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Abstract

Americans of all races and income levels recognize homeownership as a quintessential part of the American dream. This belief, along with federal policy that encourages homeownership and increased access to credit, has contributed to a dramatic rise in the number of families that own their home, particularly among low-income and minority households. In addition, rising homeownership in the first part of this decade contributed substantially to neighborhood revitalization, and brought much needed investment into low- and moderate-income neighborhoods. The recent subprime meltdown and rising foreclosures, however, threaten these gains. In this study, I use 2007 foreclosure data from Contra Costa County, California, to examine how foreclosures are distributed across neighborhoods, and to identify the neighborhood characteristics that are associated with foreclosure. I find that foreclosures are directly associated with subprime lending and that both subprime lending and foreclosures are concentrated in neighborhoods with high proportions of minority residents, lower-income households, and less educated households. These results have important policy implications for mortgage lending regulations and housing policies moving forward.

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The Geography of Foreclosure in Contra Costa County, California

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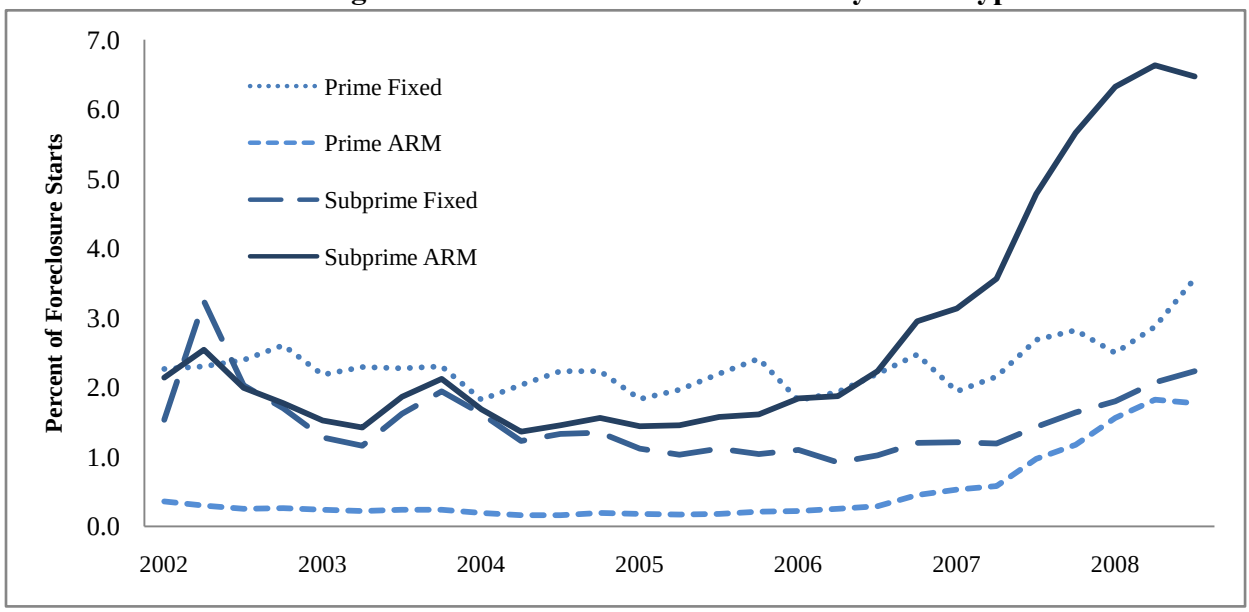
Introduction

At nearly 70 percent in 2005, the rate of homeownership reached a historic high in the United States. Much of the increase in homeownership in the 1990s, a gain of four to five percent, or nearly 12 million new homeowners, came from marked increases in the number of low-income and minority households that became homeowners. A number of factors contributed to this rise, including a strong economy and low unemployment, low interest rates, greater access to credit, and government policies that encouraged homeownership, particularly among low-income and minority households. In addition, the 1990s saw significant innovation in mortgage credit, and the expansion of the subprime mortgage market. For example, the share of FHA loans, which were at one time the only option for many lower-income borrowers, declined steeply in the last decade, to a low of a 2.7 percent market share in 2006 (Joint Center for Housing Studies 2007). Instead, originations of subprime loans and other "affordability products," such as mortgages with interest-only and payment-option features designed to lower initial monthly payments but with higher risks of upward adjustment, grew rapidly and became a large share of the mortgage market. In 2002, these affordability products totaled less than five percent of all mortgage originations; by 2005, they accounted for fully 38 percent of originations (Joint Center for Housing Studies 2007).

