighborhood income, to compare the prevalence of subprime lending, AFSPs, and banks by neighborhood racial and ethnic composition, we divide neighborhoods into six mutually exclusive racial-ethnic categories:

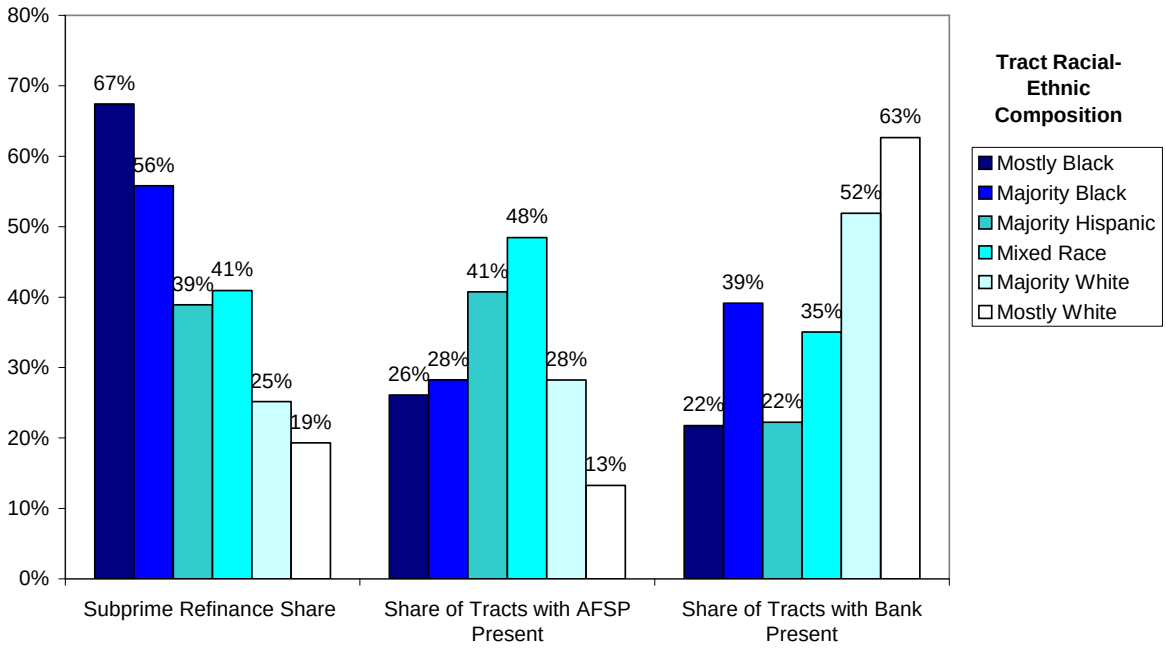
- Mostly black: blacks account for more than 90 percent of households;
- Majority black: blacks account for less than 90 percent but more than half of households;
- Majority Hispanic: Hispanics account for more than half of all households;[22]
- Mixed Race/Ethnicity: No racial or ethnic groups accounts for a majority of households;
- Majority white: whites account for more than half but less than 90 percent of households; and
- Mostly white: whites account for 90 percent or more of households.

To put these categories into context, in the median neighborhood in the Dallas metropolitan area minorities account for 31 percent of all households, while 50 percent of tracts are between 17 and 58 percent minority. As a result, the category majority white, where minorities may account for between 10 and 49 percent of households, is the most common type of neighborhood in the metropolitan area, accounting for a little more than half of all tracts. Thus, the other five racial-ethnic categories capture neighborhood types that are outside this average range. Each of these categories represent between 7 and 14 percent of neighborhoods in the Dallas area, although the mostly black neighborhoods are somewhat rare, accounting for only 3 percent of all tracts.

Exhibit 6 compares the distribution of subprime refinance shares and the presence of AFSPs and banks across these types of neighborhoods. Consistent with other findings regarding subprime lending patterns, this exhibit shows that minority neighborhoods have much higher shares of subprime lending than white areas, with black neighborhoods having particularly high shares. In comparison, the pattern of whether neighborhoods have an AFSP does not have nearly as strong an association with minority share. The most notable feature of the distribution of AFSPs is that Hispanic and mixed race areas have the highest share of AFSPs. Also, areas that are mostly white are much less likely than other neighborhoods to have an AFSP. Otherwise, areas that are mostly black, a majority black, or a majority white have very similar likelihood of having an AFSP present. Interestingly, there appears to be a fairly significant difference in the importance of the share black in the neighborhood and the prevalence of subprime lending versus AFSPs. While the share black is strongly associated with subprime lending shares, black neighborhoods do not have an above average share of AFSPs.

[22] There were too few tracts where Hispanics accounted for more than 90 percent of households to have this be a separate category.

Exhibit 6
Subprime Lenders' Share of Refinance Loans and Share of Tracts with AFSP or Bank by Neighborhood Racial-Ethnic Composition



With regard to banks, there is a clearer relationship with neighborhood race. Areas that are mostly or majority white have much higher prevalence of banks than other neighborhoods. Mixed race and majority black areas have a moderate prevalence of banks, while mostly black and majority Hispanic areas are much less likely to have a bank. Compared to the pattern observed of the prevalence of banks across income categories, it appears that race-ethnicity is a more important factor in the likelihood of bank presence than income. Notably, the patterns of subprime lending shares compared to the prevalence of banks is consistent with the argument that a lack of banks in minority neighborhoods is associated with the higher share of subprime lending in these areas.

5.3. Comparison with Other Population Serving Retail Establishments

To some extent it is not surprising that income would be related to the relative prevalence of AFSPs and banks, since income levels would be expected to be a significant predictor of demand for these services. As a result, it is interesting to compare the location of these establishments to other retail establishments whose presence might be expected to be less strongly associated with neighborhood income. Perhaps more importantly, the prevalence of retail establishments will also be a function of such factors as population density, transportation networks, and availability of land zoned for commercial real estate. The location of these other establishments can provide some independent control for the relative importance of these factors in explaining where banks and AFSPs are located.

We selected supermarkets and drug stores as the point of comparison as stores that would be expected to be located in neighborhoods of all income levels.

Exhibit 7 compares the share of tracts by income level having at least one of each of these four types of establishments: AFSPs, banks, drug stores and supermarkets. Of these four, AFSPs are clearly the most strongly associated with neighborhood income. As noted above, banks are most common in moderate-income areas, and least common in the lowest income areas, but have similar shares in other income categories. For drug stores, there are two groups of tracts: low- and moderate-income tracts have relatively high shares of drug stores, while very low and upper income tracts have relatively low levels. Supermarkets show the least association with income, with the exception that the lowest income areas are much less likely to have a supermarket than all other areas.

Exhibit 7
Share of Tracts with AFSP, Bank, Drug Stores and Supermarkets by Neighborhood Income Level

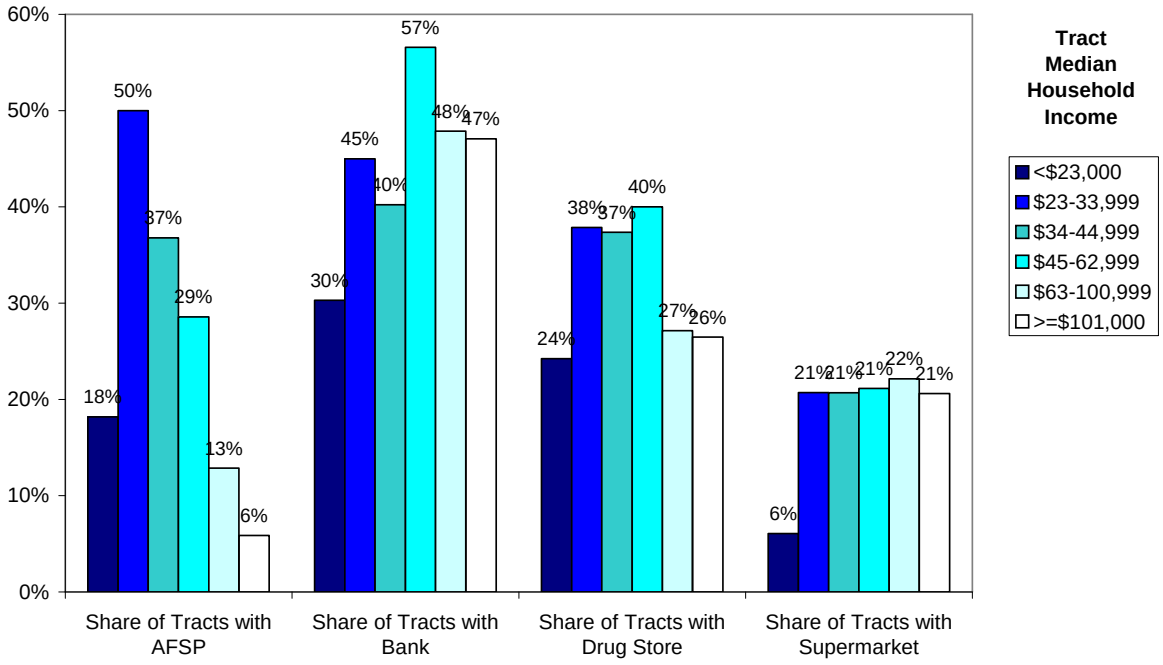
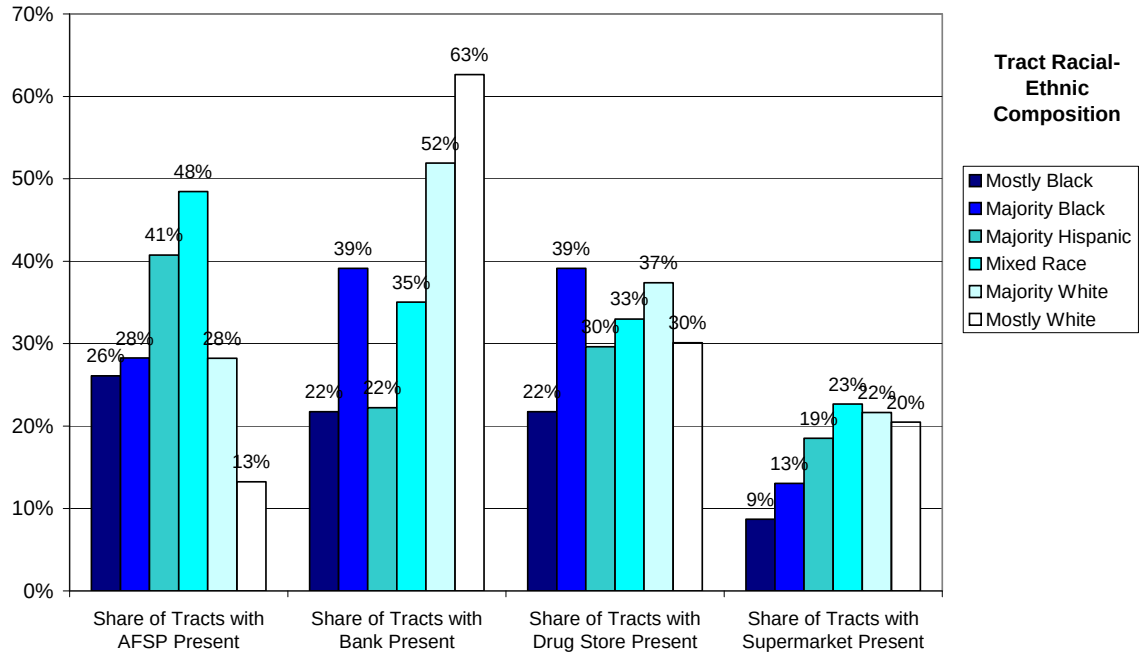


Exhibit 8 compares establishment location by neighborhood race and ethnicity. As discussed above, the prevalence of both AFSPs and banks show a fairly clear association with neighborhood race and ethnicity. There is also some association between race and ethnicity and the prevalence of drug stores and supermarkets, but the differences across the racial-ethnic categories are less dramatic than for either banks or drugstores. Drug stores are less common in mostly black areas and slightly more common in majority black and mixed race areas. Supermarkets are much less common in mostly black areas and somewhat less common in majority black neighborhoods, but have similar shares in other neighborhoods.

Exhibit 8
Share of Tracts with AFSP, Bank, Drug Stores and Supermarkets by Neighborhood Racial-Ethnic Composition



In short, there appears to be a stronger association between neighborhood income and the location of both AFSPs and banks than there is with either drug stores or supermarkets. However, there does appear to be an association between racial-ethnic composition and the location of supermarkets. One conclusion that comes out of this comparison is that black areas and very low-income areas are less likely to have business activity of all kinds.

5.4. Overlap in Presence of AFSPs and Banks

While the previous exhibits have shown that banks are nearly as prevalent as AFSPs in low-income and minority communities, it is nonetheless interesting to examine the prevalence and characteristics of neighborhoods where there are AFSPs present, but not banks. Exhibit 9 presents selected average characteristics for tracts in the Dallas metropolitan area categorized by whether AFSPs, banks, both, or neither are present. The characteristics shown are those that might be expected to have a relationship to the demand for AFSP services. Since homeowners are more likely to be banked and to have accumulated wealth, they would be expected to have less demand for check cashing or short-term loans. Also, to the extent that they do need loans, their home equity would open up more opportunities for borrowing that would not rely on AFSPs. Since non-citizens are more likely to be unbanked, this population would be expected to have higher demand for check cashers and pawnshops. To the extent that greater financial literacy is associated with the use of more mainstream credit options, the share of adults with some college might be associated with lower use of AFSPs. Since those on public assistance may have a need for check cashers and short-term loans, a greater share of the population in this category would be expected to raise demand for AFSPs. To the extent

that AFSP use is associated with blemished personal credit histories, the conventional prime mortgage denial rate from HMDA data would be expected to be higher in areas with AFSPs present. Finally, we also include the average subprime lenders' share of refinance loans as an indication of the degree to which the presence of AFSPs and banks are related to subprime lending.

The top row of the table indicates how many tracts fall into these four categories. The most common category is tracts that have neither an AFSP or a bank, accounting for 40 percent of all tracts. The second most common category is for a tract to have only a bank, accounting for 30 percent of all tracts. Of the remaining tracts, those with both a bank and an AFSP account for 17 percent of tracts while those with just an AFSP account for 14 percent. Thus, while there are not an insubstantial number of tracts with just an AFSP, they account for only a quarter of the tracts without a bank. Also, AFSPs are somewhat more likely to be in a tract with a bank than to have no banks present.

Exhibit 9
Average Characteristics of Neighborhoods by Presence of AFSPs or Banks

	All Tracts	No Banks or AFSPs	Banks Only	Banks and AFSPs	AFSPs Only
Number of Tracts	696	277	209	116	94
Share of Total Tracts	100%	40%	30%	17%	14%
Race-Ethnicity					
White	55%	52%	66%	53%	38%
Black	16%	19%	12%	17%	19%
Hispanic	23%	23%	16%	25%	38%
Income					
Median Household Income	$51,845	$53,645	$58,797	$44,522	$40,123
Other Characteristics					
Homeownership Rate	60%	64%	63%	52%	53%
Share Citizens	87%	88%	90%	86%	80%
Share of Adults with Some College	55%	55%	64%	52%	42%
Share receiving public assistance	2.4%	2.6%	1.7%	2.4%	3.2%
Conventional Mortgage Denial Rate	29%	30%	24%	32%	34%
Subprime Refinance Share	32%	34%	28%	34%	36%

Source: U.S. Census Bureau, 2000 Decennial Census, Summary File 3. Except Conventional Mortgage Denial Rate and Subprime Refinance Share, which are derived from 2000 HMDA data.

Tracts without either a bank or an AFSP are, for the most part, unremarkable. In most of the characteristics shown they are fairly close to the average for the metropolitan area as a whole. Tracts having only banks and no AFSPs, on the other hand, stand out as having lower minority shares, higher incomes, and higher socioeconomic status on all of the other variables listed. In particular, they stand out as having the lowest subprime share of refinance loans of the four categories.

In comparison, areas with both banks and AFSPs have a racial-ethnic composition that is similar to the metropolitan area as whole, but median household incomes in these areas are much lower than the average. These areas also have a much lower homeownership rate (52 percent compared to 60 percent for the metropolitan area), a slightly lower share of adults with some college (52 percent compared to 55 percent for the metropolitan area), and a higher rate of conventional prime mortgage denials (32 percent compared to 29 percent for the Dallas area).

