Owning a Place to Call Home:

An Analysis of Fair and Subprime Lending in the Springfield Metropolitan Area

December 2003

Prepared by:

Regional Information Center
Pioneer Valley Planning Commission
26 Central Street
West Springfield, MA 01089

EXECUTIVE SUMMARY

The Pioneer Valley Planning Commission (PVPC), as the designated regional planning agency for the Hampden and Hampshire county areas, strives to plan for and promote an environment in which business and residents can prosper together. One of the essential components for any region's success is homeownership, because it ties residents to their immediate communities while also providing economic opportunity and stability for individuals and families. PVPC decided to analyze fair and subprime lending in the Pioneer Valley after questions about mortgage lending practices arose during strategy sessions for the Plan for Progress, the region's economic development plan. Recent national economic developments, studies conducted by federal agencies, and studies of local practices in other regions reinforced our commitment to investigate this complex issue here in the Pioneer Valley.

The purpose of this study is to create a detailed analysis of the regional home lending market with an emphasis on fair lending practices and subprime lending. We examined lending market statistics for the Springfield Metropolitan Statistical Area (MSA) from 1996 through 2001. The analysis includes trends across the region and patterns of lending by census tract. The fundamental question driving our research is: *Do similar applicants receive similar treatment?* Equal access and fair treatment in the lending market are important for both disadvantaged residents and the vitality of the region's urban core because of the significant economic benefits of homeownership.

Analyzing data on the volume of loan applications and the rate of denial for mortgages provides valuable information regarding fairness. The two principal sources of data for this study are the U.S. Census Bureau and the annual release of Home Mortgage Disclosure Act records by the Federal Financial Institutions Examination Council. This study uses various methods to compare lending statistics of different loan applicants to provide the most objective, accurate, and thorough report possible. A complete explanation of data sources, definitions, and methods may be found in the Methodology section of the full report. The main sections of this report are 1) an overview of the regional lending market; 2) an analysis of fair lending based on trends and patterns in lending statistics by race, ethnicity, income, and geography; and 3) an examination of the subprime lending market.

Regional Lending

Between 1996 and 2001, the regional lending market has grown in volume and value, which is encouraging news for the Springfield MSA. The impact of macroeconomic shifts and remarkable fluctuations in interest rates across the nation are evident in the local lending market. The market for refinance loans, for example, experienced dramatic changes over the years as homeowners responded to the opportunity for savings presented by record low interest rates in l998 and 2001. Refinance applications more than doubled between 1997 and 1998 from 7,129 to 16,149. By 2001, at 20,758, the volume of refinance loan applications was almost three times the 1997 level and accounted for 61 percent of all home loan applications in the Springfield MSA. The volume of federally insured (FHA) and home improvement loan applications held constant between 1996 and 2001, while conventional loan application volume increased by 37.5 percent from 6,006 to 8,260.

The outcome of loan applications varied by type of loan. Most notably, the approval rate in the refinancing market fluctuated dramatically. Between 1998 and 2000 the approval rate for refinance loans dropped from 69 to 40 percent. Home improvement loans showed a consistently decreasing approval rate from 1996 to 2001 from 63 percent to 50 percent. Conventional loan approval rates showed slight change from year to year with a high of 83 percent in 2001 and a low of 78 percent in 1998. FHA loan approvals were consistently above 80 percent after an increase of 10 percent from 1996 to 1997.

The total value of all loans along with the average value of individual loans grew between 1996 and 2001. The total value of loans originated in the Springfield MSA increased 93 percent from roughly $1.1 billion in 1996 to about $2.2 billion in 2001. The total and average value of FHA, home improvement, and conventional loans increased steadily during this period. The average value of conventional home loans increased from $108,108 in 1996 to $116,185 in 2001. The exception to this trend was in the refinance market, which experienced multiple dramatic shifts in annual total value and a sharp dip in the average value of loans in 2000.

Following a national trend, the types of lending institutions that are doing business in the Pioneer Valley region also appear to be shifting. A comparison of loan application volumes for local lending institutions (defined as headquartered in the Pioneer Valley) and non-local lending institutions in 1997 and 2001 indicates that non-local lenders have increased their share of the lending market in the Springfield MSA. This development raises concern because of the notable differences in loan application outcomes between local and non-local institutions. Locally headquartered lenders had a loan approval rate of 85 percent in 1997 and 89 percent in 2001. In contrast, the loan approval rate for non-local institutions was significantly lower at 67 and 65 percent in 1997 and 2001, respectively. Because non-local lenders increased their control of the local market in 2001 and because they approved loan applications at a significantly lower rate, potential borrowers in 2001 had less access to institutions where they would be more likely to be approved for a home loan than they did in 1997.

Fair Lending

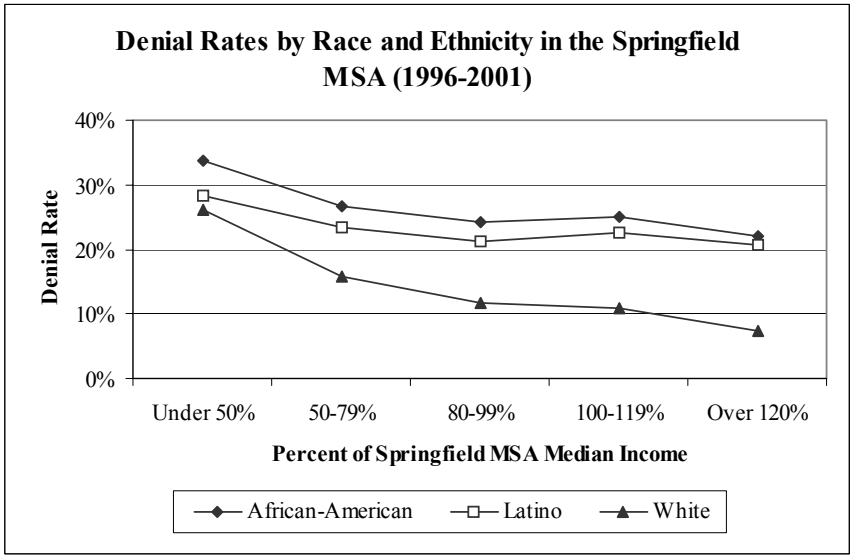
The analysis of fairness in lending is based on the assumption that significant differences in loan outcomes among racial and ethnic groups and across communities indicate unfair lending practices. However, it is difficult to distinguish differential lending practices based on justifiable measures of risk and ability to pay from patterns of discrimination based on race. An applicant's credit history, employment, debt-to-cash ratio, and collateral are some of the legitimate factors that influence the outcome of loan applications. Therefore, before we even consider an applicant's race or ethnicity, we already know that as an applicant's income increases so does his or her likelihood of receiving a loan.

We used four methods to analyze the fairness of the lending market. These methods include: 1) surveying the volume of lending activity geographically, 2) analyzing loan outcomes by characteristics of loan applicants, 3) examining the market share of loan activity, and 4) comparing loan outcome ratios by census tract. A number of distinctive patterns in loan activity and outcomes in the lending market emerge from this investigation.

The first method compares the average number of loan approvals per year with the number of housing units in each census tract to measure the volume of lending activity. We found a striking

geographical pattern of loan activity throughout the region. Not only are census tracts with the lowest levels of loan activity concentrated in the urban core of Chicopee, Holyoke, and Springfield, but these census tracts are also concentrated within particular neighborhoods of the cities themselves. High levels of lending activity primarily appear in areas with the highest median incomes. This pattern is not surprising given the strong relationship between income and homeownership. However, people who live in communities composed predominantly of persons of color are disproportionately disadvantaged in the lending market because these communities also tend to have low median incomes.

Analyzing loan outcomes by applicant demographics uncovers perhaps the most striking finding of this study. Dramatic disparities emerge in the comparison of loan denial rates across racial and ethnic groups. As the data in the graph below demonstrates, African-American and Latino applicants consistently had higher loan denial rates than white applicants regardless of income level. Even high-income African-American and Latino applicants, those with the greatest ability to pay, are denied home loans three times more often than high-income white applicants. In fact, Latino and African-American applicants of all income levels experience higher denial rates than all but the very lowest income white applicants. The denial rates of African-American and Latino applicants also do not decrease at the same rate at which denial rates for white applicant's decline. Note that white applicants have approximately a 15 percentage point difference in denial rates between the highest and lowest-income applicants. Latino applicants, on the other hand, have less than a 10 percentage point difference.



Evaluating the market distribution of applications and denials by race and ethnicity provides a third method to consider differences in the lending market. The share of loan denials for white applicants is less than their share of all applications. More specifically, white applicants represent nearly 70 percent of all loan applications completed in the Springfield MSA, but they represent only 45 percent of all loan denials. Meanwhile, the opposite is true for African-American and Latino applicants, whose share of loan denials is more than their share of applications.

The final method for examining fairness involves calculating a loan approval ratio—the total number of loans approved per loan denied from 1996 to 2001—in order to compare census tract characteristics to home loan application outcomes. This comparison, further supported by statistical testing, provides an opportunity to identify those factors that may or may not influence loan dispositions. The results of a partial correlation statistical analysis show that the percentage of persons of color for a particular census tract has a significant inverse relationship with the approval ratio—as the percent of persons of color rises, the ratio of loans approved to loans denied drops. Statistical testing also controls for other variables that may simultaneously influence the approval ratio. In other words, when factors such as income, age, and housing stock are controlled, the racial and ethnic characteristic of a census tract is a significant predictor of loan outcomes.

Subprime Lending

Analysis of subprime lending is important in understanding the fairness of lending in the Pioneer Valley. Subprime lending is the practice of making higher interest rate loans to applicants who present additional risk to the lender. Between 1996 and 2001 the actual number of subprime lenders grew by 10, or 38 percent. Subprime lenders' share of applications grew steadily from 1996 to 2000 and then dipped in 2001. The percent of all lenders that were subprime, however, was about 25 percent at the beginning and end of the study period, indicating a similar rate of growth for prime and subprime lenders overall. Subprime lenders' share of refinance loan applications, their largest share of any single type of loan, did not follow the overall trend, but peaked in 1997 and 2000 when mortgage rates were higher than in previous years.

Subprime loan application outcomes and market shares of loan activity distinguish subprime and prime lending. Subprime approval rates are less than approval rates for all loans by at least 20 percentage points for every year of our study. In 2000, as the approval rate for all loans fell to a low of 59 percent, subprime approval rates increased to 37 percent after four years of decline starting from 41 percent in 1996. The subprime market share of loan originations was significantly less than that of subprime applications, indicating high loan denial rates from subprime lenders.

Refinance and conventional loan denial rates were consistently higher for subprime loans than prime loans. In 1997, the denial rate for all subprime conventional loan applications was 21 percent as compared to eight percent for prime conventional loan applications. The denial rate for all refinance subprime loans was 3.5 times that for prime lenders in 2001. Significant differences in denial rates also exist across income groups. In 1997, the denial rate for high-income applicants for subprime refinance loans (21%) was the same as for low-income applicants for prime refinance loans. In 2001, the denial rates for these same groups were higher, but remained similar, at 36 and 34 percent, respectively.

Significant patterns emerge when comparing census tracts with the highest and lowest subprime market share of loan activity, measured by the volume of subprime loan applications. Census tracts with high subprime shares of loan applications in 2001 had larger populations of persons of color, were younger, and had significantly lower incomes. Additionally, far less of the total housing stock was owner-occupied, and owner-occupied housing stock was of less value in census tracts with high subprime market shares. In 2001, all but one of the census tracts with the highest subprime market share of loan applications were located in Springfield, and the remaining census tract was in Holyoke. A similar trend of subprime loan activity concentrated in the urban core was also evident in 1997. In fact, a majority of the census tracts that had twice the average market share of subprime loan applications in 1997 also had twice the average in 2001.

The volume of subprime loan applications by census tract reflects, in part, where subprime lenders are actively marketing their product. As evidenced by the geographical concentration of subprime applications and the characteristics of these same areas, the data indicates that

subprime lenders may be targeting their efforts on low-income communities of color. The similarity of census tracts with high subprime loan activity in 1997 and 2001 suggests the on-going nature of these practices over time.

In conclusion, while this study may bring up many more unanswered questions, the goal is to provide a detailed description and thorough analysis of the regional home lending market. Significant patterns emerge through the evaluation of lending statistics that raise important questions and challenges for the region's residents, financial institutions, and political and economic leaders. Understanding the impact that unfair lending practices have on the continued success and vitality of the Pioneer Valley is essential in moving toward solutions. Our hope is that this study will initiate discussion addressing these issues, and will contribute to on going efforts to make the Pioneer Valley a place everyone can call home.

Table of Contents

INTRODUCTION

The Pioneer Valley Planning Commission (PVPC), as the designated regional planning agency for the Hampden and Hampshire county areas, strives to plan for and promote the continued growth and prosperity of businesses and residents across the region. As we began to orchestrate the revision of the region's economic development plan, the Plan for Progress, questions emerged region from discussions about urban investment regarding the fairness of the mortgage lending market in the Pioneer Valley. Concurrently, increasing national attention has been focused on this complex issue as a result of the proliferation of subprime lending in the 1990s and the increasingly negative impact of predatory lending.

Understanding and analyzing the "fairness" of mortgage lending is challenging for a number of reasons. A report published by the Urban Institute in 1999 identifies two characteristics of the lending market that contribute to the difficulty in measuring the prevalence of discrimination. The first characteristic is the complex series of stages that are involved in the lending process, which means that "discrimination could be occurring at any one or more of these, and it could take different forms at different stages."[1] The second characteristics identified by the Urban Institute is the "legacy of economic inequality between whites and minorities that still exists today…[and] includes racial and ethnic differences in characteristics that influence the creditworthiness of any mortgage applicant—income, accumulated wealth, property values in minority neighborhoods, and credit history."[2] Further complicating the issue is the challenge of distinguishing between justifiably different lending terms for borrowers with distinct risk factors and disparate treatment of borrowers based on characteristics unrelated to their credit worthiness.

A recent publication by the Federal Reserve Bank of Boston notes that "subprime lenders have been found to target people in particular communities and groups, regardless of their ability to

[1] Turner, Margaret Austin and Felicity Skidmore. "Mortgage Lending Discrimination: A Review of Existing Evidence." *The Urban Institute*. June 01, 1999. p. 3.
[2] Ibid., p. 3.

qualify for better loans."[3] While we found an abundance of national research, we found little analysis of the local lending market in the Pioneer Valley.

Equal treatment of loan applicants according to appropriate measures of loan worthiness is an important and vital component of the successful economic development of the Pioneer Valley. Homeownership provides individuals and families with economic opportunity and stability through the development of equity and credit, while also establishing their financial connection to the economic, social, and political life of the community. For example, the economic role of homeownership is significant because "the equity that has accumulated in homes is one of the largest components of U.S. household wealth."[4] Thus, while buying a home is a personal choice, the benefits of homeownership and the fairness of the home buying process have ramifications for the entire region's community and economic life. For these reasons, PVPC committed to conduct this study of the issue in the Pioneer Valley.

To the best of our knowledge, this study is the first of its kind to focus on the Pioneer Valley. We have developed the study with multiple target audiences in mind. Community and economic development organizations, the banking and lending industry, and local housing agencies will hopefully use the study to better understand lending market trends in the region and use that knowledge to plan for a better tomorrow. By presenting the data as clearly, objectively, and accurately as possible we hope to facilitate the ongoing process of improving the region's lending industry to serve all of our residents fairly and make this region a place for all to call home.

This report is organized into a number of sections. Beginning with a brief discussion of the goals and questions that guided the study, the report continues with a detailed methodological discussion. The Methodology section reviews the sources, data modifications, definitions, and measures that were used in data analysis and that are discussed throughout the report. The Regional Lending section provides a synopsis of the lending market to demonstrate the activity

[3] O'Sullivan, Stephen. "Predatory Lending: Attempts to Plug the Money Drain." *Communities and Banking*. Federal Reserve Bank of Boston. Spring 2003. V.14, n. 2.
[4] Connor, Glenn B., Thomas A. Durkin and Charles A. Luckett. Federal Reserve Board Division of Research and Statistics. April 1998. Accessed on 08/15/03 at: http://www.federalreserve.gov/Pubs/Bulletin/1998/199804lead.pdf.

and trends that characterize the Springfield MSA over the six-year study period. The Fair Lending section investigates questions of fairness by comparing the volume of loan activity and analyzing loan outcomes among applicants with different demographic characteristics and across geographical areas. The final section, Subprime Lending, assesses changes in the subprime lending market and provides a detailed comparison of subprime lending in 1997 and 2001.

Goals and Questions

The goal of this study is to analyze the Pioneer Valley region's lending market, detailing fair and subprime lending practices. The study examines lending market statistics throughout the Springfield Metropolitan Statistical Area (MSA) from 1996 through 2001.[5] This analysis includes overall trends in the region and patterns of lending by census tract. The following questions shaped our research:

- What changes occurred in the lending market between 1996 and 2001 in terms of loan volume, outcomes, and value?
- What is the market share of local banks and financial institutions compared to regional or national institutions?
- Do lending statistics indicate differential lending practices based on characteristics of borrowers or communities?
- What is the market share of subprime lenders and how has it changed between 1996 and 2001?
- Does the market share of subprime lenders change based on the characteristics or geographic location of the borrower?
- Are subprime lenders targeting certain groups of people or geographic areas in the Springfield MSA?

Simply stated, these questions reflect our goal to determine if similar applicants receive similar treatment. For example, while low-income applicants would be expected to have higher denial rates, justified by their lesser ability to pay, do all low-income applicants have similar loan outcomes regardless of other characteristics? Another important goal of this study is to gain a better understanding of the subprime loan market and to examine whether subprime lenders target certain groups more than others.

In providing a description and analysis of the lending market, we hope to contribute to the ongoing enhancement of mortgage lending practices, including the improvement of services to those groups or areas that have traditionally been underserved. Causal questions about why the lending market functions as it does are not addressed and conclusions about particular lending institutions are not made in this study.

[5] The Home Mortgage Disclosure Act requires the collection and release of lending data for metropolitan areas only. Data is not available for areas of the Pioneer Valley outside of the Springfield MSA; therefore, this study only includes communities within the Springfield MSA.

METHODOLOGY

Sources

The two principal sources of data used throughout this study are the U.S. Census Bureau and the annual release of Home Mortgage Disclosure Act (HMDA) records by the Federal Financial Institutions Examination Council (FFIEC). The U.S. Census Bureau releases a wide variety of data based on surveys completed every ten years.[6] The 1975 HMDA requires lenders to annually report the number and disposition of home loan applications.[7]

The HMDA data used in this study include disposition statistics for federally insured (FHA), conventional, refinance, and home improvement loans for single to four family residences and demographic information about applicants.[8] The FFIEC releases the information to regional depositories where it is available to the public at no charge. PVPC is a local depository for HMDA data.

The FFIEC compiles aggregate lending data for all Metropolitan Statistical Areas (MSA) in the United States.[9] The Springfield MSA, however, does not include all of the towns of the Pioneer Valley Region. The map on the following page shows all of the census tracts in the Hampden and Hampshire county areas as well as the Whately/Sunderland census tract in Franklin County. The shaded portions of the map represents the Springfield MSA.[10] In the following three cases, a town or city is part of a census tract that is not entirely included within the Springfield MSA.