While subprime and other affordability mortgage products may have helped many households enter homeownership, in other cases they led to irresponsible and unsustainable lending practices. House prices increased markedly through 2005, and some households used these mortgage products to help them become homeowners in an appreciating market. When prices started to decline, many homeowners found themselves owing more than their homes were worth and were therefore unable to refinance their mortgages (Yellen 2008). These house price declines, coupled with poor underwriting standards and unaffordable "affordability" products, led to a rapid growth in the foreclosure rate, particularly among subprime, adjustable interest rate loans (see Figure 1).

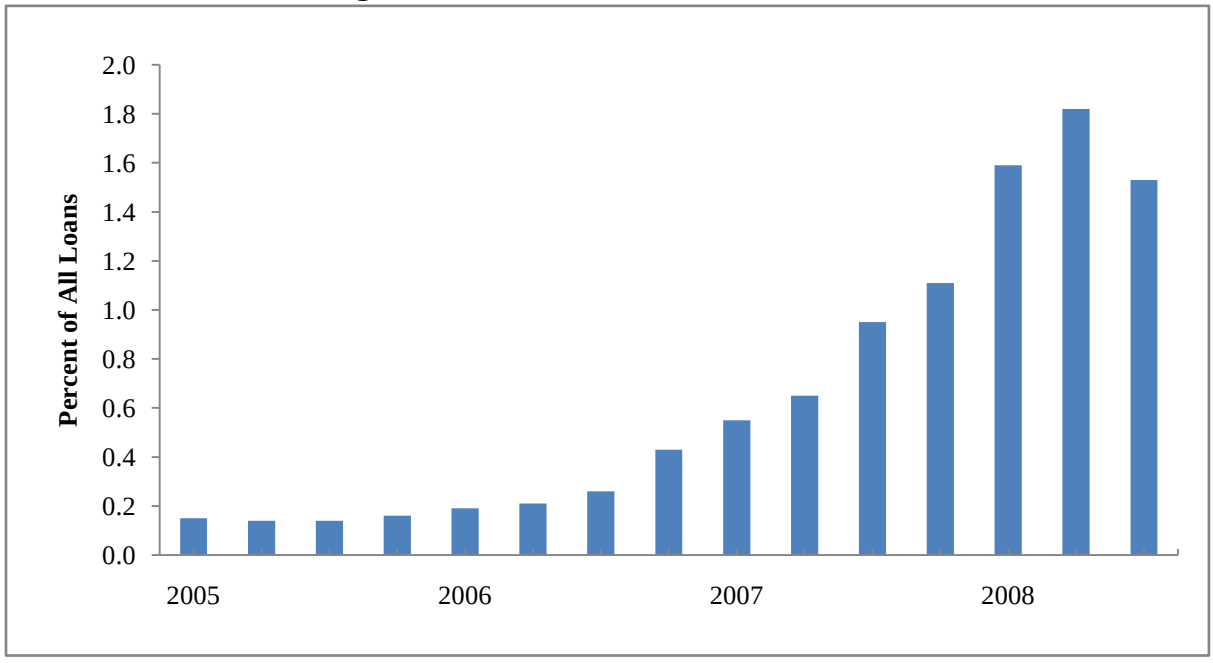
Figure 1: National Foreclosure Rates by Loan Type



Source: Mortgage Bankers Association, National Delinquency Survey

California has been particularly hard hit both by the growth in subprime lending and subsequent foreclosures. According to one estimate, 52,000 homes in California were lost to foreclosure in 2007, an increase of over 200 percent as compared to 2006 (CA Senate 2008). This rise in foreclosures in California was sudden and substantial, as shown in Figure 2.