Areas with AFSPs only, however, stand out as being quite different in a number of dimensions. To begin with, these areas have a much higher Hispanic share than other areas. While the share black is only 3 percentage points lower than the metropolitan area average, the share Hispanic is 15 percentage points higher. Median household incomes are also much lower than the average tract ($40,123 compared to $51,845), and even lower than tracts with both an AFSP and a bank present. In keeping with expectations regarding the factors that are expected to be associated with the demand for AFSP services, these areas also have a much lower share of both citizens and share of adults with some college, higher shares of the population receiving public assistance, and have relatively high conventional prime mortgage denial rates. Finally, these areas also have the highest subprime lender shares.

5.5. Summary of Findings from the Descriptive Analysis

A comparison of the prevalence of subprime lending with the location of AFSPs and banks reveals some interesting similarities and differences. Subprime refinance lending and AFSPs show a fairly strong association with neighborhood income levels in Dallas, with levels in lower-income neighborhoods that are many times higher than in upper-income areas. In contrast, there is not as strong an association between neighborhood income and the prevalence of banks. While very low-income areas are much less likely than other areas to have a bank, across the remaining income categories there is not a large difference. Even in the lowest income areas, banks are nearly twice as likely to be present as AFSPs.

With regard to the race and ethnicity of neighborhoods, however, there are notable differences across neighborhoods in the prevalence of subprime lending and AFSPs. As has been found in previous studies, subprime refinance shares are much higher in neighborhoods where blacks account for a majority of residents, while areas with a Hispanic majority or of mixed race have moderate subprime shares, and majority white areas have the lowest levels. In contrast, there is no evidence that AFSPs are over represented in majority black areas, although they are in majority Hispanic and mixed race areas. Banks, on the other hand, appear to be significantly underrepresented in areas that are mostly black and majority Hispanic areas, and slightly underrepresented in majority black and mixed race areas. For banks, race appears to be a more important factor than income in predicting whether a bank will be present.

A comparison of the location of drug stores and supermarkets provide some indication of the degree to which the location of AFSPs and banks varies from the general location of retail activity. Perhaps not surprisingly, we find that the location of both AFSPs and banks is more strongly associated with race-ethnicity and income than is true of drug stores and supermarkets. However, we do find that retail activities of all types are less likely in the lowest-income and mostly black neighborhoods.

As has been noted, one of the concerns with the growth of AFSPs is that these establishments are filling a void in areas where banks are not located. However, in the Dallas area, only a quarter of the tracts without a bank have an AFSP. AFSPs are also somewhat more likely to be in a neighborhood with a bank than not. Nonetheless, areas without banks but with an AFSP are notable in several regards. These areas have a much larger than average Hispanic share and much lower incomes. They also have fewer citizens, more households on public assistance, fewer households with some college education, and higher conventional prime mortgage denial rates – all factors that might be expected to increase demand for AFSPs. In the next chapter, regression analysis will be used to evaluate the relative importance of each of these factors in explaining the prevalence of AFSPs.

Section 6: Multivariate Analysis

This section presents results of multivariate regression models predicting census tract level subprime purchase and refinance shares as well as counts of the number of AFSP, bank, drug store and supermarket establishments.

6.1. Variables and Modeling Approaches

Exhibit 10 presents summary statistics on the variables used in the multivariate analysis. The sections that follow describe these variables in more detail and discuss their expected relationship with subprime lender shares and the prevalence of AFSPs and banks.

6.1.1. Dependent Variables

Two dependent variables are used in the models analyzing the factors associated with subprime lending shares: the census tract share of originated refinance loans that are made by subprime lenders and the tract share of originated purchase loans that are made by subprime lenders. Most recent studies of subprime lender shares have examined both refinance and purchase loans. For the most part, studies have found a more consistent relationship between refinance loans and neighborhood racial composition. This may reflect the fact that subprime shares of purchase loans are smaller, so there is less variation across neighborhoods to explain. (As shown in Exhibit 10, subprime lender refinance shares are consistently more than two to four times larger than their shares of purchase mortgages.) Nonetheless, it is interesting to examine the extent to which there are differences in models predicting subprime refinance and purchase shares. As described in Section 2, subprime lender shares are derived from HMDA data and lists of subprime lenders as defined by HUD. The analysis is repeated using HMDA data for 1999, 2000, and 2001 to examine the degree to which the estimated results are stable across years. As shown, subprime lenders' share of refinances varies fairly significantly across years. In both 1999 and 2001 low interest rates led to a very heavy volume of conventional refinance activity, which lowered subprime lender refinance shares. In 2000, with lower conventional refinance volumes, subprime lender shares were about much higher. These variations may affect the modeling results.

For the models predicting the presence of AFSPs, banks, drug stores, and supermarkets, the primary choice is whether to have the dependent variable simply indicate if establishments of this type are present (with a 0 representing none and 1 representing some) or if the actual count of establishments should be modeled. The argument for using the count of establishments is that it provides a better indication of the degree of availability of services from establishments of that type. Since counts of establishments recognize that there is an important difference between neighborhoods having a single AFSP and those that have five, for example, the analysis presented is for models predicting the number of establishments. A Poisson model, described more below, is used where the distribution of the dependent variable is more accurately described by a Poisson distribution than the standard normal distribution that is the basis for ordinary least squares regression. Logit models were also estimated predicting whether establishments are present or not as a point of comparison. The results were quite similar so only the Poisson model results are presented. Given that the number of establishments at the neighborhood level is fairly stable over time, the choice of year is less important

for these models. In order to focus on the most recent information available, the analysis will focus on counts for 2003.

Exhibit 10
Summary Statistics for Variables Used in Regression Analysis

Variable	Mean	Standard Deviation	Minimum	Maximum	Number of Non-Missing Cases
Subprime Refinance Shares					
1999	21.30	18.41	0.00	100.00	695
2000	30.93	19.23	0.00	100.00	695
2001	16.49	15.02	0.00	100.00	694
Subprime Purchase Shares					
1999	6.84	7.45	0.00	66.67	695
2000	7.07	5.80	0.00	50.00	695
2001	6.58	5.29	0.00	57.14	693
Number of Establishments (2003)					
AFSPs	0.52	1.02	0.00	9.00	696
Banks	1.19	2.07	0.00	28.00	696
Drug Stores	0.50	0.79	0.00	5.00	696
Supermarkets	0.28	0.54	0.00	3.00	696
Neighborhood Race-Ethnicity Categories					
Whites=50-89.9%	0.12	0.32	0.00	1.00	696
Whites=>90%	0.56	0.50	0.00	1.00	696
Blacks=>90%	0.03	0.18	0.00	1.00	696
Blacks=50-89.9%	0.07	0.25	0.00	1.00	696
Hispanics=>50%	0.08	0.27	0.00	1.00	696
Mixed Race	0.14	0.35	0.00	1.00	696
Neighborhood Income Categories					
Less than $23,000	0.05	0.22	0.00	1.00	696
$23,000 to $33,999	0.20	0.40	0.00	1.00	696
$34,000 to $44,999	0.25	0.43	0.00	1.00	696
$45,000 to $62,999	0.26	0.44	0.00	1.00	696
$63,000 to $100,999	0.19	0.39	0.00	1.00	696
$101,000 or more	0.05	0.22	0.00	1.00	696
Conventional Mortgage Denial Rate					
1998	32.73	17.17	4.58	100.00	696
1999	32.32	16.53	6.16	89.47	696
2000	29.95	15.49	4.05	81.82	695
2001	25.98	14.77	4.31	100.00	695
Other Neighborhood Credit Risk Measures					
Residential Foreclosure Rate 1999-2001	38.82	35.32	0.44	268.49	617
FHA ClaimRate 1999-2001	4.01	5.38	0.00	47.52	675
FHA Delinquency Rate 1999-2001	5.51	8.39	0.00	101.57	675
Other Neighborhood Characteristics					
Share with Some College	55.20	23.59	8.04	97.44	696
Ownership Rate	59.92	26.44	0.00	100.00	696
Share Owners Moving 1995-1998	28.57	12.92	0.00	100.00	693
Capitalization Rate	9.22	4.11	0.00	50.54	685
Share Citizens	87.36	12.40	29.52	100.00	696
Share Households with Public Assistance Income	2.37	2.89	0.00	28.31	696

6.1.2. Independent Variables

Neighborhood Racial-Ethnic Categories

An important focus of this analysis is the extent to which the dependent variables are associated with the racial and ethnic composition of the neighborhood after accounting for other neighborhood characteristics. The principal choice in deciding how to capture the neighborhood's racial-ethnic composition is whether to use continuous measures (i.e., the share of households that are white, black or Hispanic) or categorical variables. Both approaches were explored. Two concerns with using continuous variables are that they tend to be highly correlated (e.g., the share white declines as the share black or Hispanic increases) and that there are often non-linear relationships between racial-ethnic shares and the variable of interest that are difficult to capture with a simple continuous measure (e.g., rather than simply rising or falling with neighborhood income, establishments may be more commonly found in moderate income neighborhoods than in either low or upper income areas). As a result, we settled on the categorical measures of neighborhood racial-ethnic composition used in Section 5: more than 90 percent black (mostly black), 50 to 90 percent black (majority black), 50 percent or more Hispanic (majority Hispanic), Mixed Race (no racial or ethnic group accounts 50 percent or more of households), 50 to 90 percent white (majority white), and 90 percent or more white (mostly white). In using categorical variables one category must be left out of the estimated model as the point of comparison with the remaining categories. In estimating the models, tracts that are 90 percent or more white are the left out category, so these areas are the baseline against which all other neighborhoods are evaluated.

Neighborhood Income Categories

As with race-ethnicity, we also explored the use of continuous measures of neighborhood incomes versus categorical measures. As the charts presented in Section 5 illustrate, there are a variety of ways in which the relationship between neighborhood income and the presence of subprime lending, AFSPs or banks is not a simple linear relationship. In the end, we felt that categorical neighborhood income measures based on the distribution of tract median household incomes provided the flexibility needed to capture the patterns observed in Section 5. Thus, the same income categories used in Section 5 are included in the regression analysis: less than $23,000, $23,000 to 33,999, $34,000 to $44,999, $45,000 to $62,999, $63,000 to $100,999, and $101,000 and higher. In estimating the models, tracts with income between $45,000 and $62,999 (the third income quintile) are the left out category, so these areas are the baseline against which all other neighborhoods are evaluated.

Neighborhood Credit Risk

As discussed in Section 2, one of the goals of this study is to examine the effectiveness of various measures of neighborhood credit risk. These include:

- Conventional prime mortgage denial rate from HMDA[23];
- FHA claims from 1999 through 2001;
- FHA delinquencies from 1999 through 2001; and
- Residential foreclosure rate from 1999 through 2001.

[23] The conventional prime denial rate is calculated using applications to non-subprime lenders for loans without government insurance.

Each of these measures is potentially relevant for predicting subprime lender shares as they relate to the level of risk of mortgage default. But they may also be relevant for predicting the location of AFSPs and banks to the extent that they are related to credit risk more generally. For example, since poor credit histories and high debt levels may be common reasons for conventional prime mortgage denials, high neighborhood denial rates may be indicative of credit situations that would raise the demand for AFSPs. It would be expected that higher levels of credit risk (i.e., higher rates for denials, claims, delinquencies or foreclosures) would be associated with higher levels of subprime lending, greater prevalence of AFSPs, and less prevalence of banks. The usefulness of each of these measures for predicting subprime lending shares will be explored, with the most promising measures used in models predicting the prevalence of banks and AFSPs. Two different versions of the HMDA conventional prime denial rate are tested: one for the same year as the subprime lender share and one for the previous year. A concern with using the conventional prime denial rate from the same year as the subprime lender share is that these two measures are not independent. If a borrower is rejected for a conventional prime loan, they may turn to a subprime lender. In that case, the denial rate may be less a measure of the general credit risk of the neighborhood and more a measure of the risk of the specific borrowers seeking financing in a given year. Calem, Gillen and Wachter (2004) used the concurrent HMDA denial rate in their models, while Apgar, Caulder, and Fauth (2004) used a measure that was averaged over the previous four years. We will test to see what affect lagging the denial rate has on its significance. Finally, since the volume of both foreclosures and FHA loans can be fairly low in some tracts, particularly in individual years, in order to provide a more consistent estimate of these measures, we have combined data for the period from 1999 to 2001.

Share College Educated

Calem, Gillen and Wachter (2004) found that the share of adults 25 or over with a college degree was negatively associated with subprime lending shares. The theory is that higher levels of education are associated with greater financial literacy, which in turn reduces the demand for subprime lending or AFSPs. To test this idea, we will include the share of adults 25 or over with at least some college as an explanatory variable in predicting both subprime lending shares and establishment locations. It would be expected that higher shares with college education would reduce subprime lending shares, decrease AFSPs, and increase banks. Of course, education is also often used as a proxy for an individual's longer-term earnings potential, also referred to as permanent income. Those with high levels of education but low current incomes may still act as those that had higher incomes due to their expectation for future higher income levels. To some extent the education variable may capture this effect as well.

Homeownership Rate

High homeownership rates are thought to be associated with greater neighborhood stability, as owners are more likely to invest in their properties and to lobby for government services to maintain their property values. Since these areas should present less risk for mortgage lenders, it would be expected that higher homeownership rates would be associated with lower subprime lender shares. With regard to AFSPs, it might be expected that higher homeownership rates would lower the demand for AFSP services both because owners are more likely to be banked (and so would have less demand for check cashers) and because they would have the option of tapping their home equity to meet their short term credit needs. Areas with higher homeownership rates might also be expected to have more banks, as the demand for financial services would be expected to be higher as homeowners have higher incomes and greater wealth than renters.

Housing Capitalization Rate

A measure of mortgage credit risk that has been used in most previous studies of subprime lending share is the capitalization rate for residential properties. A common approach to creating this variable is the ratio of median gross rent to the median house value, which represents a rate of return on residential property. Since the expected rate of return on residential investment should be equalized across neighborhoods within a market areas, lower capitalization rates are thought to indicate that investors need less return on property investments in the form of rent because they have higher expectation for capital gains on the property. It would be expected that subprime lender shares would move in the same direction as capitalization rates – higher capitalization rates would be associated with higher investment risk and thus higher subprime lender shares. Since residential capitalization rates are not thought to be relevant to the demand for AFSPs, this variable is not included in the establishment models.

Share of Owner Occupants Moving between 1995 and 1998

One of the variables captured by the decennial census is the share of owner occupants that moved between 1995 and 1998. This variable has been included in several previous studies of subprime lender shares as a measure for the level of demand for owner-occupied properties across neighborhoods. Areas with higher shares moving in recent years are thought to have more robust markets for owner-occupied properties and, therefore, to have less risk for mortgage lenders. Thus, higher shares of owners moving is expected to be associated with lower subprime lender shares. Again, since this variable is not thought to be related to the demand for AFSP services, this variable is not included in the models predicting the location of establishments.

Share of Population that Are Citizens

Since immigrants are more likely to be unbanked, they are more likely to make use of AFSPs. This tendency to avoid banks is in part due to the fact that many non-citizens are undocumented aliens who have difficulty accessing mainstream financial services as well as the fact that immigrants may also not have a tradition of using banks in their country of origin. Thus, one factor that may be associated with the location of AFSPs is the share of the population that are citizens. Areas with lower shares citizens would be expected to have a greater prevalence of AFSPs and fewer banks. We do not expect the same relationship with subprime lending as homeowners applying for mortgage credit are very likely to be documented aliens and to have a banking relationship. As a result, this variable is not included in the subprime lender share models.

Share of Households Receiving Public Assistance Income

In areas where a larger share of households are receiving public assistance, it might be expected that there would be greater demand for AFSPs, both to cash government assistance checks and to obtain short-term credit for those without sufficient income to access mainstream credit. The prevalence of AFSPs would thus be expected to be higher in areas with a greater share of households receiving public assistance, while banks would be expected to be less prevalent in these areas. There is not an expectation regarding the use of subprime lending and the share of households receiving public assistance, so this variable is not included in the subprime lender share models.

6.1.3. Modeling Approach

Subprime lender shares are modeled using ordinary least squares (OLS). While there may be concern about the appropriateness of using OLS in a situation where dependent variables are limited to a range of between 0 and 1, since there are very few tracts that have shares at either of these extremes previous research has found OLS to be a suitable approach. Following Calem, Gillen and Wachter, we use the number of owner households in the tract as weights to account for variations in the volume of mortgage lending activity in each tract.