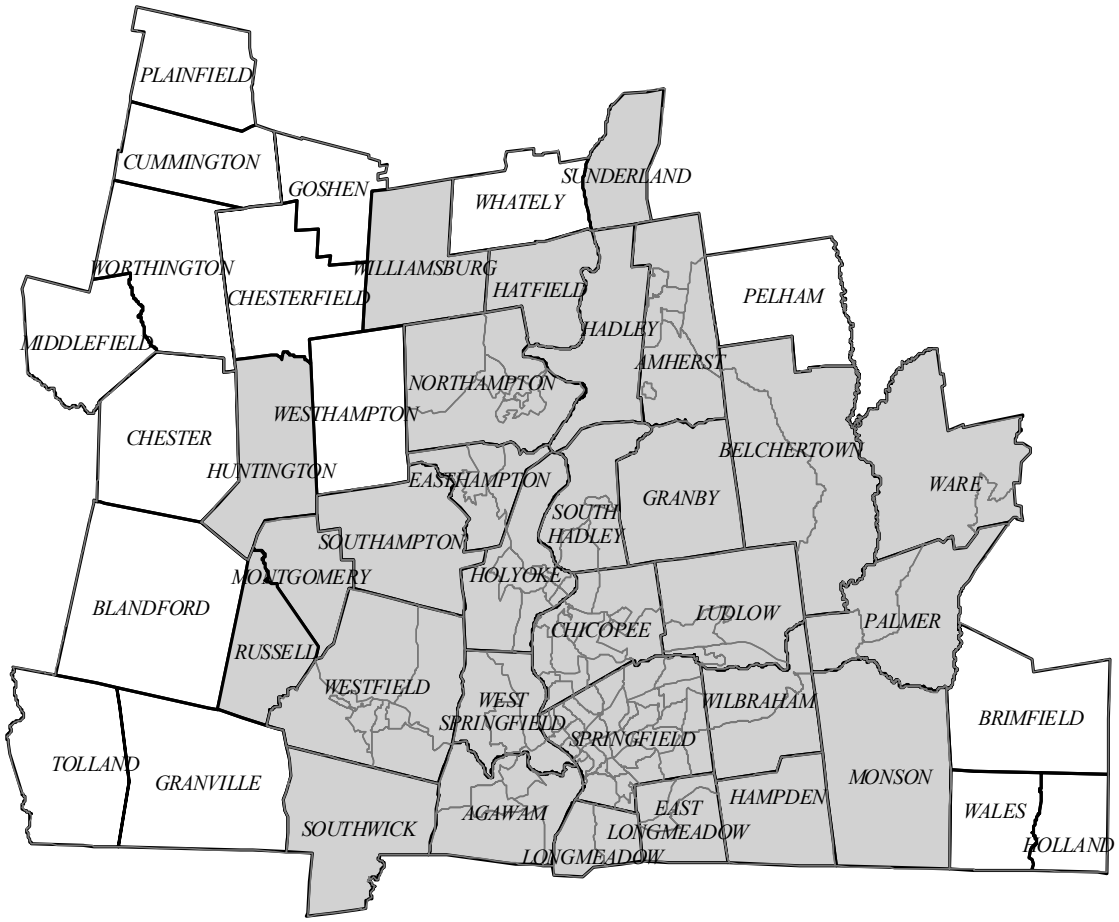
- Census tract 0408 includes Whately and Sunderland, but only Sunderland is part of the Springfield MSA.
- Census tract 8130 encompasses Blandford, Chester, Granville, Russell, and Tolland, but only Russell is part of the Springfield MSA.

[6] Census information can be accessed by using the"American FactFinder" feature of the U.S. Census Bureau website at www.census.gov.
[7] 12 United States Code. §§ 2801-2810 (2003).
[8] Federal loan programs include Federal Housing Administration insured (FHA), Farm Service Agency or Rural Housing Service (FSA/RHS) and Veterans Administration guaranteed (VA). For simplicity, all Federal loan programs will be referred to as FHA in this report.
[9] Metropolitan Statistical Areas are defined by the U.S. Office of Management and Budget.
[10] The Springfield MSA includes Agawam, Amherst, Belchertown, Chicopee, Easthampton, East Longmeadow, Granby, Hadley, Hampden, Hatfield, Holyoke, Huntington, Longmeadow, Ludlow, Monson, Northampton, Palmer, Russell, South Hadley, Southampton, Southwick, Springfield, Sunderland, Ware, West Springfield, Westfield, Wilbraham and Williamsburg.

- Census tract 8226 includes Chesterfield, Goshen, Huntington, Westhampton, and Williamsburg, but only Huntington and Williamsburg are part of the Springfield MSA.

In these cases, the census data for the entire census tract were used with lending statistics for only the towns within the Springfield MSA. Demographic characteristics such as median income, race, ethnicity, household type, housing value, vacancy rate, housing units, and housing ownership for individual census tracts were taken from Summary File 3 of Census 2000.[11]

The Springfield Metropolitan Statistical Area (MSA)
Compared to Hampden and Hampshire Counties with Census Tract Boundaries



The Federal Depository Insurance Corporation (FDIC), along with the Office of Thrift Supervision (OTS), annually collect data on deposit balances. The data for the Hampden and

[11] Summary File 3 is sample data derived from the long-form surveys that are provided to 1 in 6 households and are available at: www.census.gov.

Hampshire county areas were utilized in this report to determine where lending institutions are based and how many offices they have in the region.[12]

Data Modifications

Aggregate lending statistics, released by the FFIEC, for the Springfield MSA were utilized to provide an overview of the activity and characteristics of the regional lending market. The FFIEC compiles aggregated data by income and race/ethnicity and these reports were used as a means to analyze of the "fairness" of the overall lending market.

At a more detailed level, the characteristics of individual census tracts were compared to HMDA lending statistics, also available by census tract. To make this comparison possible, however, a fraction of census tracts were manipulated. The manipulation of census tract data was necessary because HMDA data are based on census tract definitions from 1990, a number of which were changed for Census 2000. These changes were made with the intent of providing the most rational and accurate analysis possible given the constraints of the data.

The modifications included the consolidation of 8 census tracts into 4, the expansion of 7 census tracts into 14 and the renaming of 2 census tracts.[13] HMDA data were added together when two 1990 census tracts were merged for Census 2000 to create matching data. HMDA data were duplicated when 1990 census tracts were divided into two for Census 2000. The duplication of data slightly altered the picture of total lending activity in the individual census tract, but approval and denial rates remain unchanged. We felt this was the most accurate representation possible given the limitations of available data.

In addition to these changes, a small group of census tracts, which include the five colleges of Hampshire County, were omitted from our analysis. The vast majority of people in these census tracts are college students living on campus; therefore, very little household data are available for

[12] The information is presented in market share reports and is available online at www.fdic.gov.
[13] Consolidated 1990 census tracts include: 8010 and 8011.01 into 8011.01; 8105 and 8106.02 into 8106.02; 8219 and 8219.02 into 8219.02; 8221 and 8222 into 8222. Expanded 1990 census tracts are: 8104.02 into 8104.03 and 8104.04; 8129.00 into 8129.02 and 8129.03; 8132.01 into 8132.04 and 8132.05; 8132.02 into 8132.06 and 8132.07; 8134.02 into 8134.03 and 8134.04; 8201 into 8201.01 and 8201.02; 8202.01 into 8202.03 and 8202.04. Census

these census tracts.[14] The remaining eight colleges in the Springfield MSA occupy only portions of a census tract and, therefore, were not omitted.

Two types of census data were also modified for the purposes of consistency and statistical analysis. While much of the census data are provided in the form of percentages, household income and median home values are not. Because uniformity is preferred for statistical analysis, these two variables were converted to percentages of the median Springfield MSA values. To calculate this percentage, the median household income of an individual census tract was divided by the Springfield MSA median household income.

$$Percent\ of\ Springfield\ MSA\ Median\ Income = \frac{Census\ Tract\ Median\ Income}{Springfield\ MSA\ Median\ Income}$$

The result represents what percentage the household income of a census tract is in relation to the MSA median. For example, the median household income of the Springfield MSA is $40,740. Eighty percent of the median equals $32,592 ($40,740 multiplied by .8) and 120 percent of the median equals $48,888 ($40,740 multiplied by 1.2).

Definitions

Income. The income data used to describe the MSA, census tracts, cities, and towns are from Census 2000. HMDA income data are presented as proportions of the MSA median. Since 1997 the FFIEC has compiled HMDA data using five income categories to describe borrowers income in relation to the MSA median: less than 50 percent, 50 to 79 percent, 80 to 99 percent, 100 to 119 percent and over 120 percent. For consistency and simplicity the categories will be referred to as follows: *low-income* indicates less than 50 percent of the MSA median, *moderate-income* specifies 50 to 79 percent of the MSA median, *middle-income* signifies 80 to 119 percent of the MSA median, and *high-income* corresponds to over 120 percent of the MSA median.[15]

tracts renamed from Census 1990 to Census 2000 include: 8104.11 changed to 8104.14 and 8129.12 changed to 8129.01.

[14] Omitted census tracts include: 8212.00 (Mount Holyoke College), 8220 (Smith College), 8208.02 (Hampshire College), 8204 (University of Massachusetts) and 8206 (Amherst College).

[15] In 1996, the FFIEC grouped low and moderate-income applicants together within the single category of less than 80 percent of the MSA median. This data is omitted when necessary for consistency.

Subprime Lender/Lending. The U.S. Department of Housing and Urban Development (HUD) uses a multi-faceted approach to identify and categorize lenders as subprime. The list of subprime lenders that HUD provides to the public was used in this report.[16] Subprime loans are loans that carry higher interest rates for applicants who present additional risk to the lender. Throughout this report, non-subprime lenders are referred to as "prime" lenders. These categories are not exact as both prime and subprime lenders make prime and subprime loans. Despite this inconsistency, the study utilizes the HUD categorization of lenders because actual subprime loans are not differentiated in the HMDA data.

Predatory Lender/Lending. The subprime market is often considered to serve as an umbrella or breeding ground for predatory lending. Defining practices that are predatory, however, is challenging. Edward M. Gramlich, member of the Federal Reserve Board, noted in 2000 that "no law administered by the Board has a statutory or regulatory definition of predatory lending."[17] Gramlich continues that predatory lending is interpreted broadly by some groups to mean loans with unfair terms according to the risk of lending to a particular applicant, while others interpret predatory lending narrowly as a set of specific practices by individual lenders. Loan terms that may be deemed predatory include balloon payments, negative amortization, prepayment penalties, mandatory arbitration, and certain insurance and financing plans. Sales practices related to predatory lending include manipulating borrowers to accept unaffordable or unusually high rates or fees through misinformation or aggressive sales tactics, taking unfair advantage of an applicants lack of understanding of loan terms, or making loans regardless of the borrowers' ability to pay.

Predatory lending is not directly analyzed in this study because of the loose definition of and inability to identify predatory loans. Noting the role of the subprime market in predatory lending, however, is valuable. A HUD publication from June 2000 entitled *Curbing Predatory Home Mortgage Lending* identifies several factors that contribute to the presence of predatory lending

[16] A detailed report of the methodology to determine subprime lending was forthcoming from the HUD at the time of publication. Information and datasets were accessed on or before November 20, 2003 at: http://www.huduser.org/datasets/manu.html.

[17] Letter from Edward M. Gramlich, Member of the Board, Federal Reserve to the Honorable Phil Gramm Chairman of the Committee on Banking, Housing and Urban Affairs. April 28, 2000. Accessed at: http://banking.senate.gov/docs/reports/prelend/fed.html on July 24, 2003.

within the subprime market. The report concludes that subprime borrowers may be more easily manipulated because of past issues obtaining credit, an immediate need for funds, and insufficient competition in communities with high subprime lending activity. Many of these communities are low-income and minority communities. [18] Meanwhile, the companies that provide subprime loans are not subject to the same federal regulations and oversight as are most prime lenders. The fact that about 70 percent of loans originating from the subprime market have prepayment penalties highlights the pervasiveness of predatory practices.[19]

Race and Ethnicity. Racial and ethnic categories may be defined in various ways. For Census 2000, the U.S. Census Bureau modified the options available for individuals to identify their race and ethnicity by allowing two or more races to be chosen along with the separate yes or no categorization of Hispanic/Latino. The FFIEC uses such categories as American Indian/Alaskan Native, Asian/Pacific Islander, Black, Hispanic, White, Other, Joint and Race Not Available to describe the racial and ethnic characteristics of applicants. The Census Bureau defines Hispanic and Latino as equivalent groups. Because of the complexity and different application of terms used by various data sources, defining a single set of terms helps clarify whom this report intends to describe. The terms used in this report include white and African-American representing 'white, not Hispanic' and 'black, not Hispanic.' The term Latino is used for both Latino and Hispanic. The report also uses the terminology of 'persons of color' to refer to individuals who are not identified as 'white, not Hispanic.'

Types of Lending Institutions. For purposes of this study, local banks are defined as institutions that have more than half of their branch offices within the Springfield MSA according to FDIC data. All other lending institutions are referred to as non-local. The number of applications, originations, approvals and denials for individual lending institutions is available through HMDA data. Lending statistics were aggregated for individual local lending institutions and then subtracted from the lending statistics for the entire Springfield MSA. This calculation allowed for local and non-local comparison and analysis of loan activity and outcomes.

[18] HUD-Treasury Task Force Report. *Curbing Predatory Home Mortgage Lending*. June 2000. p. 18. Accessed at: http://www.huduser.org/publications/hsgfin/curbing.html on September 12, 2003.
[19] Mortgage Information Corporation Loan Performance System, 1999 Q3 cited in: Curbing Predatory Home Mortgage Lending. HUD-Treasury Task Force on Predatory Lending. June 2000. p. 93.

Measures

Lending Activity Ratio. To investigate and understand the volume of lending activity across census tracts of different size, we compared the average number of loans approved per year with the number of housing units in each census tract. The result, referred to as the Lending Activity Ratio (LAR) throughout this report, indicates the average annual number of approvals per housing unit, by census tract. The ratio is determined using the following method. The average number of approvals per year from 1996 through 2001 is divided by the number of housing units in each individual census tract based on the Census 2000 definition. The following equation represents this calculation:

$$Lending\ Activity\ Ratio = \frac{\left(A_{1996} + A_{1997} + A_{1998} + A_{1999} + A_{2000} + A_{2001}\right)/6}{H}$$

A = Number of loan approvals

H = Number of housing units

For example, a lending activity ratio of .05 means that there was an average of one loan approved per year for every 20 housing units (1:20) or five loans approved per year for every 100 housing units.

For those census tracts that were expanded for Census 2000, an additional modification was necessary to compute the lending activity ratio, because the duplication of the HMDA data, in this case, led to inaccurate lending activity ratios. The number of approvals, therefore, was calculated as a proportion of the number of housing units between the two census tracts, yielding the same LAR for both census tracts.

Approval Ratio. We also created an aggregate ratio indicating the number of approvals per denial by individual census tract from 1996 through 2001. The following equation represents the calculation of the approval ratio:

$$ApprovalRatio = \frac{A_{1996} + A_{1997} + A_{1998} + A_{1999} + A_{2000} + A_{2001}}{D_{1996} + D_{1997} + D_{1998} + D_{1999} + D_{2000} + D_{2001}}$$

A = Number of Approvals

D = Number of Denials

This Approval Ratio indicates how many loan applications were approved for each loan application that was denied. For example, an approval ratio of 6.5 signifies that, from 1996 through 2001, 6.5 loans, on average, were approved for every loan that was denied.

The approval ratio was used for statistical analyses. Correlation tests, conducted using statistical software (SPSS), identified the statistical significance of patterns in lending by measuring the relationship between multiple independent variables and testing their influence on the dependent outcome variable. The dependent variables used include the approval ratio for all loans and the approval ratio for refinance loans. The independent variables included in our correlation calculations are: the percent of the populations that is white, not Hispanic; household median income as a percent of the Springfield MSA; the non-seasonal housing vacancy rate; median home values as a percent of the MSA median; and, the percent of owner-occupied housing.

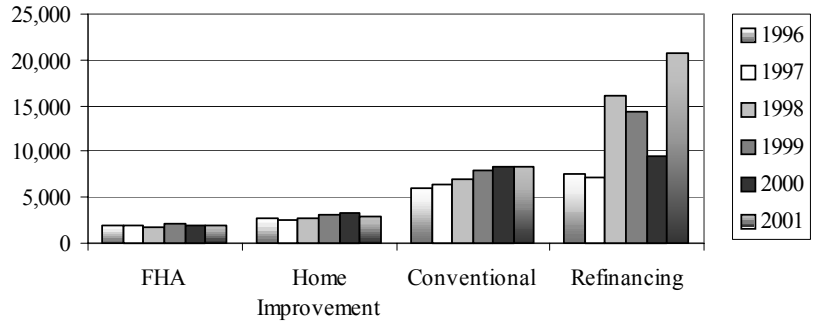
REGIONAL LENDING

Between 1996 and 2001, across the country, the home mortgage industry experienced remarkable fluctuations as a result of changes in the economy and record-breaking low interest rates. The impact of these macroeconomic shifts was evident in the Springfield Metropolitan Statistical Area (MSA). Refinance loan volume fluctuations, for example, were markedly larger than variations in other types of loans, reflecting the response of homeowners to the opportunity presented by low interest rates. The goal of this section is to provide an overview of the market as a context for understanding the subsequent discussion of fair and subprime lending. Various aspects of the market that are considered include the volume, outcome, and value of loan activity along with the characteristics of lending institutions.

Volume

Figure 1 illustrates the number of loan applications completed for each type of loan between 1996 and 2001. Application statistics indicate how the demand for lending, represented by the number of people completing the application process, has changed over time. Conventional loan applications steadily increased by 37.5 percent from 6,006 in 1996 to 8,260 in 2001. During this period, FHA and home improvement loan application numbers demonstrated stable levels of demand.

Figure 1: Total Loan Applications in the Springfield MSA by Type of Loan (1996-2001)



The number of applications for refinance loans, however, experienced drastic changes over the six years studied. Refinance applications more than doubled between 1997 and 1998 from 7,129 to 16,149. By 2001, at 20,758, the volume of applications was almost three times the 1997 level and accounted for 61 percent of the total number of home loan applications.

The total number of applications filed by year and by type of loan is compared to the fixed 30-year conventional mortgage rate in Figure 2. In 1998 and 2001, the mortgage rate was at record-breaking low levels of just under seven percent. The refinance loan market was most responsive to these changes. As mortgage rates hit record lows, the number of refinance loan applications increased dramatically (Figure 3). Predictably, low interest rates produced high demand for refinance loans as homeowners took advantage of the opportunity for long-term savings.

Figure 2: Total Loan Applications in the Springfield MSA & the 30-year Fixed Conventional Mortgage Rate

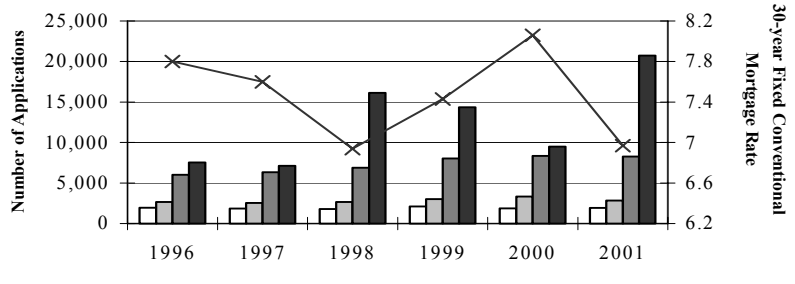
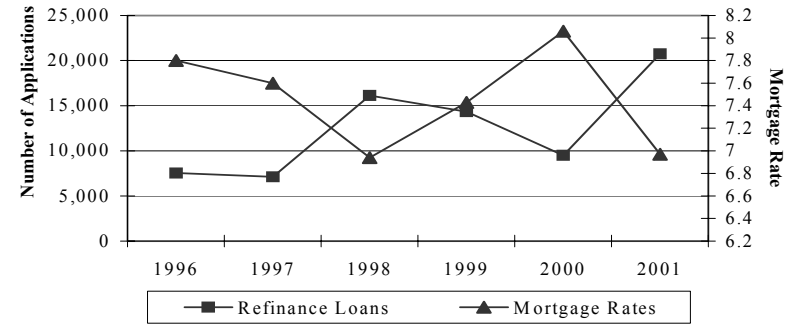


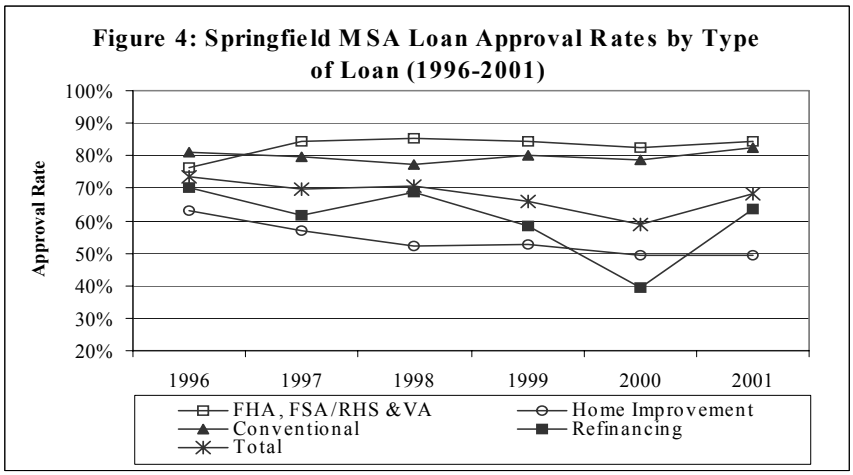
Figure 3: Total Refinance Loan Applications and the 30-year Fixed Conventional Mortgage Rate (1996-2001)



Outcomes

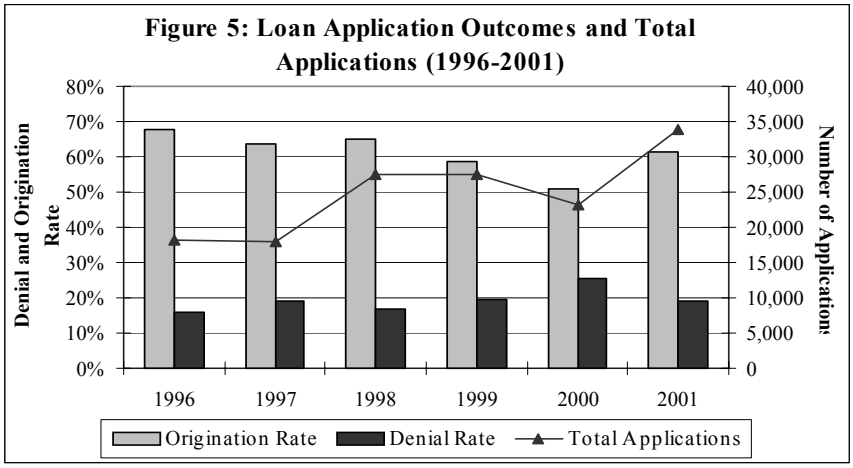
Approval rates by type of loan, as seen in Figure 4, indicate how many of those who applied for loans were offered the opportunity to borrow money. As with application volume, the most dramatic change over time in approval rates is evident in the refinance lending market. Between 1998 and 2000 the approval rate for refinance loans dropped from 68.9 to 39.6 percent. This occurred at a time when the number of applications was falling. As fewer people were applying for refinance loans, even fewer applications were being approved. The rise in mortgage rates may in part explain this trend, as borrowing became more expensive. Home improvement loans showed a consistently decreasing approval rate from 1996 to 2001, while conventional loan

approval rates held steady. FHA loan approvals were consistent after a ten percent increase from 1996 to 1997. The high approval rates for federally insured loans (FHA) are likely a result of the safeguards built into these programs and demonstrate their success.