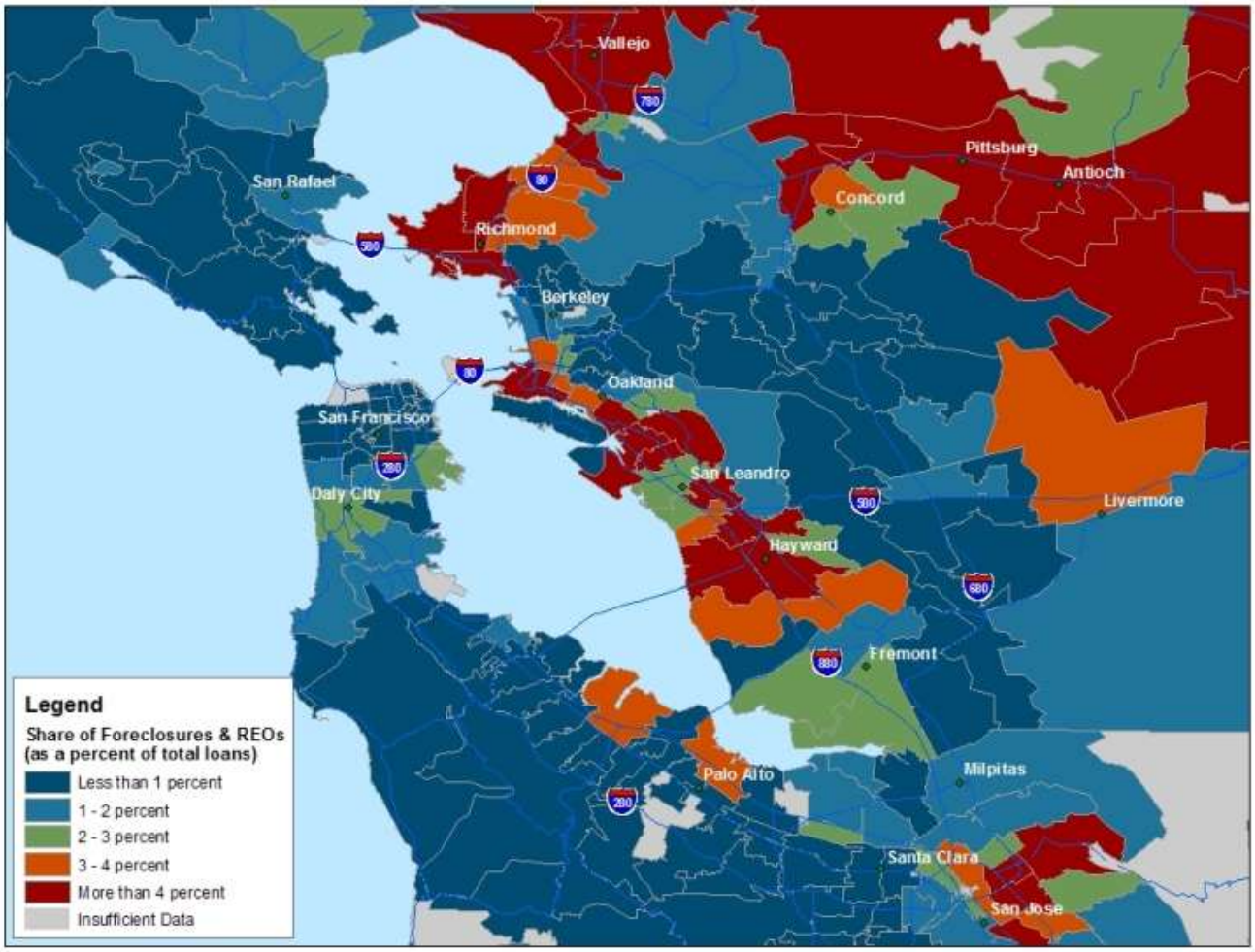
Figure 2: Foreclosure Rates in California



Source: Mortgage Bankers Association, National Delinquency Survey

As of July 2007, California was home to four of the top ten cities in the United States for foreclosure activity, and foreclosure was affecting two percent of the state's homeowners. Figure 3 shows that in the Bay Area, the distribution of foreclosures has been uneven, with the highest rates of foreclosure being concentrated in cities in Contra Costa and Alameda County.

Figure 3: Foreclosure Rates in the Bay Area



Source: Lender Processing Services, Inc. Applied Analytics, November 2008

Researchers are beginning to untangle what factors influence subprime lending and foreclosures at the neighborhood level to assess what types of neighborhoods are most likely to be affected by negative spillover effects of foreclosures. Research has shown that there is a strong geographic concentration of subprime lending where there is a large population of Black homeowners, and the median incomes of both census tracts and individual borrowers are inversely associated with the share of subprime lending in a neighborhood and the likelihood of a borrower receiving a subprime versus prime loan, respectively (Calem et al. 2004; Newman and