The primary approach for modeling the presence of AFSPs, banks, and other establishments at the tract level is to estimate a Poisson regression model. This approach is used to fit models of the number of occurrences of an event; in this case, the number of establishments of a specific type located in a census tract.[24] The model is derived from the Poisson distribution. Specifically, a model of the following form is estimated:

$$Cj = e^{\beta 0 + \beta 1 x 1,j + \beta 2 x 2,j + \ldots + \beta k x k,j}$$

Where Cj is the count of establishments in tract j and the β's are the estimated coefficients for the independent variables.[25]

A potentially important difference between the measure of subprime lending used and the location of AFSPs and banks is that HMDA data provides information on the residential location of actual clients of subprime lenders while the clients of AFSPs and banks do not necessarily live in the tracts where these firms are located. One concern with the models of firm location based on tract characteristics is that the characteristics of surrounding tracts may also be important in explaining these firms presence. However, because of the complexity of the potential relationships between establishment locations relative to all other tracts in the market area, it is difficult to control for these potential spatial interrelationships in the regression model. As a test of whether such a situation exists, we estimated statistical tests to evaluate the spatial correlation of the residuals from the firm models. Specifically, we calculated Moran's I, a statistic measuring spatial correlation.[26] The result of this test suggested that there was no spatial correlation among the model residuals.

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[24] As noted previously, an ordinary least squares approach is not appropriate because the distribution of the dependent variable does not follow the standard normal distribution that is assumed by this modeling approach.

[25] For an overview of Poisson regression models, see *State Base Reference Manual*, Release 8.0. College Station, Texas: StataCorp, 2003.

[26] The users guide for CrimeStat® II provides a good discussion of Moran's I and other summary statistics related to geographic distributions. (Ned Levine & Associates, 2002. *CrimeStat® II: A Spatial Statistics Program for the Analysis of Crime Incident Locations*. Houston, TX: Ned Levine & Associates.)

6.2. Results

6.2.1. Subprime Refinance Shares

Exhibits 11 through 13 present the results for models estimating subprime lender shares of refinance mortgages for 1999 through 2001. For each year, we estimate a series of models to test the significance of the different measures of neighborhood credit risk. The models fit the data fairly well, with R-squared measures ranging from 0.55 to 0.79. In general, these levels of goodness of fit are consistent with those found in previous studies. Of note, the goodness of fit measures are lower in 2000 when subprime lending shares were higher, which is also what Scheessele (2002) found.

Some of the most consistent findings across the three years are for the variables capturing the neighborhood racial-ethnic composition. Tracts that are 90 percent or more black are consistently found to have the highest subprime shares, with the coefficient indicating that these areas have shares that, all else equal, are at least 26 percentage points higher than mostly white areas—and generally more than 30 percentage points higher. Neighborhoods where blacks comprise 50 to 90 percent of households generally have subprime shares that are also consistently at least 15 percentage points higher (and often 17 percentage points or more higher) than all white areas. The coefficients for mixed race neighborhoods are significant in 2000 and 2001, but only marginally significant in 1999. These areas are found to have subprime shares that are only slightly higher than mostly white areas, of between 2 and 8 percentage points. Finally, only in 2001 are the results statistically significant for tracts that are mostly Hispanic and majority white, when these areas are found to have slightly higher subprime lender shares than mostly white areas. But the magnitudes of these differences are small (between 1 and 4 percentage points), and not consistently statistically significant.

The findings with regard to neighborhood income are not consistent across the three years. In both 1999 and 2001, years when subprime refinance shares were fairly low due to high levels of conventional refinancing, neighborhoods with income below the tract median household income of $45,000 are found to have higher subprime lending shares than tracts with incomes between $45,000 and $62,999, with subprime shares increasing as income declines. The magnitude of these differences is between 2 and 10 percentage points in 1999 but only 2 to 5 percentage points in 2001. In 2000, the highest subprime shares are found in areas with income between $45,000 and $62,999, as the coefficients for all other neighborhood income categories are negative, although the results are only statistically significant for areas with incomes above $63,000. It is not clear why the volume of conventional refinance activity would affect the results regarding neighborhood income, but there is clearly a difference.

There are also consistent results regarding several of the other neighborhood characteristics. The share of adults with at least some college education is consistently negative and significant, indicating that higher levels of education are associated with lower subprime lender shares. This is consistent with the hypothesis that higher levels of financial literacy reduce reliance on subprime lenders. The share of owner households moving between 1995 and 1998 is also consistently negative and significant, indicating that greater rates of home sales are associated with lower subprime lender shares. Finally, the capitalization rate is consistently positive and significant, indicating that areas with higher expected rates of return on residential property (as indicated by a lower capitalization

rate) are associated with lower levels of subprime lending. On the other hand, the neighborhood ownership rate is consistently insignificant.

The models also include counts of the number of AFSPs and banks in each tract. None of the estimated models find a statistically significant association between the number of banks and subprime lending shares. With regard to AFSPs, only the models for 1999 find a consistent statistically significant negative relationship, meaning that areas with more AFSPs had lower shares of refinance lending by subprime lenders. This result is somewhat surprising, as it might have been expected that neighborhoods that have higher credit risk would have higher demand for both subprime lending and AFSPs. On the other hand, it may also be that areas with higher levels of homeownership and poorer average credit risk might be more likely to turn to subprime lenders for credit needs than AFSPs. However, since the number of AFSPs is only significant in one year, it may also be that this is a spurious correlation.

The last section of the exhibits compares results for the different measures of neighborhood credit risk. The only variable that is found to have a statistically significant relationship with subprime refinance shares is the HMDA conventional prime denial rate. Consistent with the results from other research, adding this measure of credit risk does reduce the importance of race-ethnicity and income, but only slightly. None of the other credit risk measures is significant in any of the models. As noted previously, two different versions of the conventional denial rate are tested: one for the same year as the subprime lender share and one for the previous year. Perhaps not surprisingly, the concurrent denial rate is consistently significant and positive. But the denial rate from the previous year is also statistically significant in two of the three years, although smaller in magnitude. Of the variables tested, the conventional denial rate from the previous year seems to be a reasonable proxy for neighborhood credit risk.

Exhibit 11
Subprime Refinance Share 1999

Variable	Alternative Models					
	(1)	(2)	(3)	(4)	(5)	(6)
Race-Ethnicity						
Blacks=>90%	33.429	30.910	31.273	33.264	33.230	35.767
	(13.31)	(12.11)	(12.64)	(13.09)	(13.10)	(14.20)
Blacks=50-89.9%	20.465	19.175	18.308	20.604	20.559	22.512
	(11.48)	(10.72)	(10.32)	(11.28)	(11.38)	(11.93)
Hispanics=>50%	-1.335	-0.078	0.349	-1.357	-1.380	-0.003
	(0.68)	(0.04)	(0.18)	(0.69)	(0.70)	0.00
Mixed Race	2.573	2.440	2.238	2.684	2.619	4.407
	(1.76)	(1.69)	(1.57)	(1.74)	(1.75)	(2.79)
Whites=50-89.9%	0.009	0.043	0.108	-0.018	-0.029	0.709
	(0.01)	(0.05)	(0.12)	(0.02)	(0.03)	(0.70)
Income						
<$23,000	10.045	9.757	8.736	10.474	10.512	5.906
	(3.33)	(3.27)	(2.96)	(3.42)	(3.43)	(1.93)
$23,000-$33,999	6.620	6.278	6.239	6.597	6.629	2.785
	(4.48)	(4.30)	(4.33)	(4.36)	(4.37)	(1.61)
$34,000-$44,999	2.481	2.121	2.127	2.450	2.470	0.120
	(2.45)	(2.11)	(2.15)	(2.37)	(2.39)	(0.11)
$63,000-$100,999	-0.856	-0.533	-0.262	-0.843	-0.827	-0.474
	(0.81)	(0.51)	(0.25)	(0.79)	(0.77)	(0.45)
'=>$101,000	-0.075	0.181	0.567	-0.036	-0.006	0.959
	(0.04)	(0.11)	(0.34)	(0.02)	0.00	(0.56)
Other Characteristics						
Share with Some College	-0.240	-0.145	-0.121	-0.240	-0.240	-0.272
	(7.59)	(3.73)	(3.30)	(7.54)	(7.44)	(8.17)
Ownership Rate	3.163	2.764	2.137	3.071	3.023	1.050
	(1.37)	(1.21)	(0.95)	(1.30)	(1.28)	(0.44)
Share Moved in 1995-98	-0.156	-0.160	-0.163	-0.155	-0.156	-0.152
	(4.74)	(4.91)	(5.10)	(4.59)	(4.52)	(4.66)
Capitalization Rate	0.233	0.184	0.182	0.225	0.225	0.324
	(1.93)	(1.53)	(1.54)	(1.84)	(1.83)	(2.60)
Number of AFSPs	-0.942	-0.964	-0.962	-0.949	-0.949	-1.160
	(2.27)	(2.35)	(2.38)	(2.27)	(2.27)	(2.86)
Number of Banks	0.119	0.165	0.161	0.115	0.115	0.040
	(0.60)	(0.85)	(0.84)	(0.57)	(0.57)	(0.21)
Credit Risk Measures						
Conventional Denial Rate 1998		0.174				
		(4.17)				
Conventional Denial Rate 1999			0.235			
			(6.02)			
FHA Delinquency Rate 1999-2001				-0.005		
				(0.17)		
FHA Claim Rate 1999-2001					-0.003	
					(0.06)	
Residential Foreclosure Rate						-0.010
						(1.12)
Constant	30.474	20.559	17.855	33.677	30.714	30.681
	(8.94)	(4.99)	(4.54)	(9.72)	(8.93)	(8.91)
Observations	684	684	684	611	671	671
R-squared	0.73	0.73	0.74	0.77	0.73	0.73

Note: T-statistics in parenthesis. Coefficients significant at 95% level in dark shading, those significant at 90% level in light shading.

Exhibit 12
Subprime Refinance Share 2000

Variable	Alternative Models					
	(1)	(2)	(3)	(4)	(5)	(6)
Race-Ethnicity						
Blacks=>90%	29.713	29.447	27.980	29.127	29.230	29.031
	(8.25)	(8.09)	(7.60)	(7.99)	(8.03)	(7.54)
Blacks=50-89.9%	18.994	18.729	17.741	18.224	18.490	18.370
	(7.43)	(7.17)	(6.78)	(6.96)	(7.13)	(6.37)
Hispanics=>50%	3.545	3.752	4.286	3.174	3.494	2.747
	(1.26)	(1.32)	(1.52)	(1.12)	(1.24)	(0.90)
Mixed Race	7.820	7.779	7.756	6.831	7.268	6.635
	(3.74)	(3.71)	(3.72)	(3.08)	(3.39)	(2.75)
Whites=50-89.9%	1.351	1.363	1.351	1.104	1.178	0.922
	(1.03)	(1.04)	(1.03)	(0.83)	(0.89)	(0.60)
Income						
<$23,000	-5.741	-5.902	-5.439	-5.124	-5.078	-7.307
	(1.33)	(1.36)	(1.26)	(1.17)	(1.15)	(1.56)
$23,000-$33,999	-1.374	-1.421	-1.303	-0.761	-0.752	-3.774
	(0.65)	(0.67)	(0.62)	(0.35)	(0.35)	(1.43)
$34,000-$44,999	-1.076	-1.120	-1.211	-0.704	-0.716	-1.987
	(0.74)	(0.77)	(0.84)	(0.47)	(0.48)	(1.18)
$63,000-$100,999	-3.850	-3.777	-3.502	-3.586	-3.759	-4.505
	(2.53)	(2.47)	(2.29)	(2.33)	(2.45)	(2.79)
'=>$101,000	-5.954	-5.876	-5.614	-5.581	-5.684	-6.539
	(2.44)	(2.40)	(2.30)	(2.21)	(2.26)	(2.52)
Other Characteristics						
Share with Some College	-0.163	-0.149	-0.107	-0.160	-0.152	-0.198
	(3.59)	(2.75)	(2.05)	(3.49)	(3.29)	(3.89)
Ownership Rate	0.728	0.602	0.263	-0.481	-0.359	0.409
	(0.22)	(0.18)	(0.08)	(0.14)	(0.11)	(0.11)
Share Moved in 1995-98	-0.222	-0.223	-0.226	-0.229	-0.234	-0.225
	(4.72)	(4.73)	(4.81)	(4.70)	(4.73)	(4.53)
Capitalization Rate	1.081	1.075	1.036	1.062	1.063	0.988
	(6.23)	(6.18)	(5.95)	(6.04)	(6.05)	(5.19)
Number of AFSPs	0.097	0.094	0.036	0.110	0.101	-0.370
	(0.16)	(0.16)	(0.06)	(0.18)	(0.17)	(0.60)
Number of Banks	-0.076	-0.071	-0.054	-0.135	-0.131	-0.105
	(0.27)	(0.25)	(0.19)	(0.46)	(0.45)	(0.36)
Credit Risk Measures						
Conventional Denial Rate 1998		0.029				
		(0.50)				
Conventional Denial Rate 1999			0.122			
			(2.15)			
FHA Delinquency Rate 1999-2001				0.066		
				(1.42)		
FHA Claim Rate 1999-2001					0.099	
					(1.36)	
Residential Foreclosure Rate						0.014
						(1.10)
Constant	34.006	32.455	28.157	34.627	34.145	38.344
	(6.95)	(5.61)	(5.04)	(7.01)	(6.92)	(7.25)
Observations	684	684	684	671	671	611
R-squared	0.56	0.56	0.56	0.55	0.55	0.59

Note: T-statistics in parenthesis. Coefficients significant at 95% level in dark shading, those significant at 90% level in light shading.

Exhibit 13
Subprime Refinance Share 2001

Variable	Alternative Models					
	(1)	(2)	(3)	(4)	(5)	(6)
Race-Ethnicity						
Blacks=>90%	30.861	28.858	26.414	31.045	30.965	30.162
	(15.54)	(14.38)	(13.33)	(15.39)	(15.37)	(14.54)
Blacks=50-89.9%	17.377	15.957	14.701	17.560	17.451	16.577
	(12.32)	(11.19)	(10.58)	(12.11)	(12.16)	(10.67)
Hispanics=>50%	2.842	3.681	4.545	2.914	2.855	2.061
	(1.83)	(2.39)	(3.03)	(1.86)	(1.82)	(1.25)
Mixed Race	4.334	4.258	3.687	4.589	4.431	2.988
	(3.76)	(3.74)	(3.33)	(3.74)	(3.74)	(2.30)
Whites=50-89.9%	1.288	1.288	1.222	1.394	1.366	0.985
	(1.78)	(1.81)	(1.77)	(1.89)	(1.86)	(1.19)
Income						
<$23,000	4.635	5.024	5.004	4.417	4.502	4.759
	(1.94)	(2.13)	(2.19)	(1.82)	(1.85)	(1.88)
$23,000-$33,999	3.487	3.560	3.338	3.343	3.416	3.586
	(2.99)	(3.09)	(2.99)	(2.78)	(2.84)	(2.52)
$34,000-$44,999	2.014	1.853	1.508	1.933	1.979	2.383
	(2.51)	(2.34)	(1.96)	(2.36)	(2.41)	(2.62)
$63,000-$100,999	-0.011	0.396	-0.006	-0.093	-0.052	0.317
	(0.01)	(0.48)	(0.01)	(0.11)	(0.06)	(0.36)
'=>$101,000	2.161	2.564	1.953	1.944	2.015	2.339
	(1.60)	(1.93)	(1.52)	(1.39)	(1.45)	(1.67)
Other Characteristics						
Share with Some College	-0.194	-0.130	-0.074	-0.195	-0.195	-0.207
	(7.74)	(4.56)	(2.60)	(7.71)	(7.61)	(7.54)
Ownership Rate	2.108	1.554	1.811	2.306	2.194	1.955
	(1.15)	(0.86)	(1.04)	(1.23)	(1.17)	(1.00)
Share Moved in 1995-98	-0.143	-0.148	-0.156	-0.139	-0.139	-0.148
	(5.52)	(5.78)	(6.25)	(5.15)	(5.09)	(5.54)
Capitalization Rate	0.583	0.531	0.453	0.597	0.595	0.494
	(6.09)	(5.58)	(4.88)	(6.14)	(6.12)	(4.81)
Number of AFSPs	-0.313	-0.383	-0.156	-0.302	-0.302	-0.181
	(0.95)	(1.18)	(0.49)	(0.91)	(0.91)	(0.54)
Number of Banks	-0.097	-0.072	-0.040	-0.121	-0.120	-0.127
	(0.63)	(0.47)	(0.27)	(0.75)	(0.75)	(0.80)
Credit Risk Measures						
Conventional Denial Rate 1998		0.139				
		(4.51)				
Conventional Denial Rate 1999			0.275			
			(8.01)			
FHA Delinquency Rate 1999-2001				-0.014		
				(0.54)		
FHA Claim Rate 1999-2001					-0.009	
					(0.22)	
Residential Foreclosure Rate						0.009
						(1.29)
Constant	19.917	13.282	8.287	19.639	19.724	21.556
	(7.39)	(4.36)	(2.80)	(7.19)	(7.23)	(7.56)
Observations	685	684	684	671	671	611
R-squared	0.76	0.77	0.78	0.76	0.76	0.79

Note: T-statistics in parenthesis. Coefficients significant at 95% level in dark shading, those significant at 90% level in light shading.