Loan outcomes and the total number of applications are compared in Figure 5. The origination rate represents the percentage of applications that were approved by the lending institution and accepted by the applicant. The denial rate indicates how many applications were denied loans by the lending institutions out of the total number of loan applications that were completed.

These rates are compared with the total number of applications further demonstrating lending market supply and demand trends within the Springfield MSA. The origination rate steadily declined from nearly 70 percent in 1996 to about 50 percent in 2000, after which it jumped to about 60 percent in 2001. The significant dip in the origination rate coincided with a decrease in demand (and higher mortgage rates) in 2000. The denial rate remained below 20 percent every year except 2000.



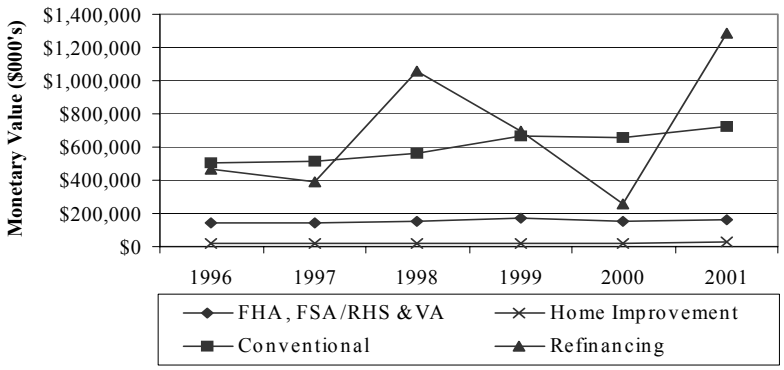
Value

As the volume of applications and originations increased, so did the total value of loans over time. Figure 6 illustrates the total value of loans originated by type of loan in the Springfield

MSA (dollar values are adjusted for inflation into 2001 dollars). Between 1996 and 2001, the total value of loans originated grew 93 percent from $1.14 billion in 1996 to $2.19 billion in 2001.

Part of the tremendous growth in the value of loans can be attributed to the dramatic increase in refinance loan activity. The total value of originated refinance loans increased 174 percent from $466 million in 1996 to $1.2 billion in 2001. The total value of refinance loans hit a low of $256 million in 2000 as mortgage rates rose and refinance approval rates dipped. Conventional loans experienced more modest, but consistent growth with a 42 percent change over the six years from $508 million in 1996 to $724 million in 2001.

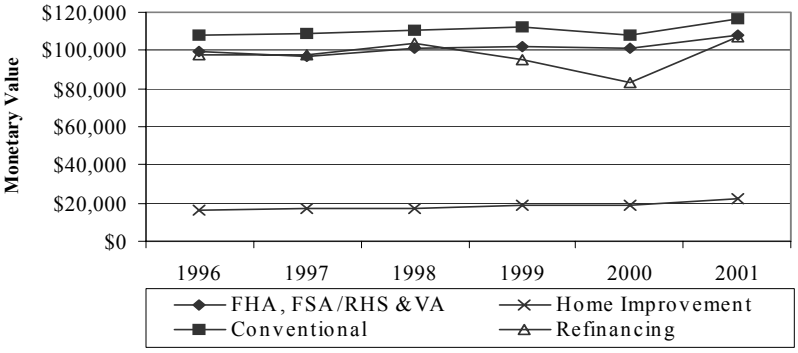
Figure 6: Total Value of Loans Originated by Type of Loan in 2001 Dollars (1996-2001)



FHA and home improvement loans represent a smaller proportion of loan activity and, therefore, account for a fraction of the total value of loans originated. The value of FHA loans increased by 18 percent from $139 million in 1996 to $164 million in 2001 reaching its highest total value of $176 million in 1999. Home improvement origination values experienced the smallest percent change of seven percent with the lowest total value of $19 million in 1998 and the highest total value of $25 million in 2001.

Figure 7 represents the average value of individual loans by type of loan (adjusted for inflation into 2001 dollars). While the

Figure 7: Average Value of Loans Originated by Type of Loan in 2001 Dollars (1996-2001)



average value for all types of loans increased from 1996 to 2001, refinance loans experienced the most variation in value over time. In 2000, when borrowing money was more expensive, the average value of refinance loans dropped to $83,540, the lowest of the six-year period. Conventional loans consistently had the highest average value from $108,108 in 1996 to $116,185 in 2001. FHA loans averaged a value of $99,244 in 1996 and steadily increased to $107,637 by 2001. The average value of home improvement loans increased from $16,047 to $22,560 over the six-year period.

Institutions

Changes in lending market trends also extend to the types of lending institutions that were doing business in the Springfield MSA. Comparing loan application volumes and outcomes for local and non-local lending institutions for 1997 and 2001 further enhances our understanding of the lending market as a whole.

Table 1 presents data on the actual number of applications and originations by type of lending institution. From 1997 to 2001, local institutions experienced a 54 percent increase in the volume of loan applications and a 60 percent increase in originations. Non-local institutions, however, had significantly larger increases in volume of both applications and originations with 120 and 109 percent changes respectively.

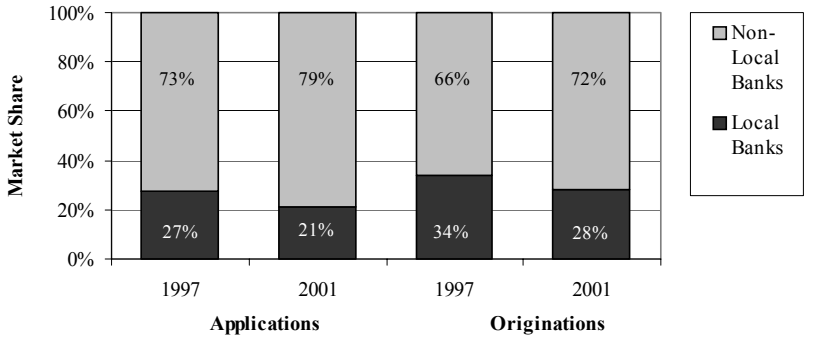
Table 1: Volume of Loan Activity by Type of Institution

	1997	2001	% Change
Local Lenders			
Applications	4,206	6,498	54%
Originations	3,485	5,573	60%
Non-Local Lenders			
Applications	11,118	24,456	120%
Originations	6,746	14,107	109%

Figure 8 represents the local and non-local lenders' market share of applications and originations in 1997 and 2001. Local institutions had a larger share of originations than applications in both 1997 and 2001. Non-local institutions, however, increased their majority share of lending activity. From 1997 to 2001, non-local lenders' market share of applications increased from 73

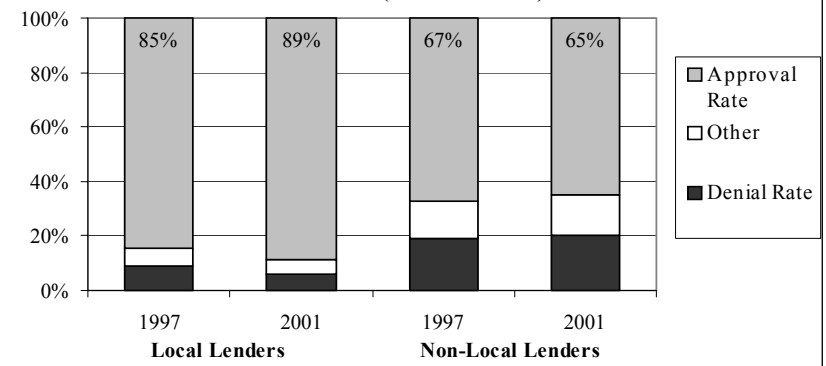
to 79 percent and their market share of originations increased from 66 to 72 percent. In other words, in 1997, about one in four people hoping to secure a home loan submitted an application to a locally headquartered lending institution. In 2001, only one in five applicants submitted a loan application to a local institution.

Figure 8: Market Share of Applications and Originations by Type of Lending Institutions (1997 & 2001)



Concern over the type of lending institution arises from the notable differences in loan application outcomes between local and non-local lenders. Figure 9 facilitates a comparison of approval and denial rates for local and non-local institutions. From 1997 to 2001, local banks increased their approval rates from 85 to 89. This increase came at the same time that local banks were losing market share (see Figure 8). Meanwhile, approval rates for non-local institutions remained substantially lower than for local institutions. The non-local lending approval rate decreased slightly from 67 to 65 percent. In 2001 the denial rate for non-local institutions was 20 percent, more than three times higher than the 6 percent denial rate for local lenders. In comparing statistics from 1997 and 2001, local lenders had less market share of applications and higher approval rates. This trend indicates that potential borrowers, in 2001, had less access to the institutions where they were most likely to be approved for a home loan than in 1997.

Figure 9: Loan Application Outcomes by Type of Institution (1997 & 2001)



A number of trends and patterns emerge from analyzing the lending market and lending institutions in the Springfield MSA. Refinance loan volume, outcomes, and values fluctuated from 1996 through 2001 in response to dramatic changes in mortgage rates. While refinance loan applications and values hit record highs at the end of the study period in 2001, conclusions based on the 2001 levels of activity would not be prudent. Conventional loan activity, on the other hand, reflects a stable and consistently growing market. The much smaller FHA and home improvement lending markets maintained steady levels of activity and value. Non-local lenders increased their control over the regional market, which is concerning because non-local lending institutions deny applicants more often than local lending institutions.

Taken as a whole, the regional lending market grew in volume and value which is a positive indicator for the Pioneer Valley. Delving further into the details of lending practices, however, is essential in evaluating whether this growth has offered equal opportunity to all of our residents.

FAIR LENDING

The Fair Housing Act of 1968 established a series of regulations to protect disadvantaged groups of people from housing discrimination.[20] As it relates to mortgage lending, prohibited activities include refusing to make or purchase a loan, refusing to provide loan information, or setting different terms or conditions for a loan based on race, color, national origin, religion, sex, familial status, or disability.[21]

Unfortunately, patterns of differential treatment in lending still exist some thirty-five years after this legislation passed as, "widespread evidence indicates that minority homebuyers are less likely than whites to obtain mortgage loans and, if they are successful, receive less favorable loan amounts and terms."[22] By reviewing lending data over a six-year period, this study compares and analyzes statistics to determine if variations exist by race and ethnicity, using geographical differences to further understand the issue. Significant differences in loan outcomes among racial and ethnic groups and across communities are an indicator unfair lending practices.

Before analyzing the fairness of lending in the Springfield MSA, it is important to address some of the realities of the home lending process that would hold true even if lending practices were completely fair. First, denial rates for home mortgages will decrease as an applicants income increases based on the assumption that an applicant's ability to pay, most often measured by income, is the single most influential factor in the loan approval process. Second, apart from income, other factors such as credit history or debt are legitimately relevant to obtaining a loan. Third, issues of housing stock—particularly age and condition—may influence the differences in denial rates between neighborhoods and communities.

This analysis of "fairness" includes surveying loan activity geographically, analyzing loan outcomes by characteristics of loan applicants, examining market share of loan activity, and comparing loan outcome ratios by census tract. Statistical analyses serve as an additional guide

[20] 42 United States Code §§ 3601-3607 (2003).
[21] Additional information is available at http://www.hud.gov/offices/fheo/FHLaws/index.cfm.
[22] U.S. Department of Housing and Urban Development Office of Policy Development and Research. "All Other Things Being Equal: A Paired Testing Study of Mortgage Lending." Final Report. April 2002.

to measure the influence of different factors on the probability of loan application outcomes. Statistical test results are presented to further support our conclusions about the regional lending market.

The data presented in this section demonstrate distinctive patterns in loan activity and outcomes across the lending market. Applicants of different races, ethnicities, or incomes are denied loans at vastly different rates. The most noticeable patterns include the following:

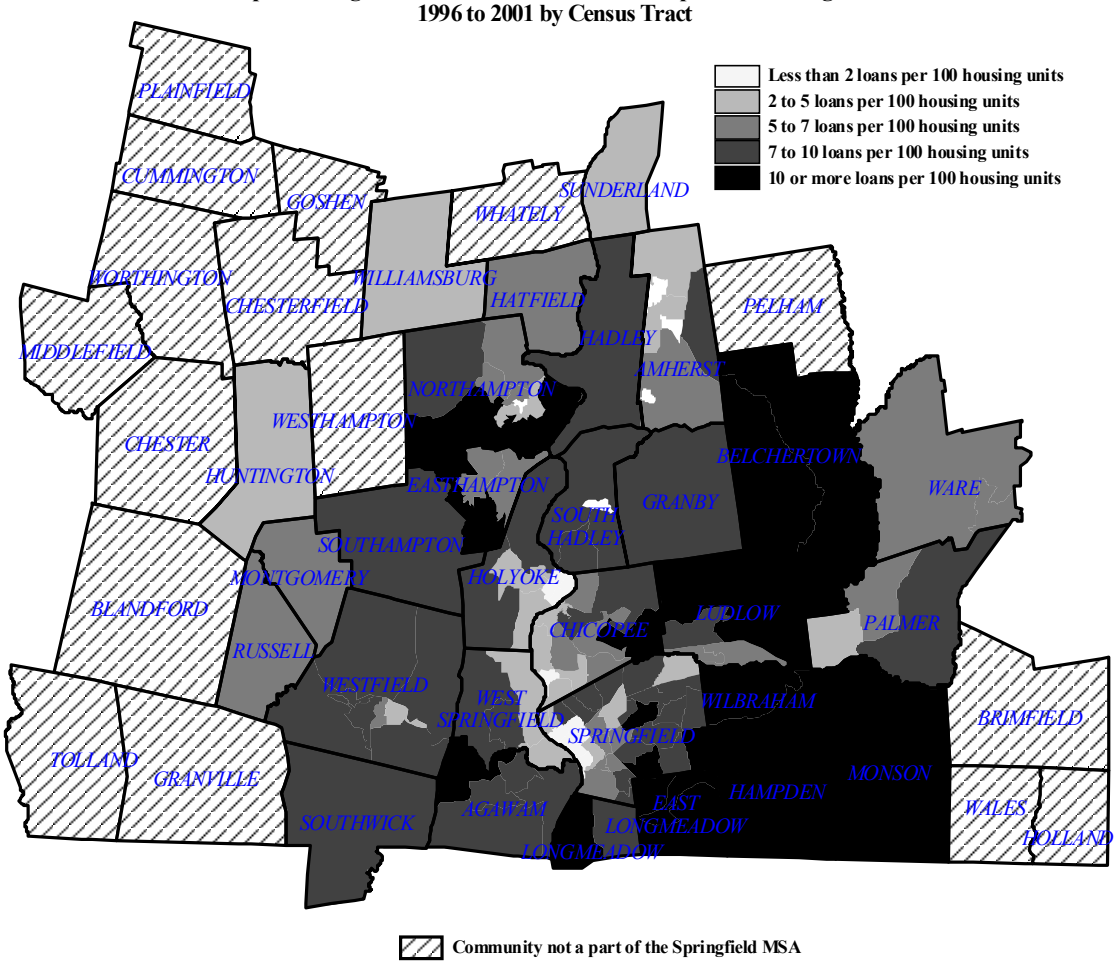
- Low rates of loan activity are geographically concentrated within the region's urban areas.
- Denial rates vary widely based on the race and/or ethnicity of the applicant regardless of income.
- The denial rates of white, Latino, and African-American applicants have different patterns and trends across income groups.
- The market distribution of applications and denials varies by race and/or ethnicity.
- Low rates of loan approvals as compared to loan denials are geographically concentrated within the region's urban areas.

Lending Activity Ratio

The lending activity ratio (LAR) compares the number of loans approved to the number of housing units within a particular geographical area. This ratio links the average annual volume of approved loans to the quantity of housing in one area, facilitating an evaluation of how lending activity in different areas compares to other areas in the region. In this study, lending data from 1996 to 2001 is used to calculate an average annual number of loans to compare to the number of housing units reported in Census 2000.

Map 1 displays the LAR by the 2000 census tract definitions and indicates that lending activity varied widely throughout the Springfield MSA. According to the data, all of the census tracts that have the lowest lending activity ratio (less than 2 loans annually per 100 housing units) are within the urban core of Springfield, Chicopee, and Holyoke. This low lending activity is further

Map 1: Average Annual Number of Home Loans per 100 Housing Units 1996 to 2001 by Census Tract



concentrated within the cities themselves. Six adjacent census tracts in the North End, Metro Center, and South End of Springfield and a group of four census tracts in downtown Holyoke account for 10 of the 11 census tracts with the lowest lending activity ratio.

Communities with the highest lending activity ratio (10 or more loans per 100 housing units annually) include Longmeadow, Northampton, East Longmeadow, Hampden, Monson, Wilbraham, Belchertown, Ludlow, Easthampton, and Agawam. For some of these communities, significant population growth during the period of this study contributed to the high lending activity ratio. For example, Belchertown is one of the fastest growing communities in the Pioneer Valley. Considering the large number of new homes that have recently been developed, the high

level of loan activity in Belchertown is not surprising. Three census tracts in Springfield (two in Sixteen Acres and one in Pine Point) and one census tract in Chicopee (the Burnett Road neighborhood) also had the highest lending activity ratio of 10 or more loans per 100 housing units.[23]

The pattern and concentration of lending activity in the Springfield MSA can largely be attributed to differences in household income, where communities of higher income have higher lending activity ratios. The relationship between household income and loan outcomes is predictable and does not, by itself, indicate a lack of fairness. Figure 10 is a bivariate scatterplot of the LAR and median household income for every census tract in the Springfield MSA. The upward sloping pattern of dots—demonstrating a positive linear relationship—indicates that as household income increases, so does the amount of lending activity. The R-square coefficient, also shown in Figure 10, equals 0.69, which indicates a fairly strong relationship between household income and the LAR.[24]

Figure 10: LAR and Median Household Income as Percent of Springfield MSA Median

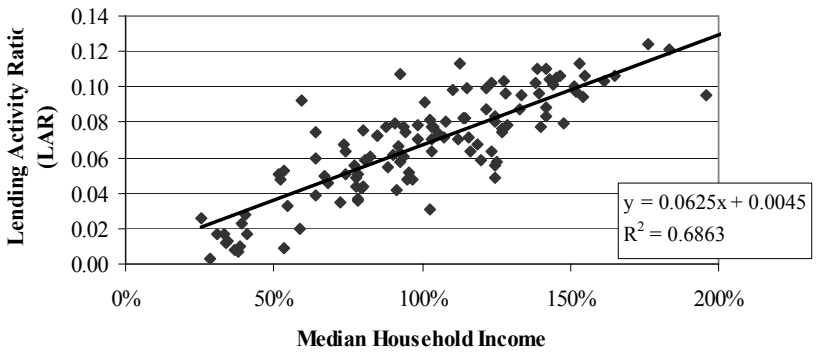
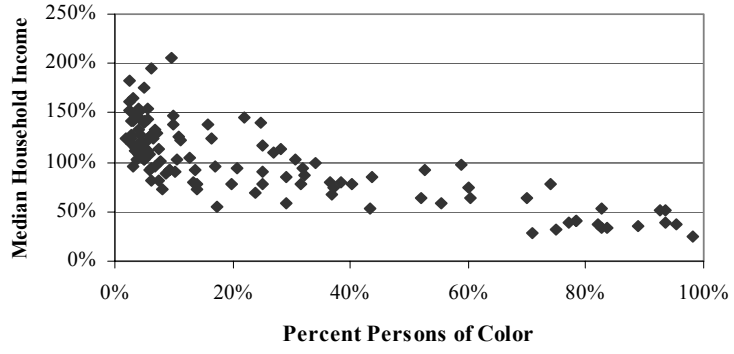


Figure 11 demonstrates the relationship between the median household income

Figure 11: Relationship of Racial Composition and Income by Census Tract in the Springfield MSA



[23] In some cases, large numbers of housing units in multi-unit apartment buildings, not captured in HMDA data, may explain low lending activity ratios.