Wyly 2004). In the Dallas metropolitan area, neighborhoods that are 90 percent Black have 30 percent more subprime lending than neighborhoods that are 90 percent white, even after controlling for other neighborhood characteristics (Apgar and Herbert 2005). This uneven concentration of subprime lending can also lead to neighborhood distress. As Newman and Wyly (2004) show, the geographic distribution of subprime lending in Essex County, New Jersey is closely associated with the geographic pattern of foreclosures. In Chicago, Immergluck and Smith (2005) found that even after controlling for economic and demographic characteristics, for every 100 additional subprime loans made in such a neighborhood, nine additional foreclosures would occur. In a study of three counties in California, Lanzerotti (2006) also found an association between the prevalence of high-cost loans and the prevalence of Notices of Default.

The concentration of subprime lending in certain neighborhoods and the increased likelihood of foreclosure among subprime loans is important because of the negative spillover effects of foreclosure, and the possibility that concentrated foreclosures will not only negatively affect the distressed borrowers, but that they will threaten the stability of the neighborhood as well. Foreclosures in lower-income neighborhoods in particular often lead to vacant, boarded-up and abandoned properties, contributing to physical disorder, crime, and disinvestment (Immergluck and Smith 2006a). Other negative spillover effects include lost rent to landlords, reduced sales by local businesses, reduced property values, and increased crime and municipal costs (Apgar et al. 2005). In Chicago, researchers estimated that every foreclosure within 1/8-mile is associated with a 0.9 percent reduction in sales price in the surrounding properties; in lower-income neighborhoods, however, every foreclosure within 1/8-mile is associated with a 1.44 percent reduction (Immergluck and Smith 2006a). The more property values go down, the harder it becomes for homeowners to refinance their loans. If homes surrounding foreclosed properties were financed with subprime ARMs, once the loans reset to their fully indexed rates, homeowners may not be able to refinance if their property values have decreased. Increased crime may also reinforce negative effects of foreclosure and make neighborhoods less desirable to potential buyers of homes put on the market by distressed homeowners. This can lead to a vicious cycle of neighborhood decline, where a preponderance of foreclosures, and the resulting negative effects on property values, may lead other borrowers to foreclose even if they would not have defaulted otherwise.

This study expands the existing literature on subprime lending and foreclosure by using empirical data to test a number of hypotheses about the relationship between neighborhood characteristics and foreclosures in Contra Costa County, California. Using local foreclosure data from 2007, I examine how foreclosures are distributed across neighborhoods and identify neighborhood characteristics associated with foreclosure. Specifically, I examine what neighborhood characteristics are associated with high foreclosure rates, to assess whether or not some types of neighborhoods may be more vulnerable to the negative spillover effects of foreclosure, therefore warranting public policy to regulate subprime lending and/or public investments to help stabilize the neighborhood.

Empirical Analysis

To better understand the relationship between foreclosures and neighborhoods, I examine patterns of foreclosure in 2007 in Contra Costa County, California. Contra Costa County is part of the nine-county San Francisco Bay Area. In 2005, its estimated population was 1,023,400, and three of its cities, Antioch, Concord, and Richmond, had populations over 100,000. The county has a diverse, yet somewhat segregated, population, with Black and low-income communities concentrated in western cities, higher income and white communities concentrated in the central area of the county, and Latinos concentrated in both the older western cities and rapidly growing eastern communities. Since 1990, over a third of the county's population growth has occurred in the eastern cities of Antioch, Brentwood and Oakley; Brentwood's population alone increased over 300 percent.

Contra Costa is therefore an interesting case study for an analysis of neighborhood foreclosures, because it has both older, minority neighborhoods and new suburban developments within its borders. Research has shown that these two types of neighborhoods received disproportionate shares of subprime loans, and therefore are at the greatest risk of delinquencies and foreclosures. In a national study, Mayer and Pence (2008) found that subprime lending during the housing boom was concentrated in both inner-city neighborhoods, where there tend to be more minority and low-income residents, and rapidly growing suburbs and exurbs. Subprime mortgages are also concentrated in ZIP-codes (used as a proxy for neighborhoods) with high proportions of Black and Hispanic residents, and high unemployment rates (Mayer and Pence 2008).