6.2.2. Subprime Purchase Shares

Exhibits 14 through 16 present modeling results for subprime purchase shares for 1999 through 2001. As measured by the R-squared statistic, the overall explanatory power of these models is lower than for refinance models, ranging from 0.14-0.19 in 2001 to 0.47-0.50 in 1999. The broad range of R-squared values and the very low levels from some models is consistent with results from previous studies. In their study of 10 market areas in 2000, NCRC (2003), for example, had R-square values for models estimating subprime purchase shares that were under 0.20 in four markets while in three markets the values exceeded 0.60.

The main consistency between the purchase and refinance models is the finding that neighborhoods that are 90 percent or more black and those that are 50 to 90 percent black have higher subprime shares of lending. The primary exception is for the 2001 models, where the racial impact was found to be much smaller (which was not found in the refinance models). In 2001, there were a few estimated models where the black neighborhood coefficients were not significant. Mixed race areas were also found to have somewhat higher subprime lender shares, but only in 1999 and 2000, as did areas that are between 50 and 90 percent white. The coefficient for tracts with a Hispanic majority was marginally statistically significant in 2001, but was negative, indicating these areas had lower subprime lending shares, all else equal, compared to areas that are mostly white. This is also consistent with findings from other papers that have found in a few cases that Hispanic areas have lower subprime lending shares.

With regard to neighborhood income, the only coefficients that are statistically significant are for the areas that have incomes below $34,000. The coefficient on the lowest income areas is statistically significant in all years, but it is negative in 2000, indicating these areas had lower subprime lender shares than areas with income between $45,000 and $62,999. Areas with incomes between $23,000 and $33,999 also had lower subprime lending shares compared to these areas in both 1999 and 2001.

In contrast to the refinance models, the share of adults with a college education is only statistically significant in the purchase models in 2000, and even then is not consistently significant. Similarly, the capitalization rate is only statistically significant in the models for 1999. The share of owners moving in 1995 to 1998, however, is statistically significant in all three years. As with the refinance models, the ownership rate is never statistically significant.

With regard to the number of AFSPs and banks, once again the number of banks is never statistically significant. The number of AFSPs, however, is consistently negative and statistically significant at the 10 percent level or more in 1999 and 2001. It is also negative in 2000, although smaller in magnitude and not statistically significant. This result is consistent with the findings from the refinance share models, where the number of AFSPs was negatively correlated with subprime lending shares in 1999. However, it is not clear why this relationship should be clearer with regard to subprime purchase lending than refinance lending.

Exhibit 14
Subprime Purchase Share 1999

Variable	Alternative Models					
	(1)	(2)	(3)	(4)	(5)	(6)
Race-Ethnicity						
Blacks=>90%	13.548	12.577	12.671	13.086	13.048	12.336
	(9.95)	(9.02)	(9.33)	(9.51)	(9.53)	(8.29)
Blacks=50-89.9%	10.279	9.782	9.402	9.829	9.908	9.540
	(10.63)	(10.02)	(9.65)	(9.94)	(10.16)	(8.56)
Hispanics=>50%	-0.137	0.348	0.548	-0.326	-0.103	-0.366
	(0.13)	(0.33)	(0.52)	(0.30)	(0.10)	(0.31)
Mixed Race	2.742	2.691	2.606	2.055	2.222	1.846
	(3.47)	(3.42)	(3.34)	(2.46)	(2.76)	(1.98)
Whites=50-89.9%	0.988	1.001	1.029	0.847	0.873	0.905
	(1.99)	(2.03)	(2.10)	(1.69)	(1.75)	(1.52)
Income						
<$23,000	5.031	4.920	4.498	5.620	5.819	6.577
	(3.07)	(3.02)	(2.78)	(3.39)	(3.52)	(3.63)
$23,000-$33,999	-1.671	-1.803	-1.826	-1.306	-1.166	-0.921
	(2.09)	(2.26)	(2.31)	(1.59)	(1.42)	(0.90)
$34,000-$44,999	-0.405	-0.544	-0.549	-0.169	-0.098	0.200
	(0.74)	(0.99)	(1.01)	(0.30)	(0.18)	(0.31)
$63,000-$100,999	-0.032	0.093	0.210	0.123	0.017	-0.004
	(0.06)	(0.16)	(0.37)	(0.21)	(0.03)	(0.01)
'=>$101,000	-0.537	-0.438	-0.275	-0.062	-0.040	-0.327
	(0.58)	(0.48)	(0.30)	(0.07)	(0.04)	(0.33)
Other Characteristics						
Share with Some College	-0.023	0.014	0.026	-0.021	-0.014	-0.017
	(1.32)	(0.67)	(1.29)	(1.19)	(0.78)	(0.86)
Ownership Rate	0.877	0.723	0.459	0.304	0.230	0.618
	(0.70)	(0.58)	(0.37)	(0.24)	(0.18)	(0.44)
Share Moved in 1995-98	-0.055	-0.056	-0.058	-0.063	-0.071	-0.074
	(3.08)	(3.18)	(3.30)	(3.46)	(3.79)	(3.87)
Capitalization Rate	0.306	0.287	0.285	0.295	0.293	0.218
	(4.66)	(4.37)	(4.39)	(4.44)	(4.43)	(2.96)
Number of AFSPs	-0.388	-0.396	-0.396	-0.402	-0.412	-0.315
	(1.72)	(1.77)	(1.78)	(1.78)	(1.83)	(1.32)
Number of Banks	-0.071	-0.053	-0.054	-0.061	-0.056	-0.060
	(0.66)	(0.50)	(0.51)	(0.56)	(0.52)	(0.53)
Credit Risk Measures						
Conventional Denial Rate 1998		0.067				
		(2.95)				
Conventional Denial Rate 1999			0.096			
			(4.46)			
FHA Delinquency Rate 1999-2001				0.043		
				(2.45)		
FHA Claim Rate 1999-2001					0.086	
					(3.14)	
Residential Foreclosure Rate						0.019
						(3.78)
Constant	4.602	0.778	-0.532	4.931	4.588	4.775
	(2.49)	(0.35)	(0.25)	(2.65)	(2.47)	(2.33)
Observations	684	684	684	671	671	611
R-squared	0.47	0.48	0.48	0.47	0.48	0.50

Note: T-statistics in parenthesis. Coefficients significant at 95% level in dark shading, those significant at 90% level in light shading.

Exhibit 15
Subprime Purchase Share 2000

Variable	Alternative Models					
	(1)	(2)	(3)	(4)	(5)	(6)
Race-Ethnicity						
Blacks=>90%	12.954	11.783	10.834	12.458	12.741	13.375
	(10.06)	(9.32)	(8.56)	(9.58)	(9.76)	(9.71)
Blacks=50-89.9%	8.878	7.707	7.345	8.404	8.786	8.990
	(9.71)	(8.50)	(8.16)	(9.00)	(9.45)	(8.72)
Hispanics=>50%	-0.115	0.800	0.792	-0.302	-0.099	0.963
	(0.11)	(0.81)	(0.82)	(0.30)	(0.10)	(0.88)
Mixed Race	1.718	1.536	1.640	1.019	1.571	1.957
	(2.30)	(2.11)	(2.29)	(1.29)	(2.05)	(2.27)
Whites=50-89.9%	0.837	0.891	0.837	0.725	0.822	1.070
	(1.78)	(1.96)	(1.86)	(1.52)	(1.72)	(1.94)
Income						
<$23,000	-3.182	-3.893	-2.813	-2.485	-2.789	-4.138
	(2.06)	(2.58)	(1.89)	(1.59)	(1.77)	(2.47)
$23,000-$33,999	-1.073	-1.280	-0.985	-0.622	-0.883	-2.022
	(1.42)	(1.74)	(1.36)	(0.80)	(1.13)	(2.14)
$34,000-$44,999	0.241	0.048	0.076	0.512	0.347	-0.221
	(0.46)	(0.10)	(0.15)	(0.97)	(0.65)	(0.37)
$63,000-$100,999	0.254	0.576	0.679	0.398	0.257	0.758
	(0.47)	(1.09)	(1.29)	(0.72)	(0.47)	(1.31)
'=>$101,000	-0.303	0.045	0.113	0.061	-0.193	0.831
	(0.35)	(0.05)	(0.13)	(0.07)	(0.21)	(0.89)
Other Characteristics						
Share with Some College	-0.042	0.023	0.027	-0.039	-0.039	-0.033
	(2.60)	(1.21)	(1.48)	(2.40)	(2.33)	(1.83)
Ownership Rate	0.698	0.141	0.129	0.078	0.475	-1.653
	(0.59)	(0.12)	(0.11)	(0.06)	(0.39)	(1.27)
Share Moved in 1995-98	-0.039	-0.043	-0.044	-0.048	-0.044	-0.064
	(2.33)	(2.66)	(2.73)	(2.74)	(2.50)	(3.61)
Capitalization Rate	0.025	-0.002	-0.030	0.016	0.023	0.045
	(0.41)	(0.04)	(0.49)	(0.25)	(0.36)	(0.66)
Number of AFSPs	-0.229	-0.240	-0.303	-0.232	-0.230	-0.165
	(1.08)	(1.16)	(1.48)	(1.08)	(1.07)	(0.74)
Number of Banks	-0.081	-0.058	-0.053	-0.087	-0.088	-0.076
	(0.80)	(0.59)	(0.55)	(0.84)	(0.85)	(0.73)
Credit Risk Measures						
Conventional Denial Rate 1998		0.128				
		(6.40)				
Conventional Denial Rate 1999			0.149			
			(7.66)			
FHA Delinquency Rate 1999-2001				0.047		
				(2.88)		
FHA Claim Rate 1999-2001					0.029	
					(1.12)	
Residential Foreclosure Rate						0.015
						(3.28)
Constant	8.678	1.828	1.523	8.909	8.619	9.183
	(4.96)	(0.91)	(0.79)	(5.06)	(4.87)	(4.85)
Observations	684	684	684	671	671	611
R-squared	0.34	0.38	0.39	0.35	0.34	0.38

Note: T-statistics in parenthesis. Coefficients significant at 95% level in dark shading, those significant at 90% level in light shading.

Exhibit 16
Subprime Purchase Share 2001

Variable	Alternative Models					
	(1)	(2)	(3)	(4)	(5)	(6)
Race-Ethnicity						
Blacks=>90%	2.984	1.760	1.026	2.615	2.874	3.325
	(2.63)	(1.54)	(0.89)	(2.30)	(2.52)	(2.82)
Blacks=50-89.9%	2.499	1.620	1.340	2.066	2.393	2.718
	(3.10)	(1.99)	(1.66)	(2.53)	(2.95)	(3.07)
Hispanics=>50%	-2.011	-1.492	-1.269	-2.158	-2.014	-0.768
	(2.27)	(1.70)	(1.46)	(2.44)	(2.28)	(0.82)
Mixed Race	0.517	0.472	0.234	-0.087	0.378	0.989
	(0.79)	(0.73)	(0.36)	(0.13)	(0.56)	(1.34)
Whites=50-89.9%	0.291	0.291	0.262	0.118	0.201	0.579
	(0.70)	(0.72)	(0.65)	(0.28)	(0.48)	(1.23)
Income						
<$23,000	2.906	3.127	3.110	3.310	3.006	2.836
	(2.13)	(2.33)	(2.34)	(2.42)	(2.18)	(1.97)
$23,000-$33,999	-1.500	-1.452	-1.565	-1.194	-1.450	-2.346
	(2.25)	(2.21)	(2.41)	(1.76)	(2.13)	(2.89)
$34,000-$44,999	-0.240	-0.337	-0.462	-0.021	-0.180	-0.669
	(0.53)	(0.75)	(1.03)	(0.05)	(0.39)	(1.29)
$63,000-$100,999	0.001	0.249	0.005	0.136	0.028	0.544
	0.00	(0.52)	(0.01)	(0.28)	(0.06)	(1.10)
'=>$101,000	-0.246	-0.003	-0.335	0.110	-0.120	0.780
	(0.32)	0.00	(0.45)	(0.14)	(0.15)	(0.98)
Other Characteristics						
Share with Some College	-0.023	0.017	0.030	-0.020	-0.021	-0.015
	(1.59)	(1.03)	(1.81)	(1.39)	(1.42)	(0.98)
Ownership Rate	0.809	0.476	0.673	0.383	0.749	-1.200
	(0.78)	(0.46)	(0.66)	(0.36)	(0.71)	(1.08)
Share Moved in 1995-98	-0.027	-0.030	-0.032	-0.035	-0.031	-0.053
	(1.82)	(2.04)	(2.23)	(2.33)	(2.02)	(3.50)
Capitalization Rate	0.096	0.064	0.039	0.086	0.093	0.057
	(1.76)	(1.19)	(0.73)	(1.57)	(1.69)	(0.98)
Number of AFSPs	-0.338	-0.381	-0.270	-0.358	-0.354	-0.266
	(1.80)	(2.06)	(1.47)	(1.92)	(1.89)	(1.40)
Number of Banks	0.019	0.035	0.044	0.045	0.043	0.003
	(0.22)	(0.40)	(0.51)	(0.49)	(0.47)	(0.04)
Credit Risk Measures						
Conventional Denial Rate 1998		0.086				
		(4.88)				
Conventional Denial Rate 1999			0.120			
			(6.01)			
FHA Delinquency Rate 1999-2001				0.035		
				(2.45)		
FHA Claim Rate 1999-2001					0.012	
					(0.52)	
Residential Foreclosure Rate						0.015
						(3.76)
Constant	7.104	3.002	2.037	7.347	7.145	7.93
	(4.61)	(1.73)	(1.18)	(4.78)	(4.63)	(4.89)
Observations	684	683	684	671	671	610
R-squared	0.14	0.17	0.19	0.15	0.14	0.19

Note: T-statistics in parenthesis. Coefficients significant at 95% level in dark shading, those significant at 90% level in light shading.

Interestingly, the neighborhood credit risk measures are much more consistently significant in the purchase models. The HMDA conventional prime mortgage denial rate, both concurrent and lagged, is again consistently statistically significant. The FHA delinquency and residential foreclosure rates are also statistically significant in all three years, while the FHA claims rate is significant in 1999. In all cases the coefficient have the expected positive sign – higher credit risk is associated with higher subprime lender shares. For the most part, the inclusion of these credit risk measures only slightly reduces the importance of the race-ethnicity variables. The exception is in the models for 2001 where the race-ethnicity effects are much smaller than in other years. On the other hand, in some cases, the inclusion of these variables actually increases the association between neighborhood income level and subprime lending shares. There was little difference in the overall explanatory power of the models depending upon which credit risk measure was used, so there does not appear to be a significant advantage of one measure over another in that regard.

It is not clear why these measures should be more closely associated with purchase shares than refinance shares. One possibility is that appraised property values are more important in underwriting purchase loans than refinance loans to the extent that the loan to value ratios on purchase loans are higher. If high levels of foreclosures depress property values, homebuyers may have a harder time qualifying for conventional financing in these areas.

6.2.3. Number of AFSPs

Exhibit 17 presents the results of the Poisson models predicting the number of AFSPs in a census tract. The first model includes only the variables related to neighborhood racial-ethnic composition and income. The second model then adds counts of the number of banks, drug stores and supermarkets in the tract to capture the prevalence of retail activity generally in these areas. Finally, the third model adds a series of other explanatory variables thought to be related to the demand for AFSP services.

The first model finds that AFSPs are most common in mixed race neighborhoods, followed by areas that are a majority Hispanic and areas that are between 50 and 90 percent white. Consistent with the tabulations shown in Section 5, neighborhoods where blacks comprise a majority are not found to have more AFSPs than areas where whites account for more than 90 percent of households.