[24] The R-squared value shown in Figure 10 indicates how well the relationship is explained by the linear model (y = mx + b). According to this model, the independent variable (x-axis) influences the outcome of the dependent variable (y-axis). The closer the R-squared value is to one, the better the model explains the relationship.

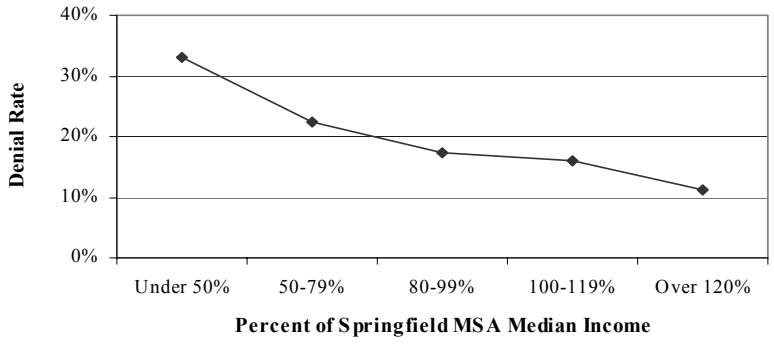
of census tracts in the Springfield MSA and their racial composition. During the study period, census tracts with high percentages of persons of color tended to have lower median incomes, while census tracts with the highest median incomes were predominantly white. This pattern residential segregation by race and income is important to consider when analyzing the activity of lending institutions. Because the LAR is lower in census tracts with lower median incomes, and because persons of color are concentrated in lower income neighborhoods, persons of color live in communities with disproportionately low lending activity. While less lending activity in communities of lower incomes may be justified because potential borrowers have less ability to pay, this pattern limits lower income individuals' and families' access to homeownership and the economic benefits it provides.

Denial Rates

Studying the rates of loan application denials facilitates an analysis of the fairness of lending practices in the region by race and ethnicity. The denial rates discussed in this section include the statistics for all conventional, refinance, and FHA loans and are examined by race, ethnicity, and income to determine if differences exist across these groups.[25]

Figure 12 illustrates the denial rate for all applicants from 1996 to 2001 and demonstrates the predictable pattern that as income increases denial rates decrease. Overall, denial rates decrease steadily from 33.1 percent for low-income applicants to 11.2 percent for high-income applicants. The most significant difference in denial rates was between the low-income group, at 33.1 percent, and the moderate-

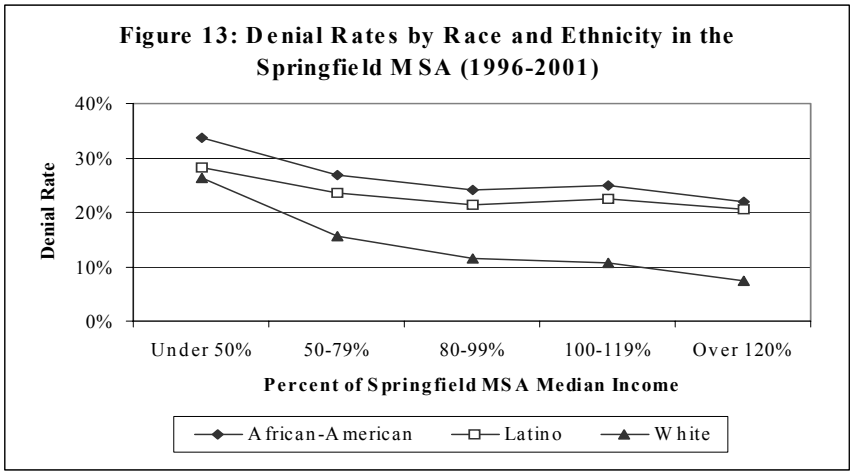
Figure 12: Denial Rates for All Applicants in the Springfield MSA (1996-2001)



[25] Home improvement loans are excluded from this analysis because they are substantially different than the other home loan products and they do not address an applicant's ability to purchase a home.

income group, at 22.3 percent. Applicants of the two middle-income categories (80 to 99% and 100 to 119%) had the most similar denial rates of 17.3 and 16.0 percent, respectively.

Upon closer inspection, however, noticeable differences emerge in the lending statistics for applicants of different racial and ethnic groups. Figure 13 represents the denial rates for different racial and ethnic groups categorized by income.[26] As the data in Figure 13 show, African-American and Latino applicants had consistently higher denial rates than white applicants, regardless of income. High-income Latino and African-American applicants were denied home loans at roughly three times the rate of high-income white applicants. High-income white applicants had an average denial rate of 7.4 percent while high-income African-American and Latino applicants had average denial rates of 22.0 and 20.6 percent, respectively.



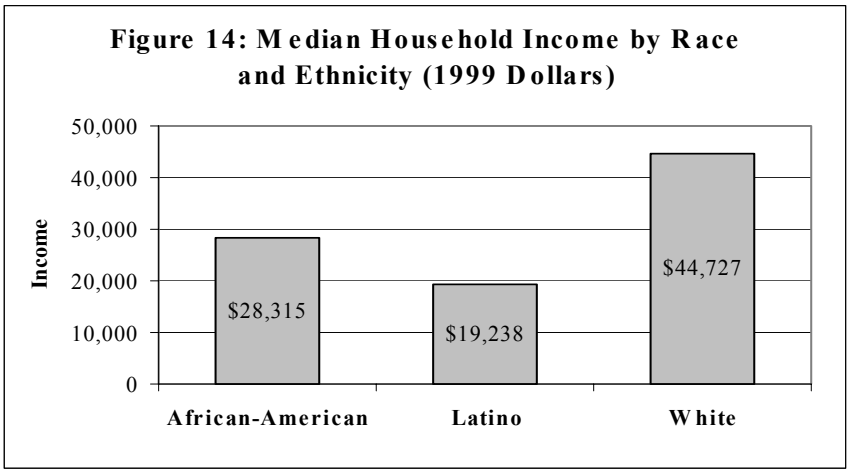
Denial rates for middle-income African-American and Latino applicants were approximately twice as high as white applicants with similar incomes. In the 80-99 percent income group, the denial rate was about 11.6 percent for white applicants, 21.3 percent for Latino applicants, and 24.2 percent for African-Americans. At 100-119 percent of median income, white applicants were denied at a rate of 10.8 percent, Latino applicants at 22.6 percent, and African-American applicants at 25.0 percent.

Latino and African-American applicants of *all income groups* experienced higher denial rates than all but the lowest income white applicants. Moderate-income white applicants had a denial rate of 15.7 percent as compared to 22.0 percent for high-income African-American applicants and 20.6 percent for high-income Latino applicants.

[26] A complete table of data on applications and denials that are used to calculate denial rates can be found in the Appendix.

White applicants with different incomes also experienced more variation in loan outcomes than did African-American and Latino applicants with different incomes. In other words, denial rates for African-American and Latino applicants were more similar regardless of income than for white applicants. Denial rates for white applicants changed from 26.2 percent (low-income) to 7.4 percent (high-income), a 19 percentage point difference from lowest to highest income. Latino applicants experienced the least variation in denial rates with about an 8 percentage point change from 28.2 percent (low-income) to 20.6 percent (high-income). African-American applicants had the highest denial rates of any group ranging from 33.8 percent (low-income) to 22.0 percent (high-income) with a modest 12 percentage point difference from lowest to highest income applicants.

Despite the fact that, as a group, African-Americans did not have the lowest median household income according to Census 2000 data, African-American applicants consistently had the highest denial rates. Figure 14 provides median household income by race and ethnicity for the Springfield MSA. Latino households have a significantly lower median income ($19,238) than African-Americans ($28,315), yet African-Americans consistently have the highest loan denial rates. These findings merit further investigation to determine why African-American applicants have uniquely negative outcomes in the home lending process.



The FFIEC also provides aggregate data by race and ethnicity regarding the reason an application was denied.[27] Some of the reasons for denial include debt-to-income ratio,

[27] HMDA Aggregate Table 8-2: Reasons for denial of applications for conventional home-purchase loans, 1 to 4 family homes, by race, gender and income of applicant. HMDA Aggregate Table 8-3: Reasons for denial of applications for refinance loans on 1 to 4 family homes, by race, gender and income of applicant.

employment history, credit history, collateral and insufficient cash. In surveying this data, we did not find any significant difference by race or ethnicity in the reported reasons for loan denials. Therefore, the data do not reveal an explanation of differences in denial rates based on legitimate measures of loan worthiness, such as credit or employment history, that could explain differences among applicants with similar incomes and different racial or ethnic backgrounds.

A more detailed look at yearly denial rates for individual racial and ethnic groups provides additional insight into lending practices in the Springfield MSA. The following three graphs (Figures 15, 16, and 17) illustrate the denial rates of white, African-American, and Latino applicants for each of the six years of the study.

Figure 15 represents the denial rates for white applicants by income from 1996 to 2001. As the income of white applicants increases, their denial rates consistently decrease, as demonstrated by the downward sloping curves of Figure 15. The highest denial rate in any single year for white applicants was 34 percent in 1997 for low-income applicants. The lowest denial rate was 5.9 percent for high-income white applicants in 1998. Denial rates for high-income white applicants never reached above 10.2 percent and the average denial rate was 7.6 percent. Meanwhile, the denial rates for low-income white applicants varied from 21.6 to 33.5 percent with an average denial rate of 26.2 percent.

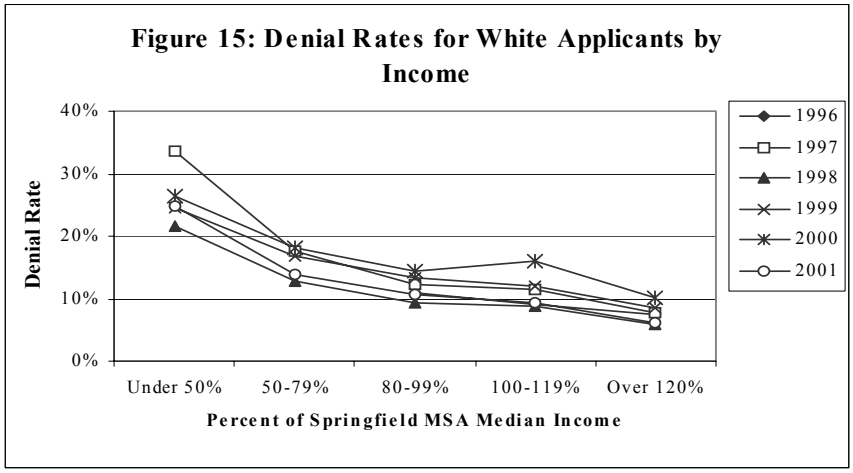
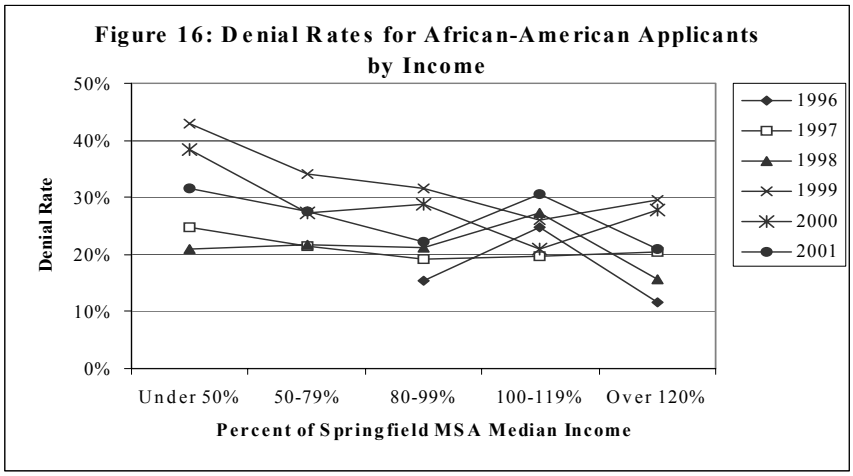


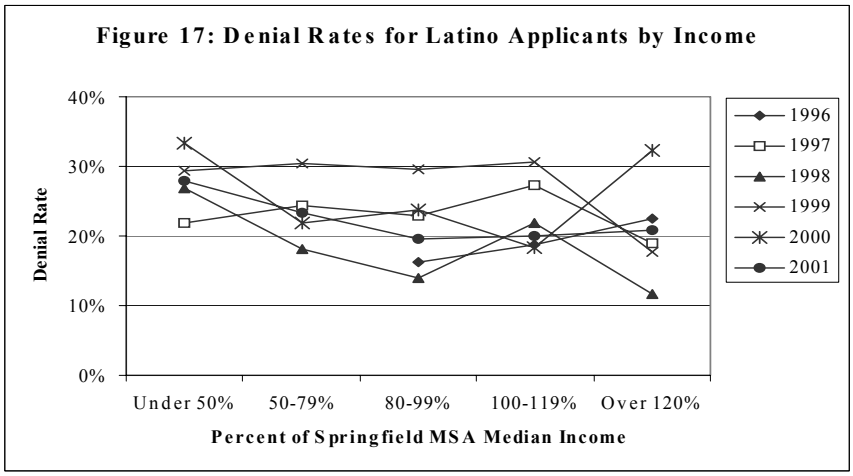
Figure 16 illustrates the data on denial rates for African-American applicants by income from 1996 to 2001. Unlike aggregate data for African-American applicants from 1996 to 2001 and yearly data for white applicants, the denial rates for African-American applicants did not consistently decrease with increases in income. The highest denial rate for African-American applicants was 42.8 percent (low-income) in 1999 and the lowest denial rate was 11.6 percent

(high-income) in 1996. African-Americans with 100-119 percent of median income experienced a denial rate between 19.7 and 30.5 percent, while white applicants with similar income had a denial rate between 9.1 and 15.9 percent from 1996 to 2001.



The denial rate for high-income African-American applicants reached its highest point in 1999 at 30 percent, four times the average denial rate and three times the highest denial rate for high-income white applicants. The lowest denial rate for high-income African-Americans was 11.6 percent (1996). In four of the six years of this study, denial rates for high-income African-Americans were 20 percent or more.[28]

While Latino denial rates were lower than those of African-American applicants, they were still higher than white applicants, as expressed earlier in Figure 13. The data presented in Figure 17 includes yearly denial rates for Latino applicants by income. Resembling trends in the denial rates of African-American applicants, Latino applicants did not consistently experience lower denial rates as their income increased.



[28] The percent of African-American and Latino applicants, categorized as high income, is disproportionally smaller than the percent of African-American and Latino applicants in general. The implication of this discrepancy means that the sample size of high-income African-American and Latino applicants is smaller and may cause anomalies in the denial rate statistics for high-income African-American and Latino applicants.

The variation in denial rates for low-income Latino applicants ranged from 21.9 to 33.3 percent, nearly equivalent to those for white applicants. High-income Latino applicants, on the other hand, had much higher denial rates than white applicants ranging from 11.6 percent in 1998 to a high of 32.3 percent in 2000.

The data on Latino applicants is perhaps the most striking in 2000 when low and high-income Latino applicants had only a single percentage point difference in denial rates (33.3 and 32.3 percent, respectively). The 32.3 percent denial rate is the highest in any single year of all high-income applicants of any group. Latino denial rates for 1999 are also atypical, as denial rates do not decline significantly for any income group except the highest.

Overall, the data available through the Home Mortgage Disclosure Act strongly indicates differential patterns in mortgage lending by income and race in the Springfield MSA. While the validity of different lending outcomes for applicants with higher or lower incomes is justifiable, the same cannot be said for race and ethnicity. The data demonstrate significant differences in denial rates of all African-American and Latino applicants. The differences are further highlighted when denial rates are categorized by race or ethnicity and income. Other factors that are not easily measured, such as credit history or amount of savings for a down payment, may account for some differences, but they are unlikely to explain such dramatic patterns. These findings are disconcerting and warrant attention.

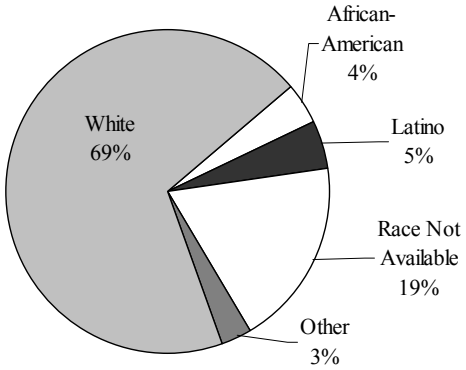
Market Distribution

Analyzing the market distribution of applications and denials provides another method to consider the differences in loan application activity and outcome. Comparing the percent of applications submitted by race/ethnicity to the percent of denials by race/ethnicity further demonstrates the discrepancies among racial and ethnic groups in the lending market.

Figures 18 and 19 illustrate the notable differences in market distribution by race and ethnicity. While white applicants represented nearly 70 percent of all applications made in the Springfield MSA between 1996 and 2001, they represented only 45 percent of all denials. On the other hand, African-American and Latino applicants accounted for a larger share of denials than of

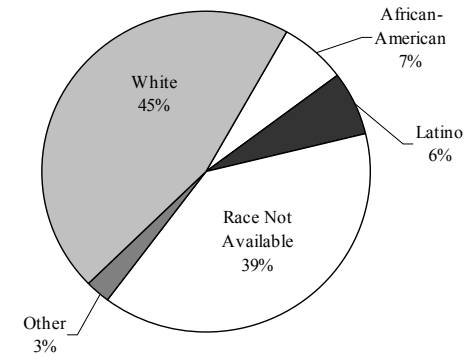
applications. While African-Americans accounted for 4.2 percent of all applications, their share of denials was to 6.6 percent. Latino applicants' distributions were similar but somewhat less drastic with 4.6 percent of applications and 6.4 percent of denials. These discrepancies in market distributions by race and ethnicity are further evidence that African-American and Latino applicants are disproportionately denied home loans.

Figure 18: Percent of Applications by Race and Ethnicity (1996-2001)



Another concern highlighted by Figures 18 and 19 is the lack of complete data collection on the race and ethnicity of applicants. The market share of applications and denials categorized as "Race Not Available" are sizeable. Race and ethnicity information was not available for almost forty percent of all loan applications that end in a denial. This is a significant portion of data that is simply unknown.

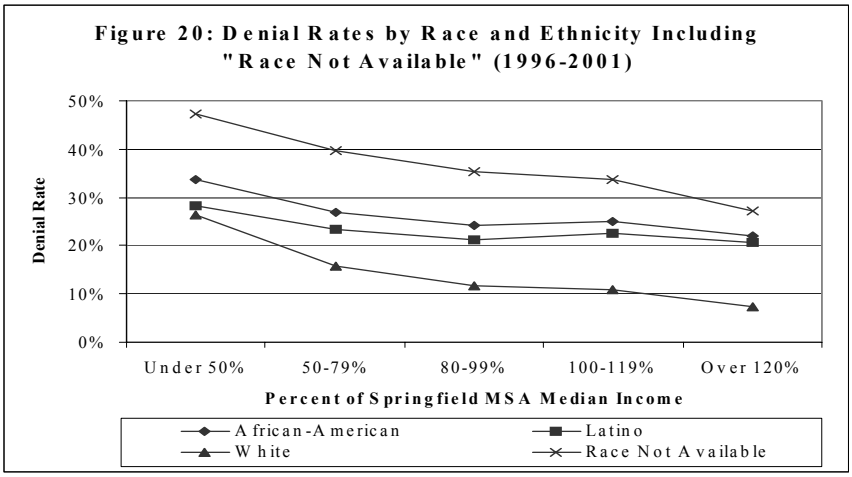
Figure 19: Percent of Denials by Race and Ethnicity (1996-2001)



In writing for a proposed rule change, the Federal Reserve noted that "from 1993 to 2000 the proportion of home loan applications of all types with missing race or ethnicity data increased from about 8 percent to about 28 percent."[29] The Reserve also noted that some portion of the increase could be attributed to a rise in applications completed by phone.[30] The rule change, effective January 1, 2003, attempts to address this issue by requiring that telephone applicants be asked for their racial and ethnic information. Loan officers are required to tell the applicant that: 1) the information will not affect their loan application; 2) applicants are not required to provide the information; and 3) the information is for data collection purposes only.

[29] Board of Governors of the Federal Reserve System. 12 CFR Part 203. Regulation C; Docket No. R-1120. Proposed Rule. April 12, 2002.