Due to data limitations, much of the existing research on foreclosures is focused at the metro or state level. Yet it is valuable to understand how these dynamics play out in more local real estate markets, especially when it comes to developing policies to stabilize communities affected by concentrated foreclosures. This paper uses four separate data sources to analyze the relationship between foreclosures and neighborhood characteristics at the census tract level: the U.S. Census, Home Mortgage Disclosure Act (HMDA), median housing sales prices from Contra Costa County, and Notice of Trustee Sale listings from www.foreclosures.com.

Methodology

Using HMDA data, I approximate the share of subprime lending in each census tract in Contra Costa County. HMDA data does not explicitly state which loans are subprime; it does, however, categorize loans based on interest rate spreads, which allows users to identify higher priced (or high cost) loans, and use these as a proxy for subprime loans.[1] Higher priced loans are defined as first-lien loans that have a rate spread of three percent above the Treasury rate and second-lien

[1] Do and Paley (2007) and LaCour-Little (2007) both argue that the HMDA high cost measure may not be a reliable proxy for subprime loans. HMDA rate-spread reporting is based on Treasury rates for loans of comparable maturity, but loan pricing is often determined by a loan's expected duration, not its stated maturity. Both studies found that the flattening of the Treasury yield curve significantly impacted the increase in the number of high-cost loans reported in 2005 and 2006 over 2004.

loans with a rate spread of five percent above the Treasury rate. HMDA's record of high cost loans is the best approximation of subprime lending available to the public.

Data on neighborhood demographic and socio-economic characteristics were obtained from the 2000 Census. There are obvious limitations to using the decennial census, as demographic and housing stock changes in rapidly growing areas like eastern Contra Costa County will not be reflected in the data, especially at the end of a decade when this study was conducted. Decennial census data, however, are the best estimates available for census tract-level geographies. The American Community Survey and intercensal population estimates do not provide disaggregated data at the census tract (proxy for neighborhood) level.

Data on local house price changes, based on sale price data for single-family homes, between 2002 and 2007 were obtained at the zip code level from IHP Capital Partners. Using these house price data, I created two house price indices that reflect the change in prices between 2002 and 2007. The first index measures house price appreciation from 2002 to 2005, and the second index measures change in house values from 2005 to 2007.

Foreclosures in Contra Costa County are public information and are filed at the county clerk recorder's office. I obtained these data through foreclosures.com, a third-party vendor that assembles the data from the clerk's records and makes it available to the public in electronic form. [2] Foreclosures.com compiles listings of properties at three stages in the foreclosure process: Notice of Default, Auction (Notice of Trustee Sale), and Real-Estate-Owned. None of these three stages, however, is exactly foreclosure. I eliminated Notices of Default as a proxy for foreclosure because a Notice of Default is the first legal action lenders take in the foreclosure process in California; very few properties listed under Notice of Default are foreclosed. Auction and Real-Estate-Owned are better approximations of foreclosure, as Auction dates are set 21 days before a property is to be sold, and Real-Estate-Owned lists the properties held by the lender because there were no bidders at the foreclosure auction. I chose Auction as an approximation of foreclosure because this list better estimates the number of homeowners in distress than does Real-Estate-Owned. The loans on some properties listed for auction are cured before the sale date and thus do not reach foreclosure; the number of Real-Estate-Owned properties underestimates foreclosure because it does not include any properties purchased at auction. Between January 2, 2007, and December 7, 2007, there were 5,689 foreclosure auctions scheduled in Contra Costa County. I eliminated multiple listings of the same property and was left with 5,227 unique properties facing auction in 2007.

Using a geographic information system, I matched each of the property addresses to its census tract. [3] Once the properties in foreclosure were mapped, I calculated the number of

[2] Though it is not possible to determine the accuracy of any proprietary foreclosure database, I chose www.foreclosures.com because it was recommended by a colleague as having a complete record of defaults and foreclosures in Contra Costa County. Foreclosures.com also permits users to download 100 records at a time versus other sites that allow only one record at a time.

[3] The raw data available from foreclosures.com does not include the census tract in which the property listed for auction is located. To match properties listed by foreclosures.com to census tracts, the unique properties scheduled for auction were geocoded to a 2006 street shapefile, resulting in a match rate of 93 percent.

foreclosures per census tract and begin analyzing the relationships between the foreclosure rate in a census tract (the number of foreclosures divided by number of housing units) and neighborhood demographic and socioeconomic characteristics. Table 1 presents the variables I assessed, as well as the expected relationship between the variable and the incidence of foreclosure.

Table 1. Conceptual Relationship of Neighborhood Characteristics to Foreclosure