With regard to neighborhood income, areas with median household income between $23,000 and $33,999 have the most AFSPs, followed by areas with incomes between $34,000 and $44,999, while neighborhoods with income above $63,000 have the fewest.

When counts of the number of other establishments in the tract are added, we find that the number of banks and drug stores is positively related to the number of AFSPs. To the extent that AFSPs fill in for a lack of banks, we might have expected a negative coefficient on the bank variable. The positive coefficient on firms of all types suggests that the count of these other establishments is a proxy for the degree of retail activity in the tract. Areas with higher levels of other retail establishments are more likely to have AFSPs, taking into account neighborhood racial-ethnic composition and income level. Interestingly, the addition of the other establishment counts does not diminish any of the relationships found in Model 1 regarding race-ethnicity and income.

Exhibit 17
Modeling Results Predicting Number of AFSPs

Variable	Alternative Models		
	(1)	(2)	(3)
Race-Ethnicity			
Blacks=>90%	0.372	0.165	0.152
	(0.88)	(0.39)	(0.34)
Blacks=50-89.9%	0.435	0.563	0.377
	(1.24)	(1.59)	(1.02)
Hispanics=>50%	0.616	0.773	-0.497
	(1.88)	(2.36)	(1.20)
Mixed Race	0.973	1.03	0.396
	(3.22)	(3.41)	(1.18)
Whites=50-89.9%	0.678	0.629	0.418
	(2.39)	(2.22)	(1.44)
Income			
<$23,000	0.207	0.435	0.105
	(0.66)	(1.41)	(0.27)
$23,000-$33,999	0.861	0.911	0.600
	(4.99)	(5.17)	(2.53)
$34,000-$44,999	0.317	0.411	0.208
	(1.97)	(2.50)	(1.10)
$63,000-$100,999	-0.67	-0.511	-0.218
	(2.92)	(2.20)	(0.82)
=>$101,000	-1.269	-1.176	-0.889
	(2.12)	(1.96)	(1.39)
Other Establishments			
Number of Banks		0.110	0.100
		(8.47)	(6.35)
Number of Drug Stores		0.290	0.309
		(4.90)	(5.19)
Number of Supermarkets		0.104	0.160
		(1.18)	(1.81)
Other Neighborhood Characteristics			
Subprime Refinance Share			0.000
			(0.14)
Conventional Denial Rate			0.008
			(1.61)
Share Citizens			-0.03
			(3.75)
Share with Some College			-0.008
			(1.20)
Share with Public Assistance			-0.023
			(0.75)
Ownership Rate			0.090
			(0.23)
Constant	-1.536	-2.014	1.111
	(5.30)	(6.71)	(1.55)
Observations	696	696	695
Pseudo R-squared	0.09	0.15	0.17
Log likelihood	-677.78	-631.32	-615.23

Note: T-statistics in parenthesis. Coefficients significant at 95% level in dark shading, those significant at 90% level in light shading.

Model 3 then adds the other explanatory variables described previously, including the subprime refinance share, the conventional prime mortgage denial rate, the share of population that are citizens, the share of adults with some college, the share of households with public assistance income, and the homeownership rate.[27] Of these variables, the only one that is statistically significant is the share citizen – the more non-citizens, the more common AFSPs are.

With these other variables included, most of the neighborhood race-ethnicity and income variables are no longer significant. The lone exception is for areas with incomes between $23,000 and $33,999, which are still found to have higher levels of AFSPs, all else equal. Thus, aside from the number of other retail establishments in the tract, the only variables that are found to be related to the number of AFSPs is having household incomes in the lowest quartile of tracts and having high levels of non-citizens.

Interestingly, neither the subprime-lending share nor the conventional prime mortgage denial rate is found to be associated with the number of AFSPs. When combined with the finding from the subprime lending models that in some cases the number of AFSPs and subprime lending shares are actually negatively correlated, these results suggest that there may not be a strong overlap in the clients of subprime lenders and AFSPs. The lack of overlap between these two industries – at least in Dallas -- is also supported by the fact that subprime lending is heavily concentrated in majority black neighborhoods while there is no indication that AFSPs are any more common in these areas than they are in areas that are mostly white.

6.2.4. Number of Banks

Exhibit 18 presents modeling results for the Poisson models predicting the number of banks found in each tract. In the first model, incorporating only measures of neighborhood racial-ethnic composition and income, we find that the number of banks is strongly associated with a tract's racial-ethnic composition, with all areas where minorities comprise a majority of the households having fewer banks than areas where whites account for a majority. Banks are least likely to be found in areas where Hispanics comprise a majority of households, followed by areas where blacks account for between 50 and 90 percent of households. In terms of income, neighborhoods with median household income between $45,000 and $62,999 are more likely to have banks than other areas, with tracts with incomes above $63,000 least likely to have banks.

When counts of other retail establishments are added to the model in model 2, we again find that the presence of other retail firms of all types increases the number of banks present as well. The patterns with regard to neighborhood race-ethnicity and income remain essentially unchanged.

[27] Since the conventional mortgage denial rate was consistently significant in the subprime models, we have chosen this variable as the measure of neighborhood credit risk to include in the establishment models. Both the subprime refinance share and the conventional mortgage denial rate are from 2000 to match the other variables that come from the 2000 decennial census.

Exhibit 18
Modeling Results Predicting Number of Banks

Variable	Alternative Models		
	(1)	(2)	(3)
Race-Ethnicity			
Blacks=>90%	-0.566	-0.639	-0.431
	(2.12)	(2.48)	(1.51)
Blacks=50-89.9%	-0.912	-0.987	-1.225
	(4.09)	(4.47)	(5.10)
Hispanics=>50%	-1.364	-1.384	-1.516
	(5.67)	(5.71)	(4.59)
Mixed Race	-0.514	-0.800	-1.108
	(3.32)	(4.95)	(5.70)
Whites=50-89.9%	-0.110	-0.242	-0.480
	(1.02)	(2.24)	(4.08)
Income			
<$23,000	-0.077	-0.143	-0.554
	(0.33)	(0.64)	(2.10)
$23,000-$33,999	0.110	-0.126	-0.435
	(0.91)	(1.02)	(2.69)
$34,000-$44,999	-0.185	-0.266	-0.439
	(1.86)	(2.68)	(3.89)
$63,000-$100,999	-0.194	-0.098	0.213
	(1.96)	(0.97)	(1.62)
=>$101,000	-0.400	-0.312	0.110
	(2.23)	(1.72)	(0.49)
Other Establishments			
Number of AFSPs		0.304	0.270
		(12.04)	(10.02)
Number of Drug Stores		0.195	0.179
		(5.03)	(4.50)
Number of Supermarkets		0.384	0.419
		(7.18)	(7.63)
Other Neighborhood Characteristics			
Subprime Refinance Share			-0.004
			(1.69)
Conventional Denial Rate			0.011
			(3.02)
Share Citizens			0.008
			(1.21)
Share with Some College			-0.002
			(0.37)
Share with Public Assistance			-0.076
			(2.74)
Ownership Rate			-1.895
			(7.60)
Constant	0.522	0.191	0.915
	(4.68)	(1.62)	(1.58)
Observations	696	696	695
Pseudo R-squared	0.03	0.14	0.2
Log likelihood	-1231.7	-1095.24	-1018.79

Note: T-statistics in parenthesis. Coefficients significant at 95% level in dark shading, those significant at 90% level in light shading.

When other tract characteristics are added in model 3, we find a number of factors that are associated with the presence of banks, although in several cases the results are at odds with expectations. The subprime refinance share is negatively associated with the number of banks, although only at the 90 percent significance level. This finding is consistent with the argument that a lack of banks is a factor in the high subprime shares in black neighborhoods. However, the fact that the number of banks was not significant in any of the subprime models raises doubts about the strength of this association. The share of households receiving public assistance is negative and significant, which is consistent with the hypothesis that banks locate in areas where households are more likely to have demand for financial services.

On the other hand, the conventional prime denial rate is positive and statistically significant. Since this finding suggests that banks are more common in areas with higher credit risk it is contrary to expectations. Also, the homeownership rate is negative and significant, which is also contrary to expectations.

Perhaps the most telling aspect of the results of the third model is that the coefficients for race-ethnicity and income continue to be statistically significant and of a similar pattern to the first two models. Areas where minorities comprise a majority of households are less likely to have banks than areas where whites are a majority. The one difference is that the coefficient for areas that are 90 percent or more black is no longer significant. With regard to income, neighborhoods with incomes below $45,000 are all less likely to have banks than areas with higher incomes. Thus, even after controlling for a variety of other tract characteristics, neighborhood race and income are important determinants of bank presence – even more so than for AFSPs.

6.2.5. Number of Drug Stores and Supermarkets

Exhibits 19 and 20 present the results of models predicting the location of drug stores and supermarkets. While it would not necessarily be expected that the same factors that are related to the demand for financial services would explain the location of these establishments, the results offer a point of comparison to the findings for AFSPs and banks. In general, very few of the variables explain the presence of these establishments – aside from having other retail establishments in the tract. For drug stores, none of the racial-ethnic variables are significant and only one income variable in a single model is significant. Among other neighborhood characteristics, the conventional prime mortgage denial rate is negative and significant at the 90 percent level, indicating that areas of higher credit risk are less likely to have a drug store. The share citizen is positive and significant at the 90 percent level, indicating that areas with more immigrants are less likely to have drug stores. For supermarkets, the results are similar, none of the racial-ethnic variables is consistently significant and none of the other variables are significant. In short, in comparison to drug stores and supermarkets, neighborhood race-ethnicity and income are much more important factors in explaining the location of AFSPs and banks.

Exhibit 19
Modeling Results Predicting Number of Drug Stores

Variable	Alternative Models		
	(1)	(2)	(3)
Race-Ethnicity			
Blacks=>90%	-0.643	-0.842	-0.578
	(1.25)	(1.64)	(1.06)
Blacks=50-89.9%	-0.145	-0.211	-0.019
	(0.45)	(0.66)	(0.05)
Hispanics=>50%	-0.138	-0.102	0.577
	(0.47)	(0.34)	(1.42)
Mixed Race	-0.123	-0.276	0.041
	(0.49)	(1.08)	(0.14)
Whites=50-89.9%	0.221	0.115	0.210
	(1.17)	(0.61)	(1.05)
Income			
<$23,000	-0.400	-0.246	-0.062
	(1.03)	(0.64)	(0.13)
$23,000-$33,999	0.126	0.033	0.273
	(0.67)	(0.17)	(1.07)
$34,000-$44,999	0.061	0.056	0.200
	(0.41)	(0.37)	(1.12)
$63,000-$100,999	-0.258	-0.244	-0.468
	(1.55)	(1.45)	(2.21)
=>$101,000	0.028	0.126	-0.159
	(0.10)	(0.47)	(0.47)
Other Establishments			
Number of AFSPs		0.164	0.196
		(3.59)	(4.15)
Number of Banks		0.055	0.058
		(3.07)	(2.83)
Number of Supermarkets		0.575	0.555
		(7.88)	(7.45)
Other Neighborhood Characteristics			
Subprime Refinance Share			-0.003
			(0.79)
Conventional Denial Rate			-0.011
			(1.76)
Share Citizens			0.016
			(1.71)
Share with Some College			0.004
			(0.56)
Share with Public Assistance			0.001
			(0.02)
Ownership Rate			-0.096
			(0.24)
Constant	-0.759	-1.091	-2.517
	(3.83)	(5.29)	(2.87)
Observations	696	696	695
Pseudo R-squared	0.01	0.09	0.10
Log likelihood	-661.75	-612.91	-605.06

Note: T-statistics in parenthesis. Coefficients significant at 95% level in dark shading, those significant at 90% level in light shading.

Exhibit 20
Modeling Results Predicting Number of Supermarkets

Variable	Alternative Models		
	(1)	(2)	(3)
Race-Ethnicity			
Blacks=>90%	-0.305	-0.514	-0.885
	(0.39)	(0.65)	(1.05)
Blacks=50-89.9%	0.364	0.584	0.666
	(0.85)	(1.36)	(1.46)
Hispanics=>50%	0.003	0.209	0.892
	(0.01)	(0.48)	(1.56)
Mixed Race	0.511	0.589	0.963
	(1.55)	(1.79)	(2.55)
Whites=50-89.9%	0.288	0.233	0.389
	(1.13)	(0.92)	(1.47)
Income			
<$23,000	-1.529	-1.339	-0.706
	(2.00)	(1.77)	(0.82)
$23,000-$33,999	-0.122	-0.149	0.208
	(0.46)	(0.55)	(0.57)
$34,000-$44,999	-0.127	-0.072	0.149
	(0.58)	(0.32)	(0.57)
$63,000-$100,999	0.331	0.558	0.331
	(1.66)	(2.72)	(1.23)
=>$101,000	0.015	0.085	-0.124
	(0.04)	(0.22)	(0.26)
Other Establishments			
Number of AFSPs		0.056	0.092
		(0.85)	(1.32)
Number of Banks		0.088	0.105
		(4.07)	(4.20)
Number of Drug Stores		0.518	0.504
		(7.55)	(7.22)
Other Neighborhood Characteristics			
Subprime Refinance Share			0.007
			(1.37)
Conventional Denial Rate			-0.008
			(0.89)
Share Citizens			0.016
			(1.15)
Share with Some College			0.007
			(0.68)
Share with Public Assistance			-0.003
			(0.05)
Ownership Rate			0.470
			(0.85)
Constant	-1.524	-2.151	-4.492
	(5.63)	(7.39)	(3.69)
Observations	696	696	695
Pseudo R-squared	0.02	0.1	0.11
Log likelihood	-454.27	-416.18	-412.73

Note: T-statistics in parenthesis. Coefficients significant at 95% level in dark shading, those significant at 90% level in light shading.

6.3. Discussion of Results

One of the purposes of this study is to examine the usefulness of alternative measures of credit risk at the neighborhood level for analyzing geographic variations in subprime lending shares. The principal conclusion that can be drawn from the results of our analysis is that the conventional prime mortgage denial rate from HMDA is a fairly consistent predictor of subprime lending shares. When lagged by a year the variable was significant in five of the six models estimated. The results were much less consistent for FHA delinquency and claim rates and residential foreclosure rates. None of these variables was significant in any of the estimated refinance models, although the FHA delinquency rate and residential foreclosure rate were both significant in all three subprime purchase share models, while the FHA claims rate was significant only in the purchase share model using data from 1999. There was not a significant difference in the explanatory power of the models using different credit risk measures, so it did not appear that any one measure held an advantage over another. Given the HMDA denial rate measures are readily available and more consistently significant, in the absence of credit score data this measure may be the best option to proxy for neighborhood credit risk in analysis of subprime lending shares.

Other results of the subprime lending share models are consistent with findings from previous research. Neighborhoods where blacks account for a majority of households have much higher subprime lender shares than other neighborhoods even after controlling for a variety of neighborhood characteristics. In Dallas, the differences were fairly large, with neighborhoods that are more than 90 percent black have subprime lender shares of refinance mortgages that are about 30 percentage points higher than in areas where whites account for 90 percent of households. Also in keeping with previous research, while the association between neighborhood racial composition and subprime lender shares is diminished slightly by the inclusion of other neighborhood characteristics, including credit risk measures, the association with race is still quite large and statistically significant.

In comparison to race-ethnicity, neighborhood income levels are less strongly associated with subprime lender shares in Dallas, although we generally find that shares are higher in the lowest-income areas. Among the other factors examined, in all estimated models the share of homeowners moving between 1995 and 1998 was consistently negatively associated with subprime lender shares. This indicates that borrowers in areas with a more active home sales market are less likely to use subprime lenders. In the refinance models, we also consistently found that a higher share of adults with some college education reduced the use of subprime lenders, suggesting that higher levels of financial literacy may lower the reliance on subprime lenders. However, this association is less consistent in the purchase models. Similarly, the capitalization rate is a consistent predictor of subprime refinance shares, but is less consistently associated with subprime purchase shares.

One of the questions raised by the results of our analysis is what explains the differences in the role of various explanatory variables in predicting subprime refinance shares compared to subprime purchase shares. It would be interesting to conduct a more systematic analysis of the differences in factors explaining subprime refinance and purchase shares over time and across a number of market areas.