Unfortunately, these later improvements in data collection do not benefit this study. Meanwhile, the statistics for the "Race Not Available" category were significant. As demonstrated in Figure 20, the denial rates for applications where race and ethnicity were not identified were the highest of any income group. In fact, the denial rate for low-income applicants for whom no racial or ethnic information was available was a startling 47.3 percent. Even high-income applicants in the "Race Not Available" group had an exceptionally high denial rate of 27.2 percent which is five percentage points higher than the denial rate for high-income African-Americans who otherwise have the highest denial rates. While it is impossible to determine why the denial rates were so high for "Race Not Available" applicants, or who these applicants were, these statistics are troubling because they allow for the possibility of deliberately discriminatory lending practices that cannot be tracked or investigated.



Approval Ratio

While data available from the Home Mortgage Disclosure Act does not include details of individual applicants and the outcome of their applications, it does provide detailed information on loan outcomes by census tract. Within the Springfield Metropolitan Statistical Area (MSA) there are 121 census tracts and Census 2000 data identifies the demographic and socio-economic characteristics of these census tracts. Comparing these characteristics to home loan application outcomes provides an opportunity to identify those factors that may or may not influence loan dispositions.

[30] The Federal Reserve did not speculate as to other factors that may contribute to the increase of applications that lack data on applicants' race and ethnicity. The lack of information is, however, not caused by incomplete

This analysis, however, does have some notable flaws. The most significant problem is that the Census 2000 data and HMDA data may not be describing the same group of people. Not all applicants currently live or will live in the neighborhood where they are purchasing property. For example, non-resident landlords might receive a loan to purchase a rental property outside of the community where they reside. Also, because the unit of observation is a census tract as opposed to an individual applicant or resident, only average characteristics are available and we cannot be certain that a loan applicant has the same characteristics as the average characteristic of the census tract where they are purchasing a home. Therefore, analysis of refinance loans alone was included because refinance loan applicants already own property in the particular census tract.

For purposes of this analysis we calculated a loan approval ratio for each census tract—the total number of loans approved per loan denied from 1996 to 2001. We created an approval ratio for all loan types and for refinance loans. In statistical terms the approval ratio is the dependent, or outcome variable and we expect the value of the approval ratio to be influenced by other factors, referred to as independent variables. We selected these independent variables based on our assessment of what factors might impact the approval ratio for home loans. We considered all of the following variables from Census 2000 data:

- Median household income;
- Median value of owner-occupied housing stock;
- Percent of households headed by single mothers;
- Percent of housing stock that is vacant and is not seasonal;
- Percent of the housing stock that is owner-occupied;
- Percent of the population that are persons of color;
- Percent of the population that is over 65;
- Percent of the population that is under 18; and,
- Poverty rate.

Among these variables, all but the percent of the population over age 65 had a statistically significant relationship to the total approval ratio. However, as you can see from Table 2, these

applications as an application must be completed to be defined as either denied or approved.

variables are also strongly interdependent with one another. For example, with a correlation coefficient of -0.851, there is a very strong inverse linear relationship between household income and the poverty rate. This is not surprising given that the poverty rate is determined using household income statistics.

Table 2: Loan Approval Ratio Partial Correlation

		Total Approval Ratio	Percent Persons of Color	Percent Male	Percent Under 18	Percent 65 and Older	Percent Single Mothers	Non-Seasonal Vacancy Rate	Percent Owner Occupied	Poverty Rate	Median Owner Occupied Home Value	Median House-hold Income
Total Approval Ratio	PC	1.000	-.595**	-.336**	-.551**	.064	-.657**	-.592**	.354**	-.511**	.538**	.580**
	Sig.		.000	.000	.000	.486	.000	.000	.000	.000	.000	.000
Percent Persons of Color	PC	-.595**	1.000	-.069	.587**	-.448**	.866**	.697**	-.727**	.887**	-.347**	-.753**
	Sig.	.000		.455	.000	.000	.000	.000	.000	.000	.000	.000
Percent Male	PC	-.336**	-.069	1.000	.283**	.209*	.040	.099	.233**	-.034	-.054	.048
	Sig.	.000	.455		.002	.021	.666	.281	.010	.711	.554	.598
Percent Under 18	PC	.551**	.587**	.283**	1.000	-.085	.665**	.479**	-.175	.523**	-.391**	-.376**
	Sig.	.000	.000	.002		.351	.000	.000	.055	.000	.000	.000
Percent 65 and Older	PC	.064	-.448**	.209*	-.085	1.000	-.258**	-.246**	.402**	-.406	-.111	.201*
	Sig.	.486	.000	.021	.351		.004	.007	.000	.000	.226	.027
Percent Single Mothers	PC	-.657**	.866**	.040	.665**	-.258**	1.000	.738**	-.665**	.816**	-.461**	-.803**
	Sig.	.000	.000	.666	.000	.004		.000	.000	.000	.000	.000
Non-Seasonal Vacancy Rate	PC	-.592**	.697**	.099	.479**	-.246**	.738**	1.000	-.671**	.724**	-.340**	.718**
	Sig.	.000	.000	.281	.000	.007	.000		.000	.000	.000	.000
Percent Owner Occupancy	PC	.354**	-.727**	.233**	-.175	.402**	-.665**	-.671**	1.000	-.875**	.181**	.868**
	Sig.	.000	.000	.010	.055	.000	.000	.000		.000	.047	.000
Poverty Rate	PC	-.511**	.887**	-.034	.523**	-.406**	.816**	.724**	-.875**	1.000	-.267**	-.851**
	Sig.	.000	.000	.711	.000	.000	.000	.000	.000		.003	.000
Median Owner Occupied Home Value	PC	.538**	-.347**	-.054	-.391**	-.111	-.461**	-.340**	.181*	-.267**	1.000	.478**
	Sig.	.000	.000	.554	.000	.226	.000	.000	.047	.003		.000
Median Household Income	PC	.580**	-.753**	.048	-.376**	.201*	-.803**	-.718**	.868**	-.851**	.478**	1.000
	Sig.	.000	.000	.598	.000	.027	.000	.000	.000	.000	.000	

PC = Pearson Correlation

Sig.= Significance (2-tailed)

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

Because our study is particularly concerned with the fairness of lending practices, our particular focus with this statistical analysis is assessing whether people of different racial or ethnic backgrounds experienced differential loan outcomes. For that reason, we calculated the partial correlation of the percent persons of color against the approval ratio when controlling for other

independent variables. In this case, we controlled for those variables with the strongest correlation to approval ratio and eliminated several variables that we believed duplicated the impact of other variables. The excluded variables are 1) poverty rate because of its close relationship to income, 2) percent single mothers also because of its relationship to income, and 3) percent over 65 because the correlation was not statistically significant.

The remaining independent variables include the percent of the population that is male, the percent of the population that is under 18, the housing vacancy rate, the percent of owner-occupied housing, median home value, and median household income. Table 3 represents the partial correlation between percent persons of color and the total approval ratio for all loan types when controlling for these independent variables. The results indicate that a statistically significant relationship (at the 0.01 level) remains between the percent persons of color and the home loan approval ratio by census tract. The negative value of the correlation coefficient (-0.2976) indicates that there is an inverse relationship—as percent persons of color increases, the approval ratio decreases.

Table 3: Correlation Coefficient for All Loans

		Total Approval Ratio	Percent Persons of Color
Total Approval Ratio	Correlation Coefficient	1.0000	-.2976**
	D.F.	0	113
	Sig. (2-tailed)		.001
Percent Persons of Color	Correlation Coefficient	-.2976**	1.000
	D.F.	113	0
	Sig. (2-tailed)	.001	
** Correlation is significant at the 0.01 level (2-tailed).			
Controlling for: percent male, percent under age 18, non-seasonal vacancy rate, percent owner-occupied housing, median home value, and median household income.			

When controlling for the same variables and assessing the relationship between percent persons of color and the *refinance* approval ratio, the strength of the relationship increases. As Table 4 illustrates, the correlation coefficient is -0.3313, somewhat larger than the coefficient for all applications. This finding further confirms the inverse relationship between approval ratios and percent persons of color. In fact, the significance level (0.000) for the refinance approval ratio indicates greater statistical significance of the correlation between the refinance approval ratio and the percent persons of color.

Table 4: Correlation Coefficient for Refinance Loans

		Total Approval Ratio	Percent Persons of Color
Refinance Approval Ratio	Correlation Coefficient	1.0000	-.3313**
	D.F.	0	112
	Sig. (2-tailed)		.000
Percent Persons of Color	Correlation Coefficient	-.3313**	1.000
	D.F.	112	0
	Sig. (2-tailed)	.000	
** Correlation is significant at the 0.01 level (2-tailed).			
Controlling for: percent male, percent under age 18, non-seasonal vacancy rate, percent owner-occupied housing, median home value, and median household income.			

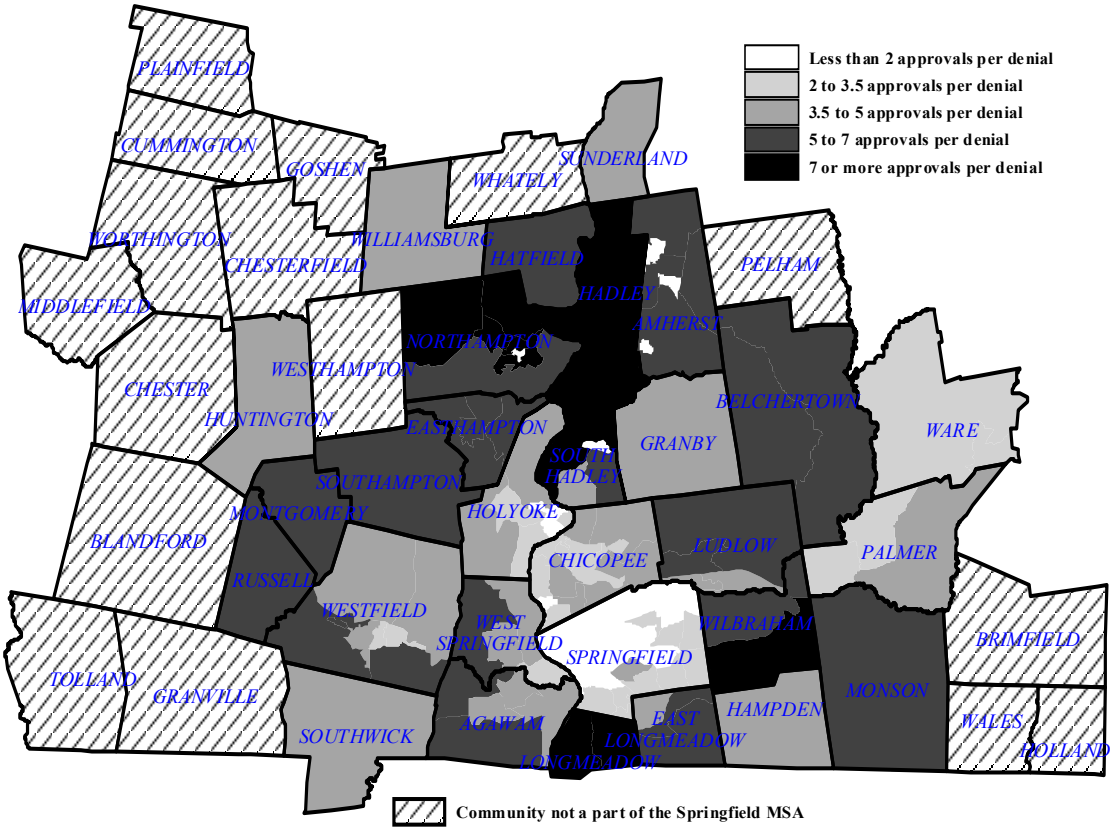
As noted previously, the HMDA data do not permit a complete and rigorous analysis of individual loan applicants and their results. This statistical testing and assessment of approval ratios by census tracts, therefore, serves as a proxy. These results should not be taken as the core of this report, but as a supplement to other findings. In particular, these results are consistent with and confirm our finding throughout this study that persons of color in the Springfield MSA have negative outcomes more often when applying for a home loan. This finding remains valid even when controlling for other factors, such as income and housing stock, which justifiably influence the lending process.

Using the statistical results as a guide, we can further our understanding of the lending market by comparing the approval ratios, median income and percent persons of color by census tract. The following figures provide a visual representation of the patterns of these variables throughout the Springfield MSA. Map 2 and 3 illustrate the data for the total approval and the refinance approval ratio, respectively, between 1996 and 2001. The darker shaded areas indicate more loan applications approved for each loan application that is denied. Please note that five census tracts in the Hampshire County region were omitted in this analysis and appear without shading on the maps.

Map 2 illustrates that the approval ratio for all loans varied geographically and indicates significant concentrations of high and low approval ratios. Census tracts with the lowest approval ratio (2 or fewer approvals per denial) are clustered together in Springfield and Holyoke. Chicopee also had one census tract with 2 or fewer approvals per denial. The urban core of

Springfield, Holyoke, and Chicopee contain all of the census tracts with the lowest approval ratio and also have the lowest median incomes within the Springfield MSA.

Map 2: Number of Loan Approvals per Denial
1996 to 2001 by Census Tract

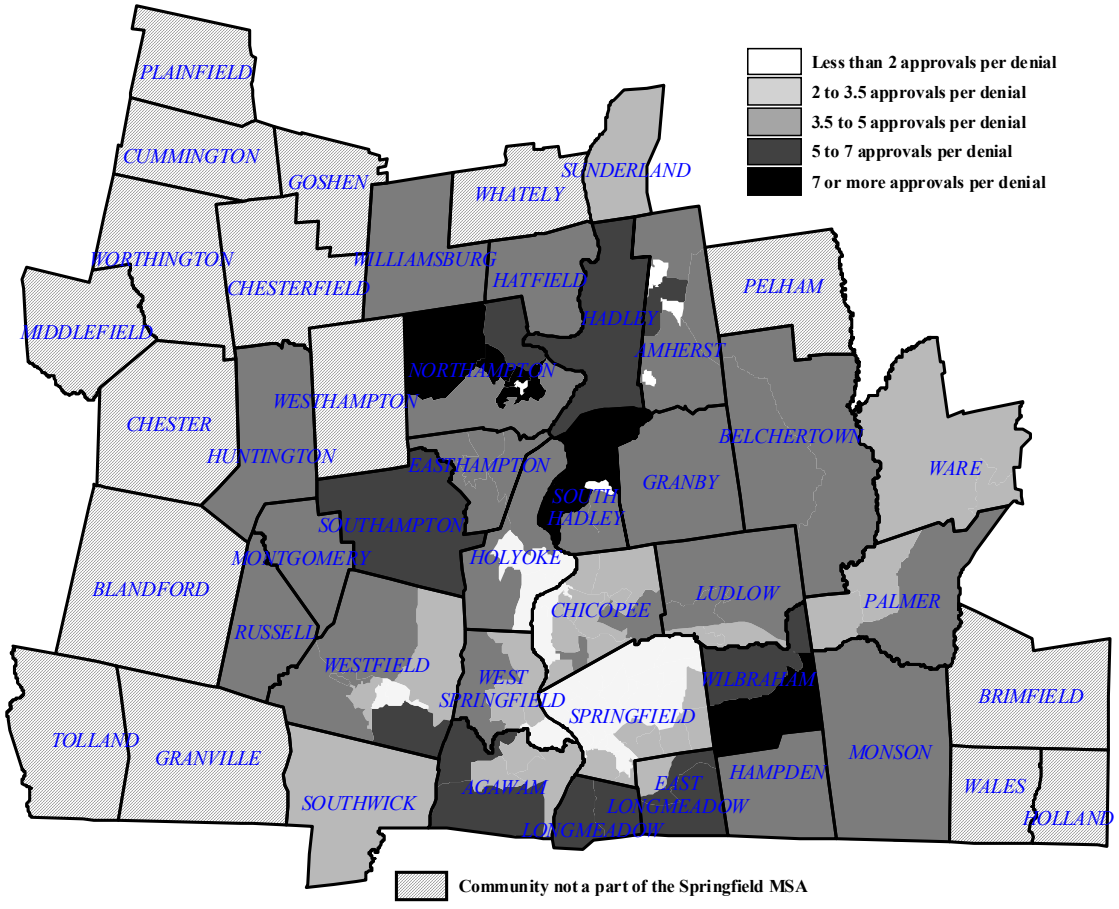


The second lowest approval ratio category, representing a ratio between 2 and 3.5 approvals per denial, was more geographically dispersed than the lowest approval ratio. Two census tracts in Ware, two of the three census tracts in Palmer, two census tracts in Westfield, and a number of additional census tracts in Springfield, Holyoke, and Chicopee had the second lowest approval ratio.

Census tracts with the highest approval ratio (seven or more approvals per denial) in the Springfield MSA include Longmeadow, South Hadley, Hadley, Wilbraham, and Northampton. The census tracts of Longmeadow along with one Wilbraham census tract with the highest approval ratio border Springfield census tracts, which had significantly lower approval ratios.

East Longmeadow, Agawam, West Springfield, Ludlow, and South Hadley had similar patterns of approval ratios. In these cities, the census tracts that share a border with the urban core had lower approval ratios than other census tracts that are farther away.

Map 3: Number of Loan Approvals per Denial for Refinances 1996 to 2001 by Census Tract

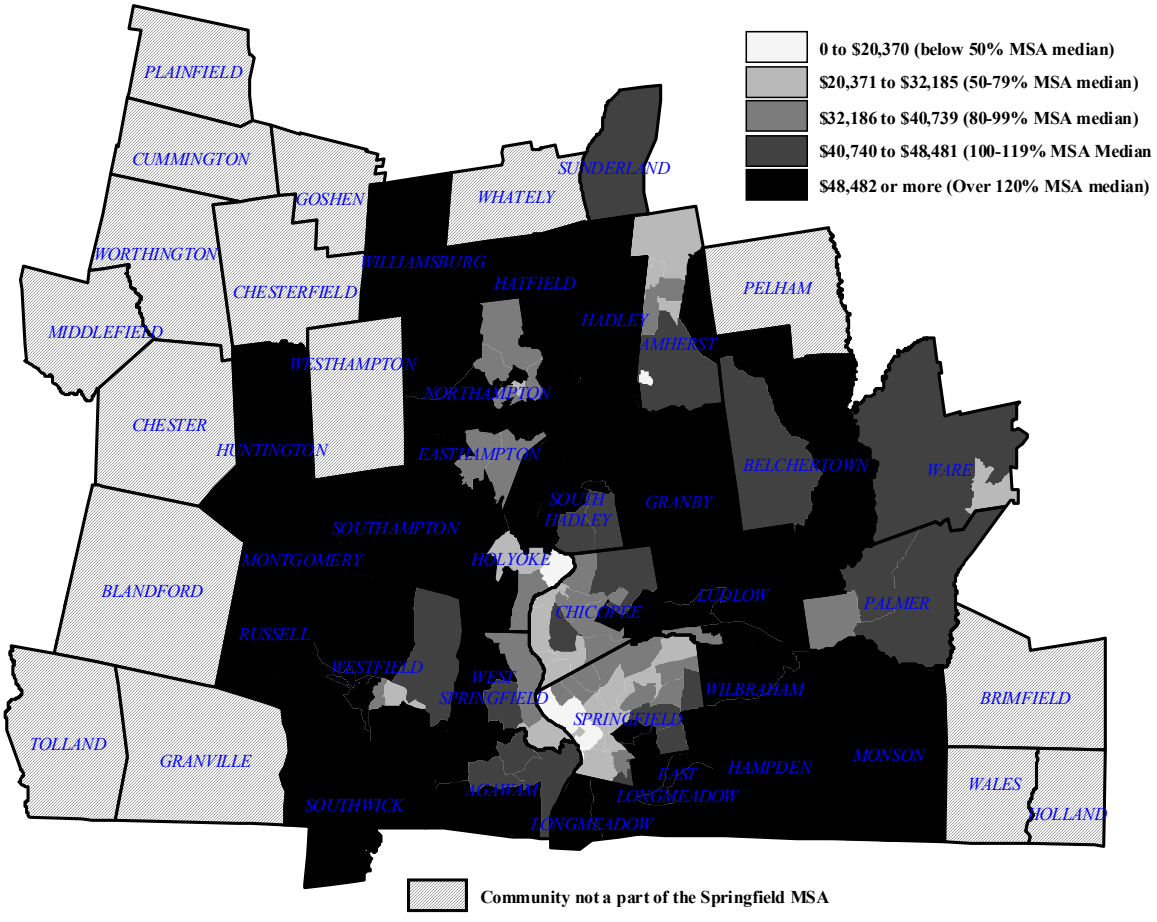


Map 3 demonstrates that refinance loans had similar trends in lending practices. The approval ratios for refinance loans, however, were consistently lower throughout the region as compared to that for all loans. Wilbraham, Northampton and South Hadley maintained census tracts with the highest approval ratios while Longmeadow and Hadley approval ratios dropped slightly. While Palmer and Ware maintained the same approval ratios for refinance and all loans, other surrounding non-urban communities had lower approval ratios for refinance loans.

The trend of lower approval ratios in the urban core held true for refinance loans. Comparatively, more census tracts in urbanized communities had an approval ratio of 2 or less for refinance loans than for all loans. In other words, applicants in the urban core were generally less likely to be approved for a refinance loan than they were for a home purchase loan.

Comparing the approval ratios to demographic and income by census tract illustrates the link between loan application outcomes and income. Map 4 displays the median household income by census tract for the Springfield MSA. Not surprisingly, areas with lower median income had correspondingly lower approval ratios.

Map 4: Median Household Income as a Percent of the MSA Median 2000 by Census Tract



Even within the cities of Holyoke and Springfield, patterns of approval ratios and income are evident. Census tracts in the southern and eastern part of Springfield that have higher median incomes also have higher approval ratios. Holyoke and Chicopee census tracts of lower income and lower approval ratios are clustered together along the Connecticut River.

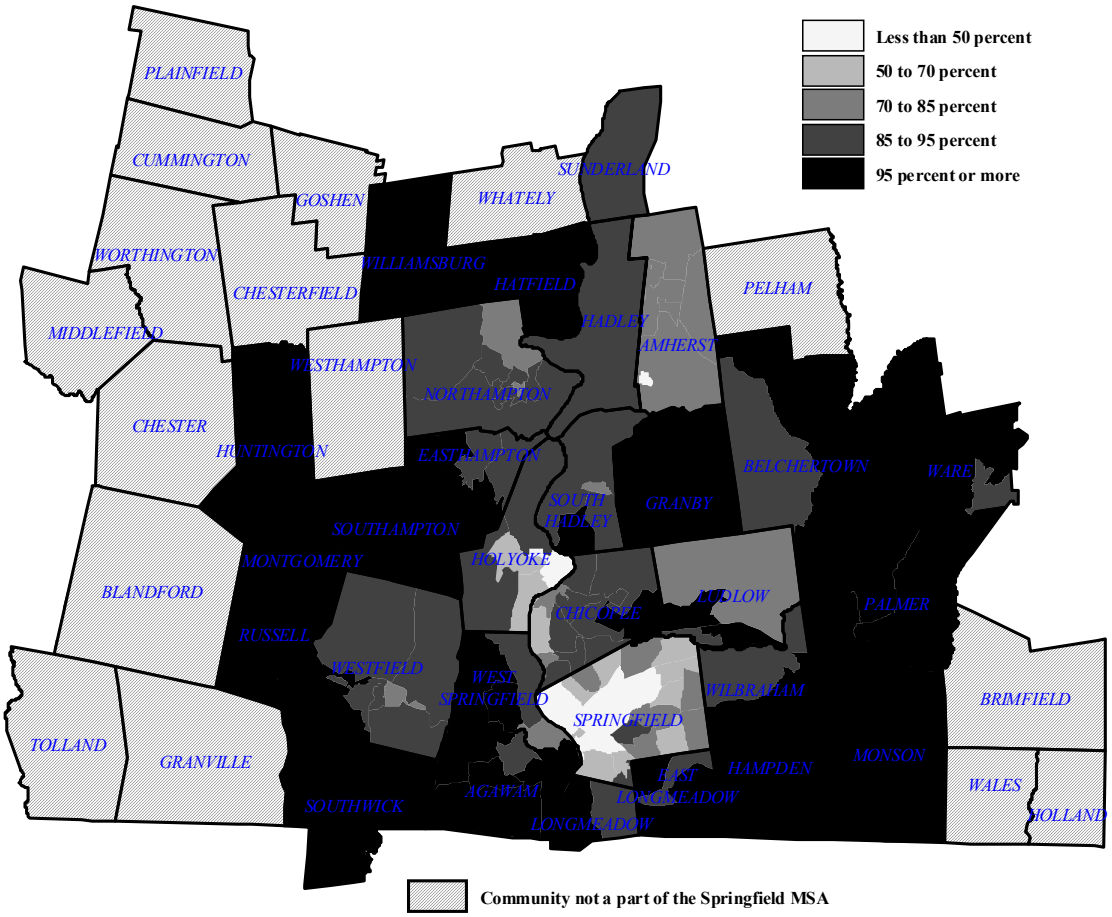
Interestingly, the median income of the four census tracts in Amherst represent all but the lowest income group, however, the approval ratios for these same four census tracts are consistently high (5 to 7). Northampton has three census tracts with median incomes of 80 to 99 percent of the Springfield MSA while maintaining a high approval ratio. Palmer, Ware, and areas in the urban core appear to have an opposite trend where higher income census tracts have lower approval ratios. For example, census tracts clustered in the southeast corner of Springfield have median incomes equivalent or similar to surrounding suburban communities but have significantly lower approval ratios than these suburban areas.

Map 5 shows the racial composition of the Springfield MSA by census tract according to the percentage of white residents. Many of the census tracts in the Springfield MSA are populated by 90 percent or more of white residents. Census tracts with less than 90 percent white residents are located in Amherst, Chicopee, Holyoke, Northampton, Springfield, West Springfield, and Westfield. Census tracts with less than 50 percent white residents are located only in Holyoke and Springfield.

The only census tract in Springfield with a high approval ratio (5 to 7 approvals per denial), located in East Forest Park, also has the highest median income (over 120%) and is over 90 percent white residents. Other high-income census tracts, located in East Forest Park and Sixteen Acres, had more persons of color and lower approval ratios. Census tracts along the northern border of Springfield in the neighborhoods of East Springfield and Indian Orchard were of middle-income (80-99%), between 60 and 80 percent white residents, and had the lowest approval ratio for all loan types.

Census tracts in Chicopee appear to exhibit a more positive pattern when comparing race, income, and approval ratios. For example, the two census tracts comprising Chicopee center

Map 5: Percent of the Population that is White 2000 by Census Tract



have low approval ratios (2 to 3.5 approvals per denials) but are of middle-income (80-99% of the Springfield MSA) and have high percentages of white residents. Meanwhile, three of the four census tracts in the western part of the city, on the Connecticut River, had similar approval ratios of 2 to 3.5 but had more persons of color and lower median incomes. Throughout Chicopee, the approval ratio remained more consistent regardless of racial composition.

Other inconsistencies exist in Easthampton, Northampton, Ware, and Palmer as these census tracts maintained higher approval ratios than expected relative to their income. All four of these communities had high percentages of white residents (90% or more), except for three census tracts in Northampton that were 80-90 percent white. The approval ratios in these communities remained high even for those census tracts with lower median incomes.

Throughout this analysis, a disturbing trend of differences between the lending statistics of white applicants and African-American and Latino applicants has emerged. Census tracts with lower median incomes and higher percentages of persons of color have less lending activity and drastically higher denial rates. Even high-income African-American and Latino applicants continue to be subjected to denial rates three times higher than their white counterparts. White applicants make up far less of the market share of denials than for applications. Moreover, the number of applications lacking race or ethnicity data is striking considering the tremendously high denial rates evidenced by this category. And, when the ratio of approvals to denials is controlled by many of the interrelated factors that influence the lending process, the relationship between race or ethnicity on loan outcomes remains significant. We hope that these findings provide a convincing argument that similar applicants do not receive similar treatment in the lending market of the Pioneer Valley. Furthermore, the need to address this issue is essential for the growth and prosperity of communities throughout the region.

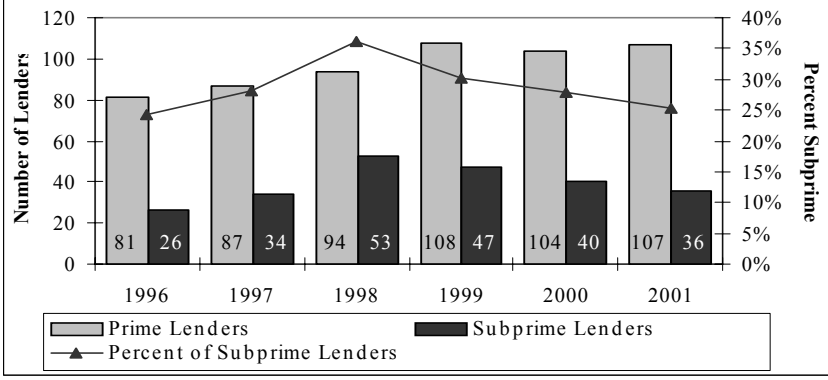
SUBPRIME LENDING MARKET

This final section provides an overview and analysis of the subprime lending market in the Springfield MSA. The overview includes an assessment of changes in subprime lending volume, outcomes, and value. The analysis focuses on subprime lending statistics for 1997 and 2001 to determine if subprime lenders target certain areas or groups. Evaluating differences in market share based on characteristics or location of applicants facilitates this analysis.

Subprime Volume

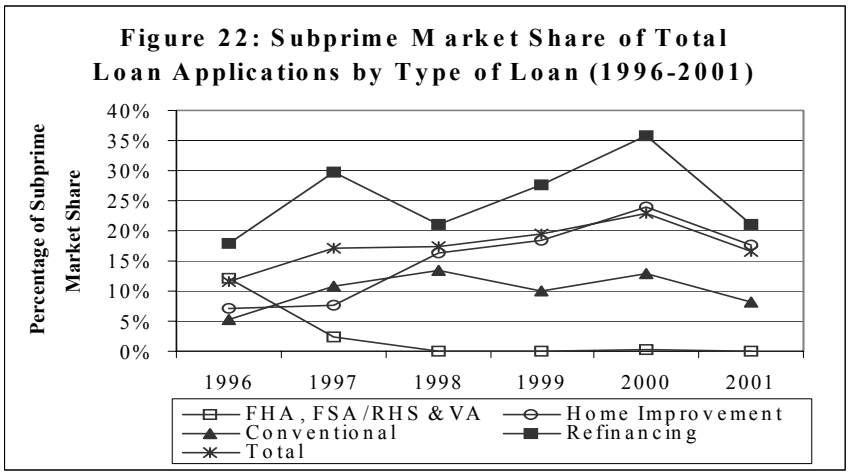
Figure 21 displays the number of subprime and prime lenders and presents data on the percent of all lenders defined as subprime between 1996 and 2001. The actual number of subprime lenders grew by 10 (or 38%) over the six years studied. The actual number of subprime lenders and the percent of all lenders that are subprime peaked in 1998 at 53 subprime lenders and 36 percent of all lenders operating in the Springfield MSA. The actual number and percent of subprime lenders decreased steadily from 1998 until 2001. The percent of all lenders that are subprime was about 25 percent at the beginning and end of the study period. This suggests a similar rate of growth for prime and subprime lenders during the six years of this study.

Figure 21: Springfield MSA Lenders and Percentage of Subprime Lenders



As the proportion of subprime lenders (as compared to all lenders) fluctuated over time, variations are also evident in the subprime lenders' market share of applications. Figure 22 demonstrates subprime lenders' market share of applications by type of loan from 1996 to 2001. The overall trend, represented by the line for total applications, is a gradual increase from 1996

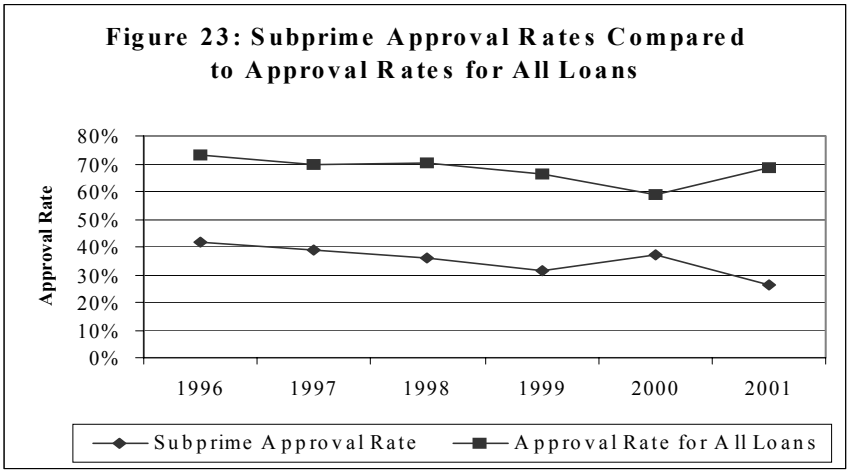
to 2000. In 2001, when mortgage rates were extraordinarily low, the share of loan applications going to subprime lenders declined.



The volume of subprime FHA and refinance loan applications did not follow the overall subprime market trend. Subprime FHA loans fell from 12.2 percent in 1996 to close to zero in 1998 and onward. This decline is likely a result of strict FHA regulations that prevent subprime lending of Federal mortgage products. Subprime refinance loans had the most dramatic changes and the largest market share for any single type of subprime loan. Recall that refinance loan application numbers were lowest in 1996, 1997 and 2000 (see Figure 1). Subprime refinance loan application market share, on the other hand, peaked during 1997 and 2000 at 29.8 and 35.7 percent, respectively. Despite high mortgage rates in 1996, commonly associated with a high volume of subprime applications, subprime refinance loan application market share was about 18.0 percent; lower than the 21 percent level in 1998 and 2001 when mortgage rates were low.

Subprime Outcomes

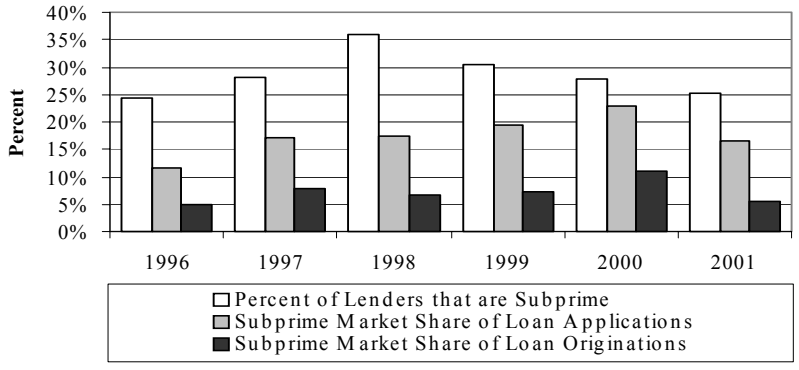
Subprime loan application activity tends to be associated with lower approval and origination rates than prime lending activity because applicants for subprime loans often carry greater risk for the lender. Figure 23 compares the approval rate for all loans and the approval rate for subprime loans alone. Subprime approval rates were less than approval rates for all loans by at least 20



percentage points every year of this study. Subprime approval rates declined from 41.5 percent in 1996 to 31.3 percent in 1999 and declined again from 37.0 percent in 2000 to 26.5 percent in 2001. The highest approval rates for all loans and subprime loans occurred in 1996 and were 73.4 and 41.5 percent, respectively.

Figure 24 compares the percent of lenders that are subprime with the share of applications and originations that are subprime. In evaluating this data, the subprime lenders' market share of loan applications was substantially smaller than the percent of lenders that are subprime. Furthermore, the subprime lenders' share of originations was significantly less than that of applications. In other words, subprime lenders controlled less of the lending market than the number of subprime lending institutions would indicate, due in part to the low approval and origination rates associated with subprime lending. In 2000, for example, the percent of all lenders that were subprime was 28 percent, while the subprime origination market share was only about 11.1 percent.

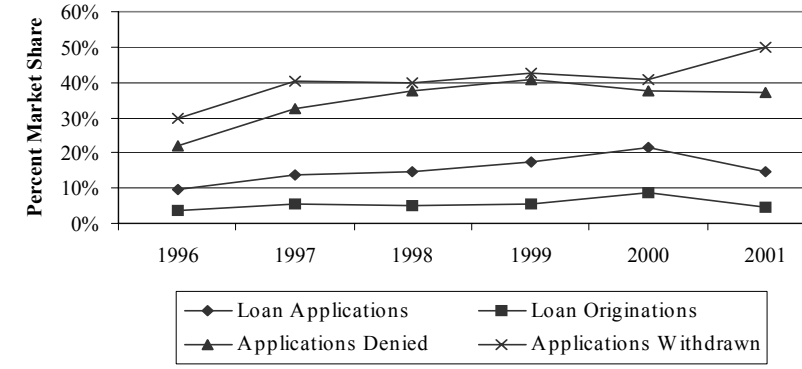
Figure 24: Subprime Lenders and the Subprime Market Share of Applications and Originations



Subprime Value

Figures 25 and 26 illustrate subprime lenders' market share of the dollar value of loan application outcomes for all loans (Figure 25) and for refinance loans (Figure 26). The market share of subprime loan originations in dollar values remained less than 10 percent throughout the course of the study. Subprime lenders' market share of loan originations in dollar values reached its

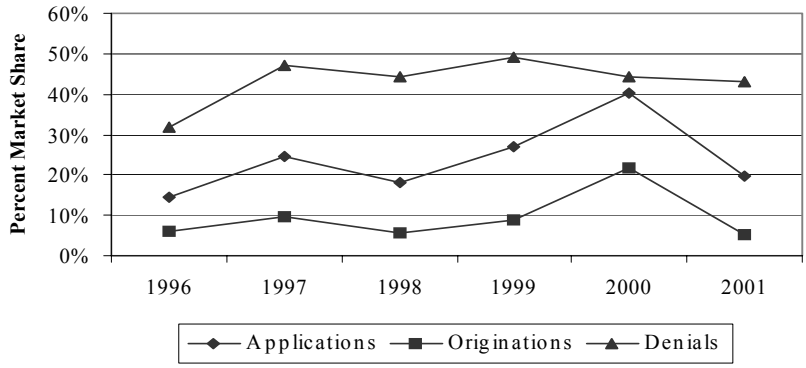
Figure 25: Subprime Market Share of All Loan Value (1996-2001)



highest level of 8.8 percent in 2000 and then fell sharply to 4.4 percent in 2001. Reflecting subprime lenders' lower approval rates, their market share of denied and withdrawn loan values is high. Subprime lenders, in 2001, accounted for 50 percent of the dollar value of withdrawn loan applications.

The subprime share of refinance loan dollar value is generally slightly higher and fluctuates to a greater extent than for other types of loans. As Figure 26 demonstrates, the subprime market share of refinance loan dollar value for applications dramatically increases in 2000 to 40.4 percent, only four percentage points less than that for applications denied. Moreover, in 2000, subprime refinance loan originations account for 21.9 percent of the refinance origination dollar value in the lending market, a significantly higher proportion than for subprime loans of different types and during other years.

Figure 26: Subprime Market Share of Refinance Loan Value (1996-2001)



Subprime Trends

Comparing the denial rates of prime and subprime lenders for refinance and conventional loans indicates discrepancies in subprime lending market practices. Tables 5 and 6 present aggregated data on denial rates for refinance and conventional loans from ten prime and ten subprime lenders that have a significant market presence in the Springfield MSA.[31] Table 5 (1997) and Table 6 (2001) present lending data on the race/ethnicity and income of applicants. Because the data presented in Tables 5 and 6 represent a small sample of lending statistics, analysis and conclusions are limited. The purpose of including this information, however, is to show that the nationwide trend of high denial rates in subprime lending is prevalent in the Pioneer Valley as well.

[31] See Appendix for a list of lenders and additional data.