Another goal of this study was to examine the relationship, if any, between the prevalence of subprime lending and the location of AFSPs. Given that the literature has found that both subprime lending and AFSPs are more common in minority and lower income communities, we expected to

find these activities concentrating in the same neighborhoods. One test for a relationship was to include a count of AFSPs in the models predicting subprime lending shares. In most cases, no statistically significant association was found. However, in a few cases, mostly in the subprime purchase share models, the number of AFSPs was found to have a negative association with subprime lending shares. Thus, areas with greater numbers of AFSPs had somewhat *lower* subprime lender shares. While the association may be a spurious correlation, it may also be an indication that subprime lenders and AFSPs are serving different market niches. Another test of the association between subprime lending and AFSPs was to include the subprime lending share as an independent variable in the models predicting the number of AFSPs in the neighborhood. These models found no statistically significant association between subprime lending shares and the number of AFSPs in a neighborhood.

An indirect test an association between AFSPs and subprime lending is to compare the relative importance of other explanatory variables in predicting the location of these activities, most notably race-ethnicity and income. The modeling results show significant differences in these dimensions. While subprime lender shares are strongly associated with areas where blacks are a majority, AFSPs are no more likely to be located in black neighborhoods than they are to be in areas where whites account for a majority. AFSPs, in contrast, are much more likely to be located in areas where Hispanics have a significant presence. But even this association is not statistically significant once the share of the population who are citizens is included in the model. It is true that both AFSPs and subprime lending are more likely in lower income areas, but the association between neighborhood income and AFSPs is not as strong as it is for subprime lending.

We also attempted to evaluate whether neighborhood credit risk was associated with AFSP location. Based on the results of the subprime lender share models, the HMDA conventional prime denial rate was selected as the proxy for neighborhood credit risk. However, this variable was not found to be significantly associated with AFSP location.

Finally, a last goal of this analysis was to evaluate the extent to which the presence of banks was associated with either subprime lending shares or AFSP locations. As with AFSPs, the count of banks was included as an independent variable in both the subprime lending share models and vice versa. The number of banks was not significant in any of the subprime lender share models. However, we also included the subprime refinance share in the model predicting the number of banks and found a weak negative association. That is, areas with higher subprime lending shares were found to be less likely to have banks. While consistent with the argument that a lack of banks is associated with more subprime lending, the fact that the number of banks was not significant in predicting subprime lender makes it difficult to draw this conclusion from these results.

Some indirect support for the argument that a lack of banks may be related to high shares of subprime lending comes from the fact that neighborhood minority share is found to be a statistically significant factor in predicting the number of banks in a neighborhood. Specifically, areas where whites account for more than 90 percent of households are predicted to have more banks than any other neighborhood type. But in contrast to subprime lending patterns, the fewest banks are in areas with a majority of Hispanic households, while areas where blacks make up 90 percent of more of households have about the same number of banks as areas where whites are a majority.

With regard to the relationship between the location of AFSPs and banks, our modeling results suggest that there is a strong tendency for retail activity to cluster as the strongest predictor of the location of all of the retail establishments examined—including AFSPs, banks, drug stores, and supermarkets—is the presence of any other type of retail activity. The results do not provide any support for the argument that AFSPs are filling a void left by banks. There are also few similarities in the other factors predicting the presence of banks and AFSPs. While race is an important predictor of banks presence, it is not for AFSPs. The importance of neighborhood race-ethnicity and income for bank presence is highlighted all the more by the fact that these characteristics are essentially not a factor in predicting the presence of drug stores or supermarkets. Importantly, we found that for AFSPs, the share of citizens among the population is the single most important predictor of these establishments along with having income in the lower quartile of neighborhoods. This finding suggests that, at least in Dallas, the location of AFSPs is much more strongly related to where immigrants live than where minorities generally are found.

Section 7: Conclusions and Implications for Further Research

As noted in the introduction, this study is exploratory in nature, with the goal of learning lessons from a case study of a single metropolitan area that could be applied to research on a broader set of markets. In this section we summarize our findings in each of the areas that we set out to examine and discuss the implications of these findings for further research.

7.1. Neighborhood Credit Risk Measures

One of the goals of this study was to examine the potential usefulness of various measures of neighborhood credit risk. Specifically, we examined the correlation between subprime lender shares of mortgage originations and HMDA conventional prime denial rates, FHA delinquency and claim rates, and the rate of residential foreclosures based on data obtained from private firms in the Dallas area. Our results found that the conventional mortgage denial rate from HMDA is a reliable predictor of subprime lender shares, even when lagged a year. The other measures were not found to be associated with subprime refinance shares, at least not in Dallas, although they were statistically significant in predicting subprime purchase shares. However, these measures did not appear to provide any greater explanatory power than the conventional prime denial rate, which has the great advantage of being readily available for all market areas in the country. It would be interesting to conduct further research comparing the correlation between HMDA denial rates and measures of the distribution of neighborhood credit scores to verify the reliability of this measure as a proxy for neighborhood credit risk.

7.2. Importance of Neighborhood Race-Ethnicity in Predicting Subprime Lender Shares

Another goal of this study was to investigate the importance of neighborhood race-ethnicity and income in explaining subprime lender shares after including controls for neighborhood credit risk. Consistent with previous research, we found that even after including a variety of controls for neighborhood credit risk, neighborhoods where blacks account for a majority of households had much higher subprime shares of originations. Also consistent with previous research, we found that there were notable differences in the significance of the explanatory factors between the models estimating subprime lenders share of refinance loans and their share of purchase loans. One area ripe for further research is to better understand the differences in geographic patterns of subprime refinance and purchase lending.

7.3. Relationship between AFSPs and Subprime Lending

This study also intended to fill a void in the literature by examining the relationship, if any, between geographic patterns of subprime lending and the location of AFSPs. While there are similarities in the location of AFSPs and subprime lending—most notably in the concentration in lower income neighborhoods—there are also important differences. The most important difference is that while

subprime lending is disproportionately concentrated in black neighborhoods, there is no indication that these areas have higher than average levels of AFSPs. Instead, AFSPs are most likely to be found in neighborhoods where Hispanics comprise a significant share of the population. However, the multivariate analysis finds that the share citizens is much more important than the race-ethnicity of the neighborhood. This result is in keeping with the argument that unbanked households that comprise an important part of the customer base for check cashers and pawnshops are more likely to be immigrants who are either undocumented or come from countries where it is not common for low-income households to use banks. The Dallas market may have been uniquely suited to distinguish between Hispanic and immigrant effects since the area has both a recent Hispanic immigrant population and Hispanic residents with long established residency in Texas. The multivariate analysis also found that there was little correlation between subprime lending shares and the presence of AFSPs, although there were a few cases where the number of AFSPs was found to be negatively correlated with subprime shares. The lack of any significant overlap in the factors predicting the location of subprime lending and AFSPs suggests that AFSPs and subprime lenders may be serving different market niches.

It would be interesting to pursue this type of analysis in other market areas to see whether there are any consistent findings across markets regarding the importance of race-ethnicity and immigrant status in predicting the location of AFSPs. Further research comparing results from markets with a range of demographic profiles could help shed more light on the ways in which subprime lending and the use of AFSPs are similar or different.

7.4. Relationship between Bank Presence and Subprime Lending Volumes and AFSP Presence

This study also examined the issue of whether there was a relationship between the presence of banks in a neighborhood and the likelihood of both subprime lending and the presence of AFSPs. With regard to subprime lending, multivariate analysis did not find a strong link between the number of banks in the tract and the subprime lender share. There was a weak association between higher levels of subprime refinance lending and having fewer banks in a neighborhood, but this finding was not supported by findings from regression models that included the number of banks in the tract as a predictor of subprime lending shares. This is not entirely surprising as the argument that a lack of banks in low-income and minority neighborhoods has contributed to the rise of subprime lending is at odds with the fact that there has been significant growth in home purchase mortgage activity in these areas over the last decade. The multivariate analysis did find that banks were more likely to be located in areas where whites account for more than 90 percent of households. But banks were least likely to be found in majority Hispanic areas rather than majority black areas where subprime lending shares are highest. In short, our findings do not provide support for the argument that a lack of banks has contributed to subprime lending growth. Nonetheless, it would be interesting to extend this analysis to other market areas to confirm these results in different contexts.

With regard to the relationship between the location of banks and AFSPs, our findings suggest that there is a tendency for retail activities of all kinds to locate in specific tracts. We find a strong positive association between banks and AFSPs as well as with drug stores and supermarkets. As noted above, one of the strongest predictors of AFSPs is the share of the population that are citizens –

a factor that was not at all significant in predicting where banks were located. In short, we do not find support for the argument that AFSPs are filling a void left by banks in some neighborhoods.

7.5. Data Sources for Analysis of AFSPs

Finally, another purpose of this study was to investigate the suitability of data from private firms that maintain databases on establishment locations to support marketing efforts as the basis for analysis of AFSP locations. In comparing data from Dun & Bradstreet, particularly a special time-series version of these data prepared by Walls & Associates to support research, with data from state and federal regulators we found these data to be sufficiently complete and accurate to support research of these issues. It is challenging to identify the establishments of interest in these data given a lack of precision in how businesses are categorized by SIC codes. We found that the AFSPs of interest were largely captured in the Dun & Bradstreet data by SIC codes related to check cashing and clearing services and by SIC codes for pawnshops. Data from InfoUSA was similar in most respects, but there were concerns about the degree to which the data was screened for duplicate listings and establishments that were no longer in business as well as whether addresses were complete enough to support geocoding to identify the census tract where establishments are located.

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Appendix A: Comparison of Alternative Data Sources for AFSP and Bank Locations

Four different sources of data on the location of AFSPs and banks were investigated for this study: two from regulators of these institutions and two from private vendors of data on establishments. Given that data from private vendors of establishment information is readily available for all types of businesses and for all market areas, the purpose of this examination was to determine the usefulness of these private data sources for this and future studies. The review of the data focused on determining how comprehensive these private data sources are, the degree to which the firms of interest can be clearly identified, and other characteristics that are helpful for research. Specifically, the four data sources that were analyzed were:

1) Texas Office of Consumer Credit Commissioner (OCCC) on firms licensed to provide consumer loans;
2) Federal Deposit Insurance Corporation (FDIC) on branches of banks whose deposits they insure;
3) National Establishment Time-Series (NETS) database, a specially constructed form of Dun & Bradstreet establishment data from Walls and Associates, Oakland, CA; and
4) InfoUSA establishment data.

Each of these data sources is described in detail in the sections that follow. We then discuss the methods used to compare these data and the choice of which data to use in this study.

Texas Office of Consumer Credit Commissioner

The Office of Consumer Credit Commissioner (OCCC) regulates non-depository institutions that make the following types of consumer loans:

- Payday and signature loans (unsecured loans up to $500);
- Pawnshop transactions;
- Refund anticipation loans;
- Secured consumer installment loans; and
- Retail credit accounts.

All businesses engaged in these activities must be licensed by the OCCC. Importantly, check cashers that do not make loans are licensed by the state of Texas and so no data is available from state regulators on the location of these businesses. Also, data is only available for firms currently licensed; the agency does not routinely maintain historical data on licensed firms. For licensed firms, the OCCC was able to provide information in electronic format for the firm name, the type of business it is licensed to conduct, and the mailing address and county for each licensed branch of the firm.

FDIC Data

The FDIC insures deposits for all banks and savings institutions aside from credit unions, which are insured by the National Credit Union Administration (NCUA). The FDIC maintains a publicly available, electronic database on all branches for which it provides deposit insurance. Unfortunately, similar data is not readily available from NCUA, and so only data on FDIC-insured bank branches is available for comparison. One concern with the FDIC data is that there may be some duplicate listings. There were several cases where bank branches had the same street address down to the suite number, yet different bank names associated with them, raising a question about how the listing of branches is handled in cases where banks merge. For these cases it would appear that both the old and the new bank name are kept in the database, effectively resulting in double counting.

Dun & Bradstreet (NETS) Data

The NETS database is a product of Walls and Associates based on Dun and Bradstreet (D&B) establishment data. The database takes fourteen annual snapshots of the D&B data and creates a time series that indicates whether firms were active on the first of January in each of those years and tracts the same firms as long as they are active (including tracking them if they move locations, etc). The period covered is from 1990 to 2003, and the database contains firm names, addresses, latitude and longitude information, and other details, including the primary eight-digit SIC code for the firm for each of those years.

An important characteristics of the NETS data is that it has been created expressly for the purpose of supporting research on establishments and firms, rather than as a source of marketing lists for businesses. As a result, the dataset is meticulously constructed to ensure that firms that change name or modify their address are identified and linked over time. This cleaning process should result in data that are less likely to include duplicate listings for firms operating under several names and should eliminate firms that cease operation from one year to the next. One step in our process of reviewing the data was to sort the data by street address and establishment name. If establishments with similar names were found at the same street address they were removed from the data as duplicates. About one percent of the NETS establishments were identified as duplicates using this method, which is much lower than was found for the InfoUSA data.

The NETS data also identifies primary, secondary, and tertiary SIC codes for the most recent year, with these codes indicating other business services that the establishments provide. For example, establishments that engage in check cashing and wire transfer services may list these as either primary or secondary SIC codes.

These characteristics of the NETS database make it very appealing for analytic purposes. Not only do they provide a both a time-series and a complete set of very specific SIC codes, it also is carefully constructed to ensure the identification of individual establishments and when they cease operation and provides substantial location information, with either very good addresses or at least fairly specific latitude and longitude information.

One challenge of using data from private vendors of establishment data is trying to establish whether the establishment is providing the services of the type of interest. This is an issue both because SIC

codes are not clearly defined at the level of detail of interest for this study, but also because the categorization of firms into SIC codes may not be consistent. This is not an issue for banks, however, as the SIC code for these institutions are quite clear. In order to explore how well categorized AFSP establishments are by SIC code, we obtained NETS data for a broad set of high level SIC codes (the four digit level) in order to ensure that we had captured all of the establishments of interest.[28]

InfoUSA Data

The other private source of information considered for this analysis was data from InfoUSA. Similar to Dun & Bradstreet, InfoUSA compiles lists of establishments, the primary use of which is for businesses to develop marketing targets. While a variety of information on selected establishments can be purchased, we obtained a relatively simple dataset that listed the name of the business, its mailing address, phone number, and its primary and secondary SIC code. Establishments are characterized by six digit SIC codes in these data, with each firm given both a primary and a secondary code. To identify AFSPs, data from InfoUSA was obtained for the following SIC codes for investigation:

- Pawnshops (593299);
- Check Cashing Service (609903);
- Currency Exchanges (609901);
- Money Order Service (609902);
- Personal Credit Institutions – Financing (614102);
- Personal Credit Institutions – Loans (614101);
- Personal Credit Institutions – Loans – Personal (614107); and
- Personal Credit Institutions – Loans – Alternative (614108).

Since pawnshops have their own SIC code they are fairly easy to identify. However, there are a range of SIC codes that seemingly could apply to check cashers and payday lenders. The codes listed above were selected to investigate which of these codes most accurately captured the AFSPs of interest.

As with the NETS data, we first reviewed the dataset for duplicate establishment listings. This was more of an issue with the InfoUSA data than NETS, as about 8 percent of establishments were eliminated as duplicate listings.

Comparison of Alternative Data Sources

Two steps were used to investigate the completeness and accuracy of the private vendor data. First, we searched for specific firms known to be check cashers, payday lenders, or pawnshops to ensure they were identified in the data and to see how they were categorized by SIC code. Once we had

[28] The decision to select a broad range of SIC codes from NETS was made in part because of the pricing of NETS data. These data are sold with a relatively high minimum cost and a low per observation charge, which made it cost effective to purchase a large amount of data. In contrast, most other establishment data is priced purely on a per observation basis.

identified the appropriate SIC codes we then compared both total counts and specific establishments to establishments identified by regulators.

As noted above, we had obtained a broad range of SIC codes for the NETS data and the specific range of SIC codes listed above for InfoUSA. As a start we searched the data set for known check cashing and payday lending firms, including Advance America, ACE Cash Express, Check n' Go, Check into Cash, Cash America, and Quik Cash. This search revealed that these firms were very consistently identified by SIC codes associated with check cashers in both datasets. We had anticipated that the personal finance SIC codes would also be associated with payday lenders, but this was not the case. The personal finance SIC codes included a large number of firms, the vast majority of which were associated with automobile or home equity lending. None of the principal check cashers or payday lenders were included in these categories. While there may be some small personal loan companies in these SIC codes, it was difficult to separate these firms from the literally hundreds of other firms in these categories. In the end, it was decided that it was generally better to exclude the personal finance SIC codes as a type of AFSP. However, as will be described below, we did include some of the firms from this category from the InfoUSA data in order to ensure that firms that were potentially payday lenders were not excluded.