Table 5: Subprime Application Volume (AV) & Denial Rates (DR) for 10 Leading Prime and Subprime Lenders by Race, Ethnicity and Income (1997)

		Prime				Subprime			
		Refinance		Conventional		Refinance		Conventional	
		AV	DR	AV	DR	AV	DR	AV	DR
Race/Ethnicity	Am. Indian/Ak Native	3	33%	1	0%	3	0%	4	25%
	Asian/Pacific Islander	13	15%	24	13%	5	60%	3	0%
	African-American	27	44%	54	15%	116	26%	78	24%
	Latino	24	54%	81	21%	54	26%	81	15%
	White	1277	9%	1729	7%	782	25%	227	19%
	Other	28	4%	9	22%	20	20%	4	50%
	Joint (White/Minority)	13	0%	28	7%	16	6%	2	0%
	Race not Available	99	45%	26	50%	395	29%	92	25%
Income	Under 50%	85	21%	140	27%	206	36%	68	19%
	50-79%	260	17%	449	11%	418	26%	178	21%
	80-99%	219	19%	333	8%	235	25%	89	20%
	100-119%	198	13%	263	6%	182	24%	63	25%
	Over 120%	722	9%	767	4%	350	21%	93	18%
	Total	1484	13%	1952	8%	1391	26%	491	21%

Table 6: Subprime Application Volume (AV) & Denial Rates (DR) for 10 Leading Prime and Subprime Lenders by Race, Ethnicity and Income (2001)

		Prime				Subprime			
		Refinance		Conventional		Refinance		Conventional	
		AV	DR	AV	DR	AV	DR	AV	DR
Race/Ethnicity	Am. Indian/Ak Native	23	30%	3	33%	8	63%	0	-
	Asian/Pacific Islander	38	16%	55	7%	14	36%	7	43%
	African-American	69	33%	62	6%	217	36%	55	45%
	Latino	106	44%	215	10%	154	42%	54	39%
	White	3759	8%	2249	5%	1004	30%	151	31%
	Other	21	19%	16	6%	12	50%	2	0%
	Joint (White/Minority)	55	11%	50	2%	26	31%	1	0%
	Race not Available	416	33%	75	33%	1418	52%	33	33%
Income	Under 50%	166	34%	196	16%	357	51%	22	41%
	50-79%	599	19%	714	8%	818	47%	103	34%
	80-99%	595	15%	393	6%	491	39%	70	36%
	100-119%	591	13%	300	4%	362	42%	38	39%
	Over 120%	2536	8%	1122	3%	825	36%	70	33%
	Total	4487	12%	2725	6%	2853	42%	303	35%

The denial rates of the sample of twenty lenders show significant differences between subprime and prime loan outcomes. Subprime denial rates were consistently higher for both refinance and conventional loans. In 1997, the denial rate for all subprime conventional loan applications was 21 percent as compared to eight percent for prime conventional loan applications (Table 5). In 2001, conventional loan denial rates for subprime applications were almost six times that of prime denial rates at 35 and six percent respectively (Table 6). While refinance denial rates were higher than conventional loan denial rates, the difference between prime and subprime denial rates for refinance loans was similar to that of conventional loans. In 1997, the subprime refinance loan denial rate was double that for prime refinance loans (Table 5). In 2001, the denial rate for all refinance subprime loans was 3.5 times that for prime lenders (Table 6). This growing disparity between prime and subprime lending denial rates is a concern as subprime lenders continue to have a strong presence in the Springfield MSA lending market.

Considering that the market share of applications demonstrates in part whom subprime lenders are targeting, another notable pattern emerges from the data. Tables 7 and 8 present the subprime market share of applications based on the application volume for conventional and refinance loans by race/ethnicity and income for 1997 and 2001, respectively. As with Tables 5 and 6, the sample size is small and the analysis is limited; however, the data is included in the report to initiate a discussion of patterns of activity by subprime lending institutions.

The high rates of subprime market share of refinance loan applications are alarming. In 1997 almost half (48%) of all refinance loan applications were submitted to subprime lenders. In 2001, nearly 2 in 5 (39%) applications went to subprime lenders. While the rate of subprime application activity decreases as income increases, the rate of subprime applications is high across all incomes. In 1997, 71 percent of low-income homeowners looking to refinance, applied for a subprime loan. During the same year, 52 percent of applicants with incomes of 80-99 percent of the Springfield MSA median and 33 percent of high-income homeowners applied for subprime loans. In 2001, similar trends are evident but the market shares were lower.

Table 7: Subprime Market Share of Applications Type of Loan for 10 Leading Prime and Subprime Lenders by Race, Ethnicity and Income (1997)

		Conventional Loans			Refinance Loans		
		Application Volume		Subprime Market Share	Application Volume		Subprime Market Share
		Prime	**Subprime**		**Prime**	**Subprime**	
Race/Ethnicity	Am. Indian/Ak Native	1	4	80%	3	3	50%
	Asian/Pacific Islander	24	3	11%	13	5	28%
	African-American	54	78	59%	27	116	81%
	Latino	81	81	50%	24	54	69%
	White	1729	227	12%	1277	782	38%
	Other	9	4	31%	28	20	42%
	Joint (White/Minority)	28	2	7%	13	16	55%
	Race not Available	26	92	78%	99	395	80%
Income	Under 50%	140	68	33%	85	206	71%
	50-79%	449	178	28%	260	418	62%
	80-99%	333	89	21%	219	235	52%
	100-119%	263	63	19%	198	182	48%
	Over 120%	767	93	11%	722	350	33%
	Total	1952	491	20%	1484	1391	48%

Table 8: Subprime Market Share of Applications Type of Loan for 10 Leading Prime and Subprime Lenders by Race, Ethnicity and Income (2001)

		Conventional Loans			Refinance Loans		
		Application Volume		Subprime Market Share	Application Volume		Subprime Market Share
		Prime	**Subprime**		**Prime**	**Subprime**	
Race/Ethnicity	Am. Indian/Ak Native	3	0	0%	23	8	26%
	Asian/Pacific Islander	55	7	11%	38	14	27%
	African-American	62	55	47%	69	217	76%
	Latino	215	54	20%	106	154	59%
	White	2249	151	6%	3759	1004	21%
	Other	16	2	11%	21	12	36%
	Joint (White/Minority)	50	1	2%	55	26	32%
	Race not Available	75	33	31%	416	1418	77%
Income	Under 50%	196	22	10%	166	357	68%
	50-79%	714	103	13%	599	818	58%
	80-99%	393	70	15%	595	491	45%
	100-119%	300	38	11%	591	362	38%
	Over 120%	1122	70	6%	2536	825	25%
	Total	2725	303	10%	4487	2853	39%

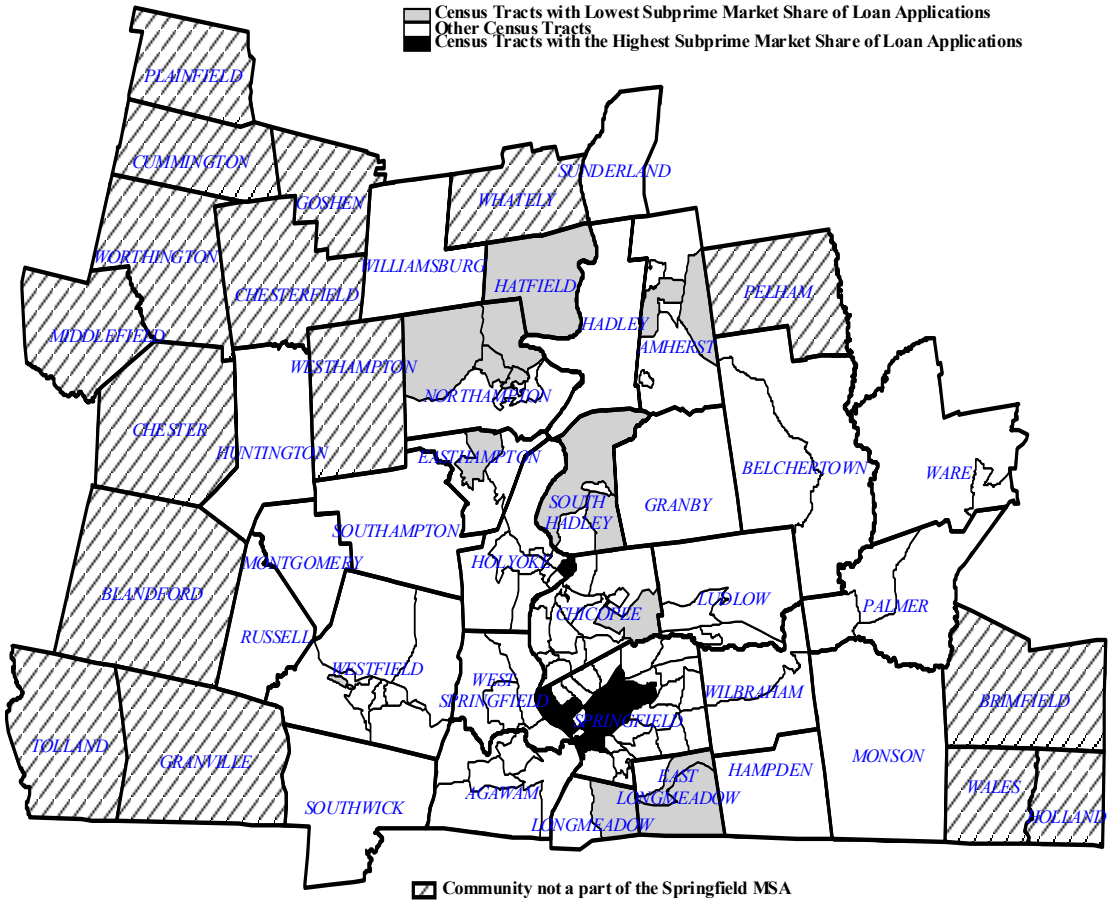
The higher rates of subprime market share for refinance loans indicates, therefore, that subprime lenders targeted existing homeowners. The targeting of homeowners by subprime lenders is problematic and raises important questions regarding subprime mortgage lending. The practice of targeting homeowners through the refinance loan market is particularly alarming because predatory lending may be contributing to the high levels of subprime loan application activity. As discussed in the methodology section, predatory lending practices often occur within the subprime market. A HUD-Treasury Task Report identifies that: "in some low-income and minority communities, especially where competition is limited, predatory lenders may make loans with interest rates and fees significantly higher than prevailing market rates, unrelated to the credit risk posed by the borrower."[32] Other examples of the negative impact of predatory lending include their sales practices, such as loan flipping, or recommending refinancing when there is little or no benefit to the borrower. Homeowners may be enticed by a predatory lender's refinance offer to consolidate loans or because they are having trouble making payments. Predatory lenders, however, often set high origination fees that are incorporated into the loan increasing the total amount owed. The result is that homeowners believe refinancing is saving them money, when in fact, the opposite is true. This trend threatens the financial security of individuals and families, as homeownership is the primary investment of many people in the United States.

Further examination of the subprime market share of conventional and refinance loan applications indicates that patterns of differential treatment may also occur according to the race and/or ethnicity of the applicant. Across both years and types of loans, the market share of subprime applications is significantly higher for African-American and Latino applicants than for white applicants. More specifically, market shares range from 47 to 81 percent for African-American applicants, 20 to 69 percent for Latino applicants and 6 to 38 percent for white applicants. The differences in subprime market share of applications indicate that subprime lenders may be targeting persons of color.

A map of the market share of subprime loan applications by census tract further supports the conclusion that subprime lenders are targeting communities of color. Map 6 identifies the census

[32] HUD-Treasury Task Force Report. p. 72.

Map 6: Census Tracts with the Highest and Lowest Subprime Market Share of Loan Applications 2001



tracts with the highest (black shading) and lowest (gray shading) market share of subprime applications in 2001. The average subprime market share in 2001 for the Springfield MSA is 16 percent and the median is 15 percent. Table 9 provides additional detail about the characteristics of the census tracts highlighted in Map 6.

For the census tracts with concentrated subprime loan application activity in 2001, the subprime market share reached as high as 54 percent and had a median market share value of 40 percent; nearly three times higher than the Springfield MSA median market share of 15 percent. All of the census tracts with high subprime market share of applications were home to less than 50 percent white residents. The median percent of residents under 18 years of age was 34 percent as compared to the Springfield MSA median of 24 percent. The vacancy rate was twice that of the

Table 9: Characteristics of Census Tracts With the Highest & Lowest Market Shares for All Subprime Loan Applications (2001)

	Census Tract	Market Share	White	Under 18	65 and Over	Married Family	Single Mothers	Vacancy Rate*	Owner Occ.	Poverty Rate	Median HV**	Hshd Income
Over Twice the Average Market Share (Black shading)	8008.00	54%	17%	35%	13%	9%	9%	7%	6%	51%	52%	34%
	8114	47%	16%	44%	5%	7%	15%	8%	12%	49%	52%	33%
	8018	45%	7%	39%	7%	9%	12%	12%	34%	39%	55%	52%
	8017.00	44%	26%	27%	7%	11%	11%	9%	46%	19%	62%	77%
	8014.01	44%	8%	35%	8%	8%	15%	12%	38%	38%	59%	52%
	8020	43%	22%	36%	6%	7%	16%	7%	15%	50%	77%	41%
	8013.00	42%	17%	34%	11%	8%	13%	9%	41%	35%	68%	54%
	8007.00	40%	7%	37%	8%	10%	10%	4%	20%	38%	59%	39%
	8019	38%	22%	33%	10%	8%	13%	12%	18%	46%	56%	40%
	8022	35%	30%	34%	8%	10%	12%	8%	31%	36%	65%	64%
	8011.01	35%	18%	25%	11%	6%	15%	13%	3%	44%	187%	38%
	8006.00	34%	2%	46%	4%	8%	14%	8%	6%	63%	254%	26%
	8015.01	34%	47%	29%	13%	16%	8%	4%	75%	15%	63%	93%
	8009.00	34%	25%	34%	20%	9%	10%	7%	12%	50%	68%	31%
	8014.02	33%	45%	27%	15%	12%	9%	4%	57%	17%	60%	59%
	Median	40%	18%	34%	8%	9%	12%	8%	20%	39%	62%	41%
	MSA (2000)	15%	78%	24%	14%	46%	9%	4%	62%	14%	$123,600	$40,740
	Census Tract	Market Share	White	Under 18	65 and Over	Married Families	Single Mothers	Vacancy Rate*	Owner Occ.	Poverty Rate	Median HV**	Hshd Income
The Least Market Share (Gray Shading)	8129.03	7%	90%	1%	1%	31%	0%	0%	86%	0%	175%	206%
	8134.04	7%	97%	26%	18%	26%	2%	2%	89%	2%	151%	165%
	8134.03	7%	94%	25%	19%	26%	1%	2%	84%	4%	119%	155%
	8224.02	6%	93%	18%	16%	17%	5%	5%	43%	13%	102%	95%
	8216.02	6%	91%	19%	18%	17%	5%	2%	55%	8%	118%	93%
	8106.02	6%	96%	22%	14%	24%	5%	1%	96%	3%	114%	143%
	8210.00	5%	95%	20%	23%	23%	4%	1%	88%	5%	107%	115%
	8205.00	5%	83%	13%	12%	14%	2%	2%	40%	23%	138%	97%
	8213.00	5%	94%	20%	22%	22%	3%	3%	72%	4%	141%	127%
	8133.02	5%	94%	24%	22%	27%	2%	1%	91%	2%	193%	196%
	8215.00	4%	97%	21%	17%	24%	3%	3%	73%	3%	140%	123%
	8207.00	4%	75%	24%	8%	17%	4%	2%	57%	14%	164%	140%
	8219.01	4%	89%	16%	11%	18%	3%	3%	52%	9%	191%	125%
	8216.01	3%	79%	20%	21%	18%	7%	5%	55%	15%	114%	93%
	8217	2%	93%	20%	20%	21%	5%	3%	74%	7%	122%	125%
	Median	5%	93%	20%	18%	22%	3%	2%	73%	5%	138%	125%
	MSA (2000)	15%	78%	24%	14%	46%	9%	4%	62%	14%	$123,600	$40,740

* Non-Seasonal Vacancy Rate

**Median Home Value

Springfield MSA, while the rate of owner-occupied housing for high subprime application areas was about one-third (20%) of the Springfield MSA median (62%).

All in all, the census tracts with high market shares of subprime loan applications in 2001 had larger populations of persons of color, were younger, and had significantly lower incomes. The owner-occupied housing stock was of lesser value in census tracts with high subprime market share and far less of the total housing stock was owner-occupied. In 1997, similar trends were evident (see Appendix). In fact, of the 18 census tracts in 1997 and 15 census tracts in 2001 with twice the average market share of subprime loan applications, 10 of the census tracts appear on the list for both years.

Census tracts with the least amount of subprime market share in 2001 had a median market share of 5 percent with a lowest market share of two percent (8217) and a highest market share of 7 percent (8129.03). The median percent white was 93 for census tracts with the least amount of subprime market share of applications. The poverty rate in census tracts with low subprime application market share was almost one-third (5%) of that for the Springfield MSA (14%). Median owner-occupied home value was 138 percent and household income was 125 percent of the Springfield MSA median.

The data presented in the map and table indicate a trend in subprime lending. In this analysis, the market share of subprime applications demonstrates, in part, if subprime lenders are targeting certain areas or groups of people in the Springfield MSA because the volume of applications is a measure of where subprime lenders are actively marketing their product. Both the map and the tables indicate that subprime lenders appear to be targeting their efforts on low- income neighborhoods and communities of color.

The similarity in high subprime market share census tracts from 1997 and 2001 suggests the practice of targeting low-income areas and communities of color with subprime loans has continued over time. While this study is preliminary, it reveals that strong evidence exists and we hope this prompts further investigation and inquiries about how subprime lending contributes to the overall fairness of the lending market. For example, high loan denial rates among African-

American and Latino applicants is likely related, at least partially, to the practice of subprime lenders who target communities of color and deny applications at high rates than prime lenders. Understanding the impact of subprime lending is vital in making future policy decisions that enhance the fairness of all lending.

APPENDIX

Appendix Table 1: Lending Statistics for the Springfield Metropolitan Statistical Area

	1996	1997	1998	1999	2000	2001	Percent Change 1996-2001
Loan Volume (# of Applications)							
FHA, FSA/RHS, VA Mortgage	1,955	1,844	1,790	2,117	1,872	1,936	-0.97%
Conventional Mortgage	6,006	6,351	6,881	8,036	8,363	8,260	37.53%
Refinance Loan	7,541	7,129	16,149	14,351	9,515	20,758	175.27%
Home Improvement Loan	2,677	2,558	2,661	3,032	3,358	2,836	5.94%
Aggregate	18,179	17,882	27,481	27,536	23,108	33,790	85.87%
Loan Outcomes (# of Loans Originated)							
FHA, FSA/RHS, VA Mortgage	1,401	1,505	1,467	1,717	1,464	1,522	8.64%
Conventional Mortgage	4,702	4,773	5,053	5,933	6,045	6,234	32.58%
Refinance Loan	4,783	3,953	10,251	7,304	3,074	11,924	149.30%
Home Improvement Loan	1,465	1,187	1,106	1,245	1,149	1,111	-24.16%
Aggregate	12,351	11,418	17,877	16,199	11,732	20,791	68.33%
Loan Outcomes (Approval Rate)							
FHA, FSA/RHS, VA Mortgage	76.27%	84.16%	85.14%	84.36%	82.53%	84.56%	10.87%
Conventional Mortgage	81.15%	79.56%	77.47%	80.18%	78.88%	82.57%	1.75%
Refinance Loan	69.98%	61.87%	68.93%	58.31%	39.60%	63.68%	-9.00%
Home Improvement Loan	63.28%	56.80%	52.20%	52.67%	49.52%	49.54%	-21.71%
Aggregate	73.36%	69.73%	70.50%	66.07%	58.74%	68.30%	-6.90%
Total Loan Value (Loans Originated) ($000s) (2001 $'s)							
FHA, FSA/RHS, VA Mortgage	$139,041	$146,009	$148,036	$175,579	$148,156	$163,824	17.82%
Conventional Mortgage	$508,325	$519,024	$557,617	$668,489	$654,875	$724,300	42.49%
Refinance Loan	$466,812	$386,107	$1,060,677	$692,708	$256,803	$1,281,222	174.46%
Home Improvement Loan	$23,509	$20,731	$19,070	$23,140	$21,364	$25,064	6.62%
Aggregate	$1,137,686	$1,071,871	$1,785,401	$1,559,916	$1,081,199	$2,194,410	92.88%
Average Loan Value (Loans Originated) (2001 $'s)							
FHA, FSA/RHS, VA Mortgage	$99,244	$97,016	$100,911	$102,259	$101,200	$107,637	8.46%
Conventional Mortgage	$108,108	$108,742	$110,354	$112,673	$108,333	$116,185	7.47%
Refinance Loan	$97,598	$97,674	$103,471	$94,840	$83,540	$107,449	10.09%
Home Improvement Loan	$16,047	$17,465	$17,243	$18,586	$18,594	$22,560	40.59%
Aggregate	73.36%	69.73%	70.50%	66.07%	58.74%	68.30%	-6.90%

Appendix Table 2: Lending Data by Type of Institution for FHA, Conventional and Refinance Loans

		Applications	Originations	Approved	Denied	Origination Rate	Approval Rate	Denial Rate
1997	Local Institutions	4206	3485	3563	378	82.9%	84.7%	9.0%
	Non-Local Institutions	11118	6746	7453	2136	60.7%	67.0%	19.2%
	Total	15324	10231	11016	2514	66.8%	71.9%	16.4%
2001	Local Institutions	6498	5573	5772	386	85.8%	88.8%	5.9%
	Non-Local Institutions	24456	14107	15893	5003	57.7%	65.0%	20.5%
	Total	30954	19680	21665	5389	63.6%	70.0%	17.4%

Appendix Table 3: Applications and Denials for All Loans by All Lenders in the Springfield MSA from 1996 to 2001

Applicant Characteristic	***1996***		***1997***		***1998***		***1999***		***2000***		***2001***		Total		Denial Rate
Race/Ethnicity	**A**	*D*	**A**	*D*	**A**	*D*	**A**	*D*	**A**	*D*	**A**	*D*	A	D	
Amer. Indian/AK Native	**22**	*5*	**23**	*2*	**35**	*7*	**41**	*10*	**32**	*16*	**59**	*19*	212	59	28%
Asian Pacific Islander	**109**	*16*	**141**	*20*	**210**	*25*	**178**	*27*	**197**	*43*	**272**	*37*	1107	168	15%
African-American	**317**	*53*	**645**	*137*	**716**	*150*	**941**	*312*	**1147**	*326*	**1057**	*271*	4823	1249	26%
Latino	**254**	*48*	**770**	*179*	**746**	*134*	**892**	*252*	**1179**	*291*	**1357**	*307*	5198	1211	23%
White	**8630**	*736*	**11059**	*1455*	**16170**	*1412*	**14027**	*1707*	**11284**	*1621*	**18261**	*1734*	79431	8665	11%
Other	**32**	*2*	**116**	*15*	**127**	*13*	**127**	*33*	**110**	*14*	**143**	*22*	655	99	15%
Joint (White/Minority)	**178**	*18*	**192**	*25*	**255**	*20*	**208**	*46*	**231**	*38*	**364**	*30*	1428	177	12%
Race Not Available	**936**	*275*	**1773**	*559*	**4336**	*1516*	**4032**	*1263*	**3781**	*1385*	**6447**	*2296*	21305	7294	34%
Income	**A**	*D*	**A**	*D*	**A**	*D*	**A**	*D*	**A**	*D*	**A**	*D*	A	D	
Under 50%	**n/a**	*n/a*	**1266**	*426*	**1393**	*415*	**1602**	*509*	**1513**	*517*	**1791**	*640*	7565	2507	33%
50-79%	**n/a**	*n/a*	**3758**	*764*	**4470**	*855*	**4391**	*1038*	**4434**	*1093*	**5790**	*1348*	22843	5098	22%
80-99%	**2365**	*326*	**2419**	*373*	**3419**	*521*	**2988**	*570*	**3049**	*639*	**4440**	*804*	18680	3233	17%
100-119%	**2227**	*279*	**1964**	*294*	**3104**	*465*	**2845**	*483*	**2348**	*479*	**3696**	*588*	16184	2588	16%
Over 120%	**5886**	*548*	**5312**	*535*	**10209**	*1021*	**8620**	*1050*	**6617**	*1006*	**12243**	*1336*	48887	5496	11%

A= # of Applications

D= # of Denials

Appendix Table 4: Applications and Denials for All Loans by All Lenders in Springfield MSA from 1996 to 2001 (A=# of Applications, D=# of Denials)

	Applicants Race and Ethnicity by Income	1996		1997		1998		1999		2000		2001		Total		Denial
		A	*D*	**A**	*D*	**A**	*D*	**A**	*D*	**A**	*D*	**A**	*D*	A	D	Rate
Under 50%	Amer. Indian/AK Native	**n/a**	*n/a*	**4**	*0*	**3**	*1*	**5**	*1*	**5**	*4*	**5**	*2*	22	8	36%
	Asian Pacific Islander	**n/a**	*n/a*	**12**	*4*	**13**	*3*	**20**	*7*	**24**	*7*	**12**	*6*	81	27	33%
	African-American	**n/a**	*n/a*	**93**	*23*	**81**	*17*	**154**	*66*	**161**	*62*	**120**	*38*	609	206	34%
	Latino	**n/a**	*n/a*	**146**	*32*	**108**	*29*	**177**	*52*	**177**	*59*	**219**	*61*	827	233	28%
	White	**n/a**	*n/a*	**784**	*263*	**725**	*157*	**782**	*192*	**691**	*182*	**811**	*201*	3793	995	26%
	Other	**n/a**	*n/a*	**8**	*1*	**13**	*2*	**10**	*5*	**12**	*3*	**13**	*3*	56	14	25%
	Joint (White/Minority)	**n/a**	*n/a*	**4**	*2*	**8**	*2*	**7**	*2*	**6**	*2*	**11**	*3*	36	11	31%
	Race Not Available	**n/a**	*n/a*	**215**	*101*	**442**	*204*	**447**	*184*	**437**	*198*	**600**	*326*	2141	1013	47%
50-79%	Amer. Indian/AK Native	**n/a**	*n/a*	**6**	*2*	**8**	*0*	**16**	*4*	**11**	*7*	**11**	*5*	52	18	35%
	Asian Pacific Islander	**n/a**	*n/a*	**34**	*6*	**50**	*6*	**38**	*5*	**62**	*16*	**64**	*8*	248	41	17%
	African-American	**n/a**	*n/a*	**264**	*57*	**259**	*56*	**317**	*108*	**422**	*115*	**343**	*94*	1605	430	27%
	Latino	**n/a**	*n/a*	**337**	*82*	**299**	*54*	**335**	*102*	**553**	*121*	**528**	*123*	2052	482	23%
	White	**n/a**	*n/a*	**2569**	*454*	**2866**	*370*	**2667**	*446*	**2394**	*436*	**3312**	*462*	13808	2168	16%
	Other	**n/a**	*n/a*	**28**	*7*	**34**	*7*	**34**	*7*	**25**	*4*	**26**	*4*	147	29	20%
	Joint (White/Minority)	**n/a**	*n/a*	**40**	*5*	**28**	*2*	**28**	*11*	**23**	*6*	**39**	*9*	158	33	21%
	Race Not Available	**n/a**	*n/a*	**480**	*151*	**926**	*360*	**956**	*355*	**944**	*388*	**1467**	*643*	4773	1897	40%
80-99%	Amer. Indian/AK Native	**4**	*1*	**4**	*0*	**7**	*1*	**8**	*2*	**5**	*2*	**9**	*3*	37	9	24%
	Asian Pacific Islander	**18**	*7*	**27**	*4*	**29**	*6*	**32**	*6*	**33**	*6*	**45**	*5*	184	34	18%
	African-American	**104**	*16*	**109**	*21*	**118**	*25*	**165**	*52*	**211**	*61*	**208**	*46*	915	221	24%
	Latino	**105**	*17*	**148**	*34*	**128**	*18*	**139**	*41*	**211**	*50*	**249**	*49*	980	209	21%
	White	**1863**	*205*	**1794**	*218*	**2423**	*223*	**1962**	*263*	**1914**	*274*	**2821**	*301*	12777	1484	12%
	Other	**4**	*0*	**28**	*1*	**16**	*3*	**23**	*6*	**17**	*2*	**22**	*5*	110	17	15%
	Joint (White/Minority)	**42**	*10*	**39**	*5*	**28**	*2*	**28**	*6*	**35**	*5*	**46**	*6*	218	34	16%
	Race Not Available	**225**	*70*	**270**	*90*	**670**	*243*	**631**	*194*	**623**	*239*	**1040**	*389*	3459	1225	35%
100-119%	Amer. Indian/AK Native	**4**	*1*	**3**	*0*	**2**	*0*	**8**	*2*	**3**	*1*	**3**	*1*	23	5	22%
	Asian Pacific Islander	**25**	*7*	**19**	*1*	**32**	*2*	**22**	*3*	**15**	*2*	**35**	*4*	148	19	13%
	African-American	**93**	*23*	**71**	*14*	**99**	*27*	**112**	*29*	**148**	*31*	**128**	*39*	651	163	25%
	Latino	**69**	*13*	**55**	*15*	**82**	*18*	**111**	*34*	**114**	*21*	**140**	*28*	571	129	23%
	White	**1786**	*162*	**1535**	*178*	**2245**	*195*	**2022**	*241*	**1520**	*242*	**2467**	*233*	11575	1251	11%
	Other	**2**	*0*	**7**	*1*	**13**	*1*	**17**	*5*	**13**	*2*	**17**	*3*	69	12	17%
	Joint (White/Minority)	**41**	*4*	**28**	*6*	**41**	*4*	**34**	*8*	**38**	*3*	**47**	*4*	229	29	13%
	Race Not Available	**207**	*69*	**246**	*79*	**590**	*218*	**519**	*161*	**497**	*177*	**859**	*276*	2918	980	34%
Over 120%	Amer. Indian/AK Native	**14**	*3*	**6**	*0*	**15**	*5*	**4**	*1*	**8**	*2*	**31**	*8*	78	19	24%
	Asian Pacific Islander	**66**	*2*	**49**	*5*	**86**	*8*	**66**	*6*	**63**	*12*	**116**	*14*	446	47	11%
	African-American	**120**	*14*	**108**	*22*	**159**	*25*	**193**	*57*	**205**	*57*	**258**	*54*	1043	229	22%
	Latino	**80**	*18*	**84**	*16*	**129**	*15*	**130**	*23*	**124**	*40*	**221**	*46*	768	158	21%
	White	**4981**	*369*	**4377**	*342*	**7911**	*467*	**6594**	*565*	**4765**	*487*	**8850**	*537*	37478	2767	7%
	Other	**26**	*2*	**45**	*5*	**51**	*0*	**43**	*10*	**43**	*3*	**65**	*7*	273	27	10%
	Joint (White/Minority)	**95**	*4*	**81**	*7*	**150**	*10*	**111**	*19*	**129**	*22*	**221**	*8*	787	70	9%
	Race Not Available	**504**	*136*	**562**	*138*	**1708**	*491*	**1479**	*369*	**1280**	*383*	**2481**	*662*	8014	2179	27%

Appendix Table 5: Top Ten Prime and Subprime Lenders included in lending analysis

Prime Lenders 1997 & 2001	Subprime Lenders 1997	Subprime Lenders 2001
Bank of WesternMass	1st Consumers Mortgage Corporation	Aegis Mortgage Corporation
FirstMass/SIS	American Money Centers	Ameriquest Mortgage Company
Country Bank for Savings	Ameriquest Mortgage Company	Beneficial Corporation
Fleet National Bank	Commercial Credit Corporation	Citifinancial Services, Inc.
Florence Savings Bank	Equicredit Corp of America	Equity One, Inc.
People's Savings Bank	Green Point Mort Company	First Franklin Financial Corporation
United Cooperative	National Mortgage Corporation	Greenpoint Mortgage Funding, I
Westbank	Option One Mortgage Corporation	Household Finance Corporation
Westfield Bank	Security Funding Corporation	Nationscredit Financial Service
Woronoco Savings Bank	The Money Store	New Century Mortgage Corporation

Appendix Table 6: Denial Rates for 10 Leading Prime and Subprime Lenders by Race/Ethnicity and Income in 1997

		Prime Refinance			Prime Conventional			Subprime Refinance			Subprime Conventional		
		A	*D*	Denial Rate	**A**	*D*	Denial Rate	**A**	*D*	Denial Rate	**A**	*D*	Denial Rate
Under 50%	Am. Indian/AK Native	**1**	*0*	0%	**0**	*0*	-	**1**	*0*	0%	**0**	*0*	-
	Asian/Pacific Islander	**1**	*0*	0%	**3**	*2*	67%	**0**	*0*	-	**0**	*0*	-
	African-American	**3**	*1*	33%	**11**	*4*	36%	**21**	*6*	29%	**10**	*2*	20%
	Latino	**2**	*1*	50%	**23**	*6*	26%	**10**	*3*	30%	**17**	*0*	0%
	White	**65**	*12*	18%	**95**	*20*	21%	**107**	*34*	32%	**24**	*5*	21%
	Other	**0**	*0*	-	**1**	*1*	100%	**1**	*0*	0%	**0**	*0*	-
	Joint (White/Minority)	**0**	*0*	-	**1**	*0*	0%	**0**	*0*	-	**0**	*0*	-
	Race not Available	**13**	*4*	31%	**6**	*5*	83%	**66**	*32*	48%	**17**	*6*	35%
50-79%	Am. Indian/AK Native	**1**	*1*	100%	**0**	*0*	-	**0**	*0*	-	**3**	*1*	33%
	Asian/Pacific Islander	**2**	*0*	0%	**6**	*0*	0%	**3**	*3*	100%	**0**	*0*	-
	African-American	**10**	*2*	20%	**25**	*2*	8%	**42**	*11*	26%	**37**	*12*	32%
	Latino	**9**	*4*	44%	**31**	*8*	26%	**16**	*5*	31%	**41**	*7*	17%
	White	**214**	*31*	14%	**373**	*32*	9%	**215**	*53*	25%	**63**	*9*	14%
	Other	**1**	*0*	0%	**1**	*1*	100%	**5**	*3*	60%	**2**	*1*	50%
	Joint (White/Minority)	**1**	*0*	0%	**4**	*0*	0%	**6**	*0*	0%	**1**	*0*	0%
	Race not Available	**22**	*7*	32%	**9**	*6*	67%	**131**	*34*	26%	**31**	*7*	23%
80-99%	Am. Indian/AK Native	**0**	*0*	-	**0**	*0*	-	**0**	*0*	-	**0**	*0*	-
	Asian/Pacific Islander	**2**	*1*	50%	**5**	*1*	20%	**1**	*0*	0%	**1**	*0*	0%
	African-American	**5**	*4*	80%	**9**	*0*	0%	**20**	*8*	40%	**12**	*1*	8%
	Latino	**6**	*4*	67%	**13**	*2*	15%	**10**	*2*	20%	**13**	*2*	15%
	White	**159**	*21*	13%	**294**	*21*	7%	**138**	*31*	22%	**37**	*9*	24%
	Other	**24**	*1*	4%	**2**	*0*	0%	**4**	*0*	0%	**2**	*1*	50%
	Joint (White/Minority)	**2**	*0*	0%	**7**	*1*	14%	**2**	*0*	0%	**1**	*0*	0%
	Race not Available	**21**	*10*	48%	**3**	*1*	33%	**60**	*17*	28%	**23**	*5*	22%
100-119%	Am. Indian/AK Native	**0**	*0*	-	**1**	*0*	0%	**1**	*0*	0%	**0**	*0*	-
	Asian/Pacific Islander	**1**	*0*	0%	**3**	*0*	0%	**0**	*0*	-	**2**	*0*	0%
	African-American	**2**	*1*	50%	**4**	*0*	0%	**10**	*1*	10%	**8**	*1*	13%
	Latino	**5**	*3*	60%	**3**	*0*	0%	**3**	*1*	33%	**7**	*3*	43%
	White	**177**	*15*	8%	**244**	*15*	6%	**114**	*27*	24%	**39**	*11*	28%
	Other	**2**	*0*	0%	**0**	*0*	-	**1**	*0*	0%	**0**	*0*	-
	Joint (White/Minority)	**1**	*0*	0%	**4**	*1*	25%	**1**	*0*	0%	**0**	*0*	-
	Race not Available	**10**	*7*	70%	**4**	*1*	25%	**52**	*15*	29%	**7**	*1*	14%
Over 120%	Am. Indian/AK Native	**1**	*0*	0%	**0**	*0*	-	**1**	*0*	0%	**1**	*0*	0%
	Asian/Pacific Islander	**7**	*1*	14%	**7**	*0*	0%	**1**	*0*	0%	**0**	*0*	-
	African-American	**7**	*4*	57%	**5**	*2*	40%	**23**	*4*	17%	**11**	*3*	27%
	Latino	**2**	*1*	50%	**11**	*1*	9%	**15**	*3*	20%	**3**	*0*	0%
	White	**662**	*41*	6%	**723**	*28*	4%	**208**	*49*	24%	**64**	*10*	16%
	Other	**1**	*0*	0%	**5**	*0*	0%	**9**	*1*	11%	**0**	*0*	-
	Joint (White/Minority)	**9**	*0*	0%	**12**	*0*	0%	**7**	*1*	14%	**0**	*0*	-
	Race not Available	**33**	*17*	52%	**4**	*0*	0%	**86**	*17*	20%	**14**	*4*	29%

Appendix Table 7: Denial Rates for 10 Leading Prime and Subprime Lenders by Race/Ethnicity and Income in 2001

	Applicant Race and Ethnicity by Income	Prime Refinance			Prime Conventional			Subprime Refinance			Subprime Conventional		
		A	*D*	Denial Rate	**A**	*D*	Denial Rate	**A**	*D*	Denial Rate	**A**	*D*	Denial Rate
Under 50%	Am. Indian/AK Native	**1**	*0*	0%	**0**	*0*	-	**2**	*1*	50%	**0**	*0*	-
	Asian/Pacific Islander	**0**	*0*	-	**1**	*0*	0%	**1**	*1*	100%	**1**	*0*	0%
	African-American	**8**	*5*	63%	**6**	*0*	0%	**38**	*14*	37%	**8**	*4*	50%
	Latino	**13**	*7*	54%	**66**	*4*	6%	**34**	*18*	53%	**2**	*1*	50%
	White	**122**	*32*	26%	**105**	*19*	18%	**119**	*36*	30%	**7**	*3*	43%
	Other	**3**	*0*	0%	**1**	*0*	0%	**2**	*1*	50%	**0**	*0*	-
	Joint (White/Minority)	**0**	*0*	-	**0**	*0*	-	**3**	*1*	33%	**1**	*0*	0%
	Race not Available	**19**	*13*	68%	**17**	*9*	53%	**158**	*109*	69%	**3**	*1*	33%
50-79%	Am. Indian/AK Native	**3**	*2*	67%	**1**	*1*	100%	**0**	*0*	-	**0**	*0*	-
	Asian/Pacific Islander	**2**	*0*	0%	**17**	*1*	6%	**4**	*2*	50%	**2**	*0*	0%
	African-American	**12**	*3*	25%	**23**	*3*	13%	**70**	*27*	39%	**22**	*10*	45%
	Latino	**35**	*16*	46%	**108**	*14*	13%	**53**	*20*	38%	**30**	*12*	40%
	White	**492**	*65*	13%	**537**	*33*	6%	**266**	*89*	33%	**43**	*10*	23%
	Other	**3**	*1*	33%	**4**	*0*	0%	**3**	*1*	33%	**0**	*0*	-
	Joint (White/Minority)	**0**	*0*	-	**10**	*0*	0%	**7**	*4*	57%	**0**	*0*	-
	Race not Available	**52**	*26*	50%	**14**	*8*	57%	**415**	*240*	58%	**6**	*3*	50%
80-99%	Am. Indian/AK Native	**2**	*1*	50%	**1**	*0*	0%	**2**	*1*	50%	**0**	*0*	-
	Asian/Pacific Islander	**5**	*1*	20%	**11**	*1*	9%	**2**	*1*	50%	**0**	*0*	-
	African-American	**14**	*5*	36%	**19**	*0*	0%	**41**	*9*	22%	**13**	*7*	54%
	Latino	**17**	*9*	53%	**25**	*1*	4%	**24**	*11*	46%	**16**	*6*	38%
	White	**497**	*48*	10%	**322**	*16*	5%	**178**	*54*	30%	**30**	*9*	30%
	Other	**2**	*1*	50%	**2**	*0*	0%	**4**	*3*	75%	**1**	*0*	0%
	Joint (White/Minority)	**11**	*3*	27%	**2**	*0*	0%	**2**	*0*	0%	**0**	*0*	-
	Race not Available	**47**	*21*	45%	**11**	*6*	55%	**238**	*113*	47%	**10**	*3*	30%
100-119%	Am. Indian/AK Native	**1**	*1*	100%	**0**	*0*	-	**0**	*0*	-	**0**	*0*	-
	Asian/Pacific Islander	**6**	*2*	33%	**7**	*0*	0%	**0**	*0*	-	**0**	*0*	-
	African-American	**10**	*4*	40%	**5**	*0*	0%	**22**	*14*	64%	**4**	*1*	25%
	Latino	**22**	*7*	32%	**8**	*0*	0%	**17**	*7*	41%	**3**	*2*	67%
	White	**496**	*46*	9%	**261**	*11*	4%	**138**	*44*	32%	**28**	*11*	39%
	Other	**0**	*0*	-	**2**	*0*	0%	**3**	*1*	33%	**0**	*0*	-
	Joint (White/Minority)	**4**	*1*	25%	**10**	*0*	0%	**3**	*2*	67%	**0**	*0*	-
	Race not Available	**52**	*18*	35%	**7**	*1*	14%	**179**	*83*	46%	**3**	*1*	33%
Over 120%	Am. Indian/AK Native	**16**	*3*	19%	**1**	*0*	0%	**4**	*3*	75%	**0**	*0*	-
	Asian/Pacific Islander	**25**	*3*	12%	**19**	*2*	11%	**7**	*1*	14%	**4**	*3*	75%
	African-American	**25**	*6*	24%	**9**	*1*	11%	**46**	*15*	33%	**8**	*3*	38%
	Latino	**19**	*8*	42%	**8**	*2*	25%	**26**	*9*	35%	**3**	*0*	0%
	White	**2152**	*120*	6%	**1024**	*26*	3%	**303**	*78*	26%	**43**	*14*	33%
	Other	**13**	*2*	15%	**7**	*1*	14%	**0**	*0*	-	**1**	*0*	0%
	Joint (White/Minority)	**40**	*2*	5%	**28**	*1*	4%	**11**	*1*	9%	**0**	*0*	-
	Race not Available	**246**	*59*	24%	**26**	*1*	4%	**428**	*194*	45%	**11**	*3*	27%