The other SIC categories that were investigated were the subset of codes related to currency exchange and money order services. It was found that firms offering a broad set of services that included check cashing and payday loans were categorized in check cashing or check clearing services, while firms with a more limited range of services were identified as currency exchanges or money order vendors. For example, Western Union outlets, which offer wire transfer services and sell money orders but do not cash checks or make loans, were not characterized as check cashers but only as currency exchanges. Since the currency exchange business has not been identified in the literature on AFSPs as a source of concern, these industry categories were not included in the analysis.

Based on this review, the following SIC categories were chosen from the NETS data to capture AFSPs:[29]

- Check Cashing Outlets are establishments reporting any of the following SIC codes as their primary, secondary or tertiary business:
  - Check cashing agencies (SIC code 60999901);
  - Check clearing services (SIC code 60990100); and
  - Automated clearinghouses (SIC code 60990101).

- Pawnshops are establishments reporting the following SIC code as their primary, secondary, or tertiary business:
  - Pawnshop (SIC code 59329904).

- Banks were identified by the following three-digit SIC codes:
  - Commercial Banks (602);

[29] We also obtained data for Equipment Rental and Leasing, Not Elsewhere Classified (7359) to capture Rent-to-own stores. These data were not available from the other sources examined so they are not shown in Exhibit A-1. There were a total of 25 Rent-to-own establishments identified in the NETS data.

  - Savings Institutions (603); and
  - Credit Unions (606).

With regard to the InfoUSA data, one further challenge was that pawnshops were as likely to fall into the check cashing and personal loan SIC codes as the pawnshop code. As a result, we used the following process to identify AFSPs in the InfoUSA data:

- Check cashing firms were those with a primary or secondary SIC code for Check Clearing Services (609903);

- Pawnshops and other small loan lenders not categorized as check were identified by searching all other firms for those containing the words pawn, cash, pay, or money in the business name. This resulted in firms with primary or secondary SIC codes for either pawnshops or personal finance; and

- Bank branches were identified by the same SIC codes as in the NETS data:
  - Commercial Banks (602);
  - Savings Institutions (603); and
  - Credit Unions (606).

Having identified the appropriate SIC codes to include, we then compared the counts of firms with the counts from data obtained from the state AFSP regulator and the FDIC. Exhibit A-1 summarizes the number of firms falling under various classifications found in each of these four data sources. As shown in Exhibit A-1, the largest number of firms covered by the OCCC data are categorized as pawnshops, of which it identifies a total of 178. Most of the remaining 93 firms are categorized as providing unsecured loans.[30] The firms that provide unsecured loans have names suggesting that some of them are check cashers (e.g., Check N' Go), while others are known to be firms that specialize in small, unsecured consumer loans (e.g., World Finance Corporation).

[30] The OCCC data also includes a category for firms providing secured loans, which included such companies as CitiFinancial and Wells Fargo Financial–lenders that are likely focusing on auto or home equity loans. Since these are not the type of lender of interest for this study, this category is not included in the table.

Exhibit A-1
Comparison of Establishment Counts by Data Source

Type of Business	Texas OCCC	FDIC	NETS	InfoUSA
Total AFSPs	271		342	312
Pawnshops	178		153	92
Check Cashers			189	220
Unsecured Loans	84			
Payday Lenders	8			
Refund Anticipation	1			
Banks/Credit Unions		802	849	941
FDIC Insured		802	684	791
Credit Unions			165	150

Interestingly, though there is a specific category for payday lenders, there are very low counts of these firms. Our hypothesis is that there is little difference between firms providing unsecured loans and those providing payday loans, so there is likely little difference between these categories. For instance, the firm "Check 'N Go", has two listings, one as a payday lender and the other as a provider of unsecured loans. The single refund anticipation loan provider listed is "H&R Block".

One concern with the OCCC data is that it appears to report firms that are licensed rather than individual branches of these firms. For example, according to electronic telephone listings, Check N' Go has 9 branches in the city of Dallas alone, while the OCCC data only has two listings for the entire metro area. Similarly, an examination of the H&R Block website reveals several Dallas locations, rather than just one.

One challenge in comparing the data from the OCCC with data from private vendors is that the categories of industries covered is not the same. As noted earlier, Texas does not regulate check cashers, so these firms are not included in the OCCC data. On the other hand, our review of establishment data from NETS and InfoUSA found that unsecured lenders were mostly categorized as check cashing agencies. In terms of pawnshops, we find that the OCCC data has a larger number of establishments than either of the private vendors. However, in part this is because of differences in how these firms are categorized. For example, some pawnshops offer check cashing and payday loans in addition to pawn services. These firms are captured in NETS and InfoUSA as check cashers rather than pawnshops. As indicated by the relatively low count of pawnshops in the InfoUSA data, this source is particularly likely to categorize under another SIC code. Not surprisingly, the number of check cashers in both NETS and InfoUSA is higher than the number of unsecured, payday and refund anticipation lenders in the OCCC data, since the OCCC does not license firms that cash checks but do not offer unsecured loans. In terms of total AFSPs, the NETS data is found to have the largest number of firms.

We also compared the specific firms listed in the three data sources. This comparison found that there were substantial differences in the specific firms listed in each of the databases. For example,

after sorting firms by street address and names we found that about two-thirds of the pawnshops listed in the OCCC data could be matched to establishments listed in the NETS data. In general, we found that between half and two-thirds of firms could be matched between the data sets on both of these fields. While this is lower than might be expected, we suspect that in large part the differences reflect differences in the reported business name, either due to changes in management or differences in legal names versus names used for advertising purposes.

With regard to bank branches, we would expect that the private sources of data would have more branches than the FDIC data since the FDIC data do not cover credit unions. While we do find that the data from NETS and InfoUSA have more bank branches due to the inclusion of credit unions, the NETS data have more than 100 fewer FDIC-insured banks than either the FDIC or the InfoUSA data. NETS and InfoUSA have similar number of credit unions, with NETS having slightly more of these lenders. One reason for the lower count of FDIC-insured establishments in NETS may be that these data are more meticulously cleaned for duplicate listings. Even the FDIC data appear to have duplicate listings as 23 bank branches are listed as having the exact street address, sometimes down to the same suite number. While there are some concerns about the completeness of the NETS data with regard to bank branches, given the fact that the data are carefully matched each year to establishments reported in the previous year, it may be that these data are less prone to include duplicate listings or establishments that are no longer active.

Selection of Data for Analysis

In the end, we chose to use the NETS data for analysis for several reasons. First, it was felt that the data were more complete for AFSPs. One reason for the more complete listing of AFSPs in NETS seems to be the more precise 8-digit SIC codes used in the Dun & Bradstreet data. Also, the fact that NETS lists primary, secondary, and tertiary businesses provides an opportunity to capture businesses that offer multiple services, of which check cashing is but one. The fact that the NETS data has been developed as the basis for research rather than marketing also appears to be an advantage as we had greater confidence that there were less likely to be duplicate listings of establishments or inclusion of establishments that had ceased operation. The NETS data also included good address information to support geocoding of census tracts and also included latitude and longitude as a backup means of identifying the tract. InfoUSA data were more likely to list post office boxes for firms than the street address of the establishment and did not include latitude and longitude as an alternative for identifying the census tract. Finally, the time series aspect of NETS provides an opportunity to examine changes in establishment counts over time. However, there are concerns about the completeness of the NETS data for bank branches. But it was felt that the other strengths of the data, primarily the care with which it is constructed and the completeness of information for identifying the census tract where the establishments are located, outweighed other concerns.

Appendix B: Alternative Methods of Describing the Spatial Distribution of AFSPs

In addition to the analysis presented in Section 5, two other methods for summarizing the location of AFSPs and banks were also explored. First, we examined the potential for adapting the exposure index, a common measure of racial segregation, to measuring how accessible AFSPs are to different population groups. Second, we explored the use of maps showing average location of establishments and households in a market area as a way of summarizing and comparing their locations. The results of these investigations are presented in the sections that follow.

Application of the Exposure Index to Measuring Access to AFSPs

Most studies—including this one—that have examined the question of whether AFSPs are disproportionately located in low-income and minority communities have done so by comparing the characteristics of neighborhoods where these establishments are located to neighborhoods lacking these establishments. However, to the extent that these establishments are likely to provide services to clients that come from a broader area than simply the specific neighborhood where these establishments are located, this type of analysis may underestimate the exposure of low-income and minority communities to these establishments. For example, consider the situation where AFSPs are concentrated near the central business district, which is in turn surrounded by low-income and minority communities. A simple examination of the characteristics of those living in the central business district misses the fact that that these establishments serve all surrounding tracts. An adaptation of the exposure index, a measure commonly used in residential segregation studies, was developed to try to account for households' access to establishments in surrounding neighborhoods.

The basic exposure index is given by the following equation:

$$E_{xy} = \sum_{i=1}^{N} \left[\frac{x_i}{X} * y_i \right]$$

In this formula E_{xy} is the exposure index of group X to establishment type Y, x_i is the number of members of group X in tract i, X is the total population of X in the area studied, and y_i is the number of establishments of type Y in tract i, and N is the total number of tracts in the market area.[31] In this basic form, the exposure index is simply the weighted average of the number of establishments of type Y in tracts where group X live. For example, if X represents black households in Dallas and Y is the number of check cashing outlets in Dallas, then E_{xy} would be the number of check cashers that are in the average neighborhood where blacks reside.

In order to take into account the presence of establishments of type Y in surrounding tracts, this basic index can be adapted to include information on the number of establishments of type Y in

[31] When used to measure racial segregation y_i is replaced with y_i /Y, or the share of another group in the tract. The resulting exposure index gives a weighted average share of group Y in tracts where the average member of group X resides.

surrounding tracts. An adaptation of the exposure index to incorporate spatial patterns would be to estimate y_i as a function of the number of establishments in all other tracts and some weight applied to these tracts based on their relative proximity to tract i. In this formulation, y_i would be replaced by z_i where z_i is given by the formula:

$$z_i = \sum_{j=1}^{N} \left[w_{ij} * y_j \right]$$

Where w_{ij} is a weight based on the proximity of tracts i and j, y_j is the number of establishments of type Y in tract j, and j is the number of tracts in the market area. The weight could be defined in several different ways. The simplest approach is to have *w* be 1 for all tracts with a given distance of tract *i* and 0 otherwise, with distance between tracts measured as the distance between the geographic center of each tract. (The distance between tract centroids is readily estimated by most mapping software.) Under this approach, all establishments within the given distance are counted as if they were in tract *i*, but if they are further away than the specified distance they are ignored. For example, setting *w* at 1 would count all establishments of type Y as long as they were in the specified tract or any other tract whose center is within 1 mile of the tract.

However, this approach is somewhat arbitrary in that it ignores firms even if they are located in tracts that are only a small distance further away than the selected cutoff. Another slightly more complicated approach is to have *w* be the inverse of the distance between tract centroids. By this formulation, more distant tracts would receive a lower weight. Establishments in tracts that are 1 mile away are only counted 50 percent as much as establishments in the tract itself, while establishments in tracts that are 5 miles away are only counted 20 percent as much. Raising the inverse distance to some power greater than one could further reduce the impact of more distant tracts. The inverse distance would be measured as one over the distance plus one so that the tract itself would have a weight of one while other tracts would all be a fraction less than one. Using this approach, establishments in tracts that are 1 mile away are only counted 25 percent as much as establishments in the tract itself, while establishments in tracts that are 5 miles away are only counted 4 percent as much.

To explore how the use of these different formulation of the exposure index might reveal different patterns regarding the location of AFSPs and banks relative to households by race-ethnic and income, we estimate the exposure indexes using the basic exposure index (counting only establishments in the tract where households reside), using weights that count establishments in tracts that are within 1, 3, and 5 miles of the tract where the household resides, and weights that count establishments at a diminishing rate the further away they are located, specifically weighted by the inverse distance between tracts and the square of the inverse distance between tracts.

To put these various weights in perspective, using a random sample of tracts from the Dallas metropolitan area, we found that the median distance between tract centroids for tracts that border each other is 1.3 miles, with half of all bordering tracts between 1.0 and 1.8 miles away. Using a weight of 1 mile would include about a quarter of all bordering tracts, while weights of 3 miles would include nearly 90 percent of all bordering tracts. Given the size of the Dallas metropolitan area, the median distance between any one tract and all other tracts in the metropolitan area is 17 miles. Only five percent of tracts are within 5 miles.

Exhibit B-1 presents estimated exposure indexes for AFSPs and banks based on these different weighting schemes. Recall that the exposure index itself is the average number of establishments that households of the specified type have access to. For example, considering all households and the exposure index that counts only establishments in the tract where the household resides (no additional tracts), the average household in Dallas lives in a tract that has 0.53 AFSP establishments. If we include the count of AFSPs that are in tracts within 1 mile of the center of a given tract, then the average household is Dallas is "exposed" to 1.34 AFSPs. That is, there are 1.34 AFSPs in either the tract where they live or in adjacent tracts that are within 1 mile of their tract. As the distance included in the exposure index is increased, the number of firms that households are exposed to increases. The average household in Dallas has 9.46 AFSPs within 3 miles of their tract, and 23.15 within 5 miles of their tract. Since the weight of 1 over 1 plus the distance between tracts takes into account all AFSPs in the metro area, this gives the largest exposure. By this measure, households in Dallas have access to 26.43 AFSPs. Finally, the square of this inverse distance gives little weight to tracts that are more than a few miles away, so the exposure index using this weight is somewhere between the measures counting establishments located between 1 and 3 miles away.

Exhibit B-1
Exposure Indices for AFSPs and Banks for Selected Household Types

	Weights Used to Determine Additional Tracts to Include in Firm Counts					
Household Types	**No Additional Tracts**	**1 mile**	**3 miles**	**5 miles**	**1/(1+d)**	**(1/(1+d))^2**
	AFSPs					
All Households	0.53	1.34	9.46	23.15	26.43	3.82
Race-Ethnicity						
Non-Hispanic Whites	0.45	1.08	8.13	19.99	24.67	3.36
Non-Hispanic Blacks	0.62	1.55	11.27	28.95	29.41	4.51
Hispanics	0.78	2.23	13.34	30.62	30.59	5.08
Income						
Less than 25k	0.67	1.79	11.24	26.96	27.83	4.39
$25-49,000	0.60	1.55	10.33	24.78	27.15	4.09
$50-99,999	0.46	1.13	8.44	20.78	25.36	3.48
$100,000 or more	0.34	0.80	7.50	19.72	25.31	3.23
	Banks					
All Households	1.31	2.96	24.04	59.82	63.34	9.39
Race-Ethnicity						
Non-Hispanic Whites	1.43	3.08	23.25	56.81	61.20	9.14
Non-Hispanic Blacks	1.00	2.40	21.37	57.62	64.20	8.94
Hispanics	1.05	2.89	28.48	71.44	69.47	10.44
Income						
Less than 25k	1.21	3.02	25.44	63.40	63.86	9.61
$25-49,000	1.30	3.01	24.64	61.06	63.96	9.55
$50-99,999	1.32	2.79	21.77	54.09	61.36	8.84
$100,000 or more	1.43	3.14	25.44	63.69	65.33	9.86

Note: Pink shading indicates exposure index is above level for all households and blue shading indicates index is below value for all households.

The key comparison for the exposure indexes shown in Exhibit B-1 is whether particular racial-ethnic groups and income groups are found to have exposure to AFSPs that is greater or less than the exposure of all households. In the exhibit, the exposure indexes are shaded pink for values that are above the level for all households and blue for values that are below the level for all households. For AFSPs, it turns out that the relative exposure of different racial-ethnic groups and income groups does not depend on how wide a net is cast is counting AFSPs that households are exposed to. Regardless of the weights used to calculate this measure, blacks and Hispanics and households with income below $50,000 are found to have greater than average exposure to AFSPs, while whites and households with income above $50,000 all have below average exposure.

The findings with regard to banks, however, is more complicated. Considering only the tract where households reside, we find that minorities and lower-income households have less than average exposure to banks, while whites and upper-income households have above average exposure. But as surrounding tracts are included in the exposure index, the pattern begins to switch. Including establishments with one mile doesn't change the results with regard to the relative exposure of different racial-ethnic groups, but it does begin to change exposure based on income. Including establishments within one mile nudges households below $50,000 above the average household level and drops households with income between $50,000 and $99,9999 below average. If establishments in tracts that are within 3 miles of the tract where a household resides are included in the exposure measure, whites now have below average exposure to banks, while Hispanics and lower-income households have higher than average exposure. It appears that this switch occurs because minorities and low-income households are more likely to live in the center of the metropolitan area, where census tracts are more compact. As a result, when we include establishments in tracts that are within 3 miles of the tracts where households reside, a larger number of tracts are counted for minorities and low-income households. This raises their exposure more rapidly than for whites and upper-income households that live if larger, lower-density tracts.

In short, including bordering tracts in estimating the exposure of different groups to AFSPs has no effect on the conclusions. However, the inclusion of tracts within 3 miles does effect the conclusions about whether minorities or low-income households have more or less access to banks. But absent a better understanding of how the distance to an establishment affects the likelihood that an individual will frequent that establishment it is hard to argue for one measure over another. As most bordering tracts are within one mile of a given tract, it seems fair to conclude that the patterns evident using this weight are a fair measure of exposure. Since this pattern is little different than the exposure considering only the tract of residence, it seems appropriate to only consider the tract of residence when describing the exposure of different groups to specific types of firms.

Mapping Average Locations of Establishments and Households

Another approach explored to compare the geographic distribution of AFSPs and banks relative to households by race-ethnicity and income was to map the geographic mean location of these groups. The statistical software package CrimeStat® II was used to estimate geographic mean locations as well as the standard deviation of these means.[32] The geographic mean location is essentially a

[32] Ned Levine & Associates, 2002. *CrimeStat® II: A Spatial Statistics Program for the Analysis of Crime Incident Locations*. Houston, TX: Ned Levine & Associates.

weighted average of census tract latitude and longitudes. In calculating the mean locations, data for a particular census tract are assigned to the latitude and longitude of the geographic center of the tract (the tract centroid) with the number of establishments or households of interest the weight assigned to that tract. A standard deviation is also estimated for the mean latitude and longitude, which provides the basis for drawing an ellipse around the mean location indicating the 95-percent confidence band around this mean point. The standard deviations also enable calculations to determine if differences in mean locations are statistically significant.

Exhibit B-2 compares the mean location for AFSPs, banks, all households, non-Hispanic whites, non-Hispanic blacks, and Hispanics. Using all households as the point of reference, black households are located further to the south in the metropolitan area than the other groups, while whites are located further to the north. Hispanics are located to the southwest of all households, but further north than blacks. The mean location of AFSPs is to the south of all households, to the west of Hispanic households, and to the north of black households. Finally, the mean location of banks is quite close to the mean location of all households. In terms of statistical significance, compared to all households the differences in latitude are statistically significant for all groups except banks, while the only difference in longitude that is significant is for Hispanics. At least one dimension of the mean location of AFSPs is also statistically significantly different from all other groups. Also, at least one dimension of the mean location of banks is statistically significantly different from all other groups except all households.

Exhibit B-3 compares the mean location of AFSPs and banks, all households and households by four income categories. The mean location of the four income groups is roughly located along a line running from the northwest to the southeast, with higher income groups further north and west and lower income groups located to the south and east. The lowest income groups are located closest to the mean location of AFSPs, while moderate income groups are located closest to the mean location of banks. In terms of statistical significance, at least one dimension of the mean location of AFSPs is statistically significantly different from all income groups except the lowest income group. The mean location of banks is statistically significantly different from the lowest and highest income groups, but not the two moderate income groups.

Finally, Exhibit B-4 compares the mean location of the four types of retail establishments examined in this study and subprime originations. The mean location of banks, drug stores, supermarkets, and subprime originations are not statistically significantly different from each other, while the mean location of AFSPs is different from all other groups.

In short, the two main conclusions that can be drawn about the relative geographic distributions of AFSPs, banks, and households are:

- AFSPs are distributed differently than other retail activity. They are more concentrated toward the southern end of the metropolitan area, as are blacks, Hispanics, and low-income households.

- The geographic distribution of banks is quite close to the distribution of all households, as are drug stores, and supermarkets.

In comparing these results with the information presented in Sections 5 and 6, it is clear that the simple geographic mean location of these activities does not provide much insight into how these establishments are distributed and may mask important details. The finding that AFSPs are more likely to be located in low-income areas is evident from these maps, but they also suggest that AFSPs would be more likely to be found in Hispanic or black neighborhoods, a conclusion that is not supported by the multivariate analysis. In addition, the findings from Sections 5 and 6 indicate that neighborhood race-ethnicity and income are important factors in predicting the location of banks. Yet, a comparison of mean locations does not provide any indication of this. In short, we conclude that an analysis of mean geographic locations does not add any additional insights from the types of descriptive and multivariate analysis presented in Sections 5 and 6.

Exhibit B-2

Mean Locations of Alternative Financial Service Providers, Banks, All Households, Hispanics, and White and Black Non-Hispanics
Dallas PMSA

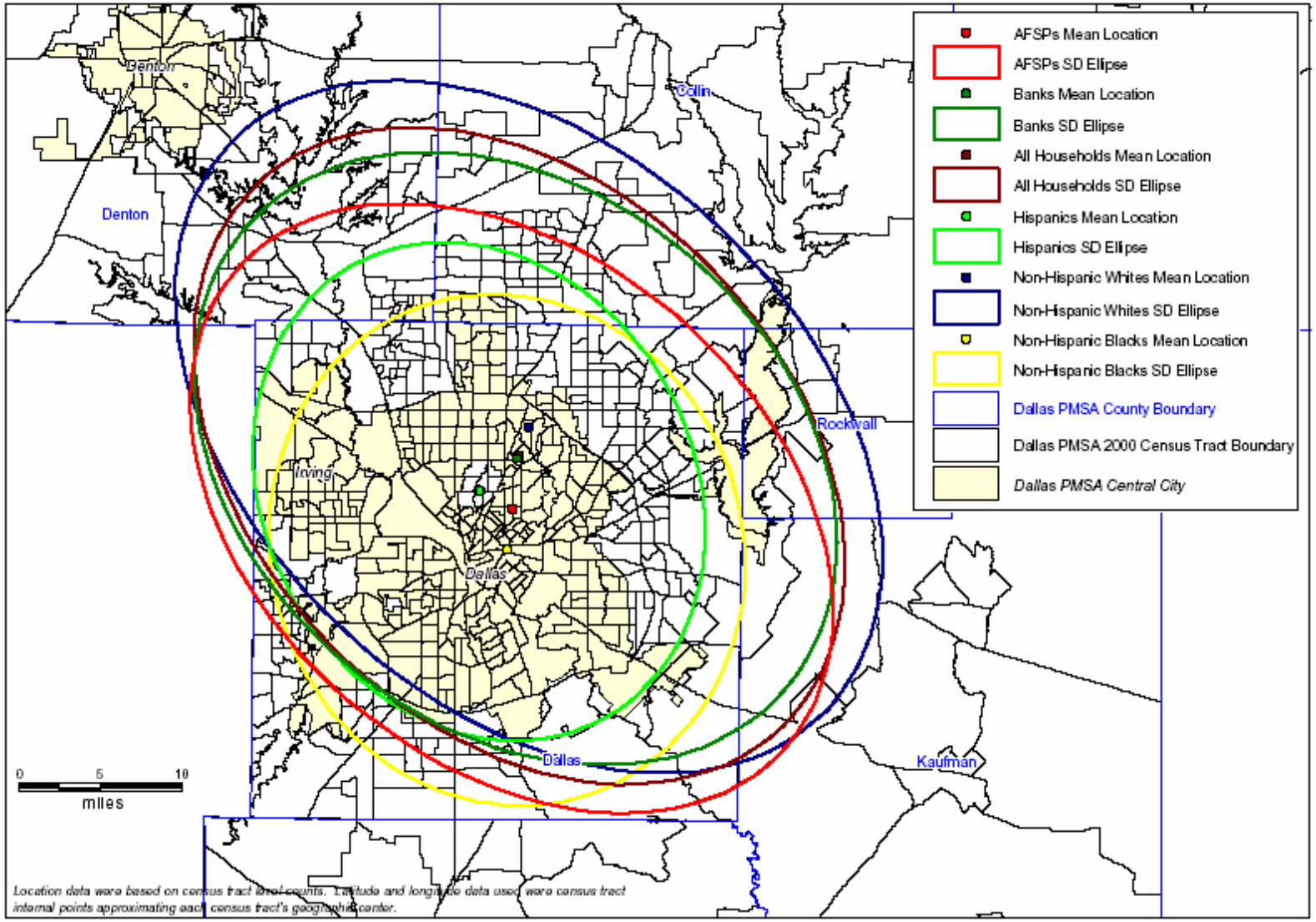


Exhibit B-3
Mean Locations of Alternative Financial Service Providers, Banks, All Households, and Households by Annual Income
Dallas PMSA

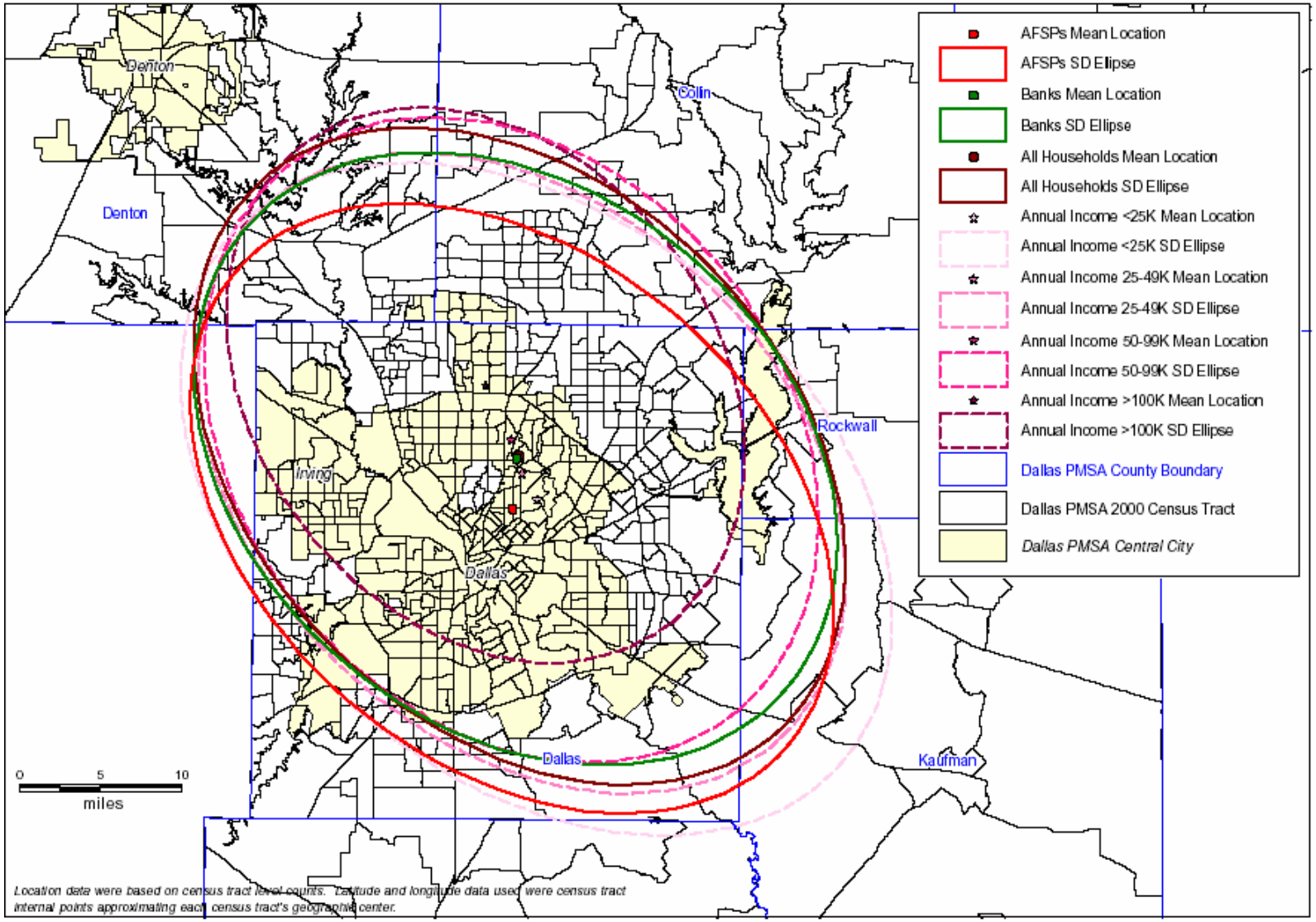
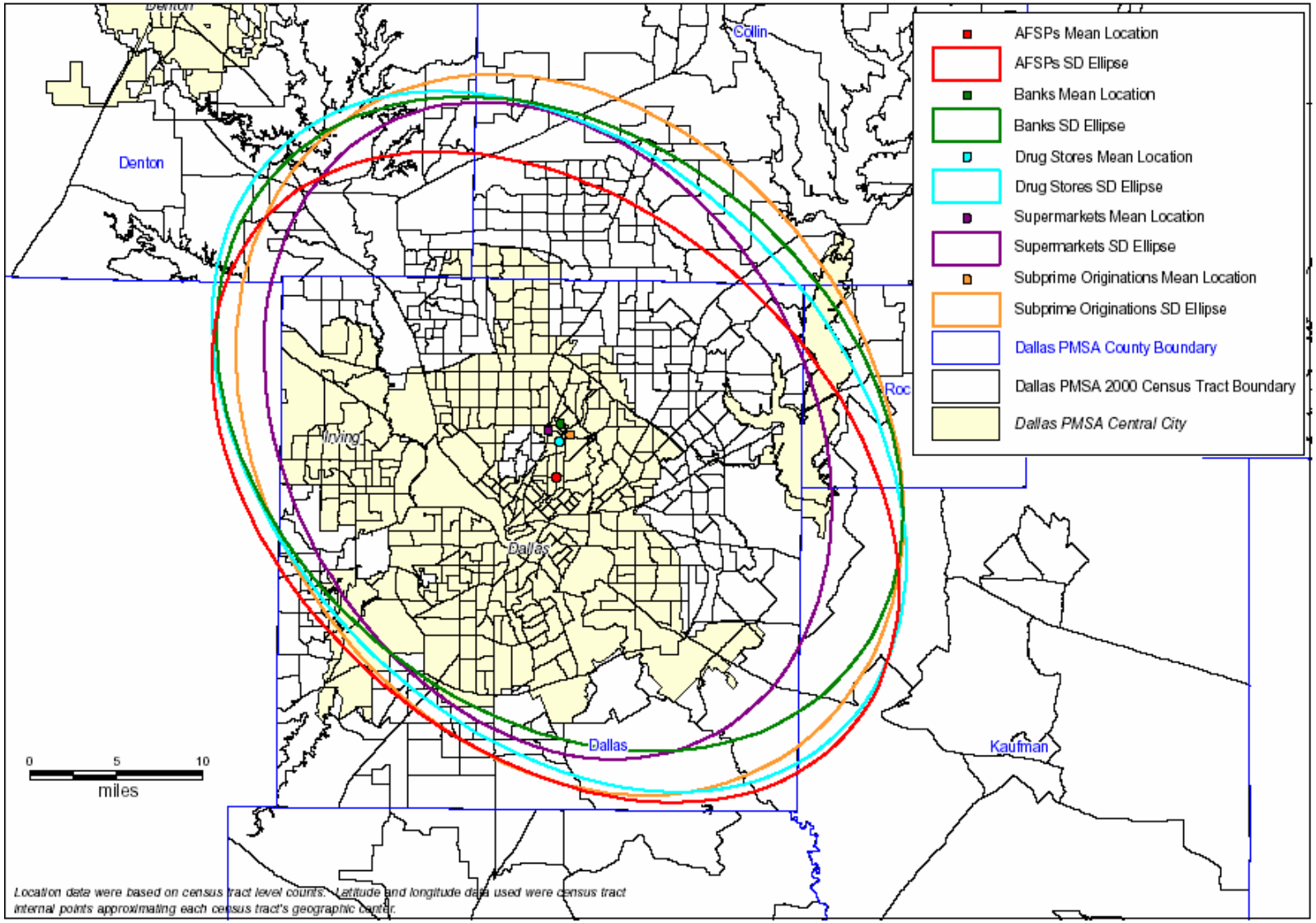


Exhibit B-4

Mean Locations of Alternative Financial Service Providers, Banks, Drug Stores, Supermarkets, and Subprime Originations
Dallas PMSA



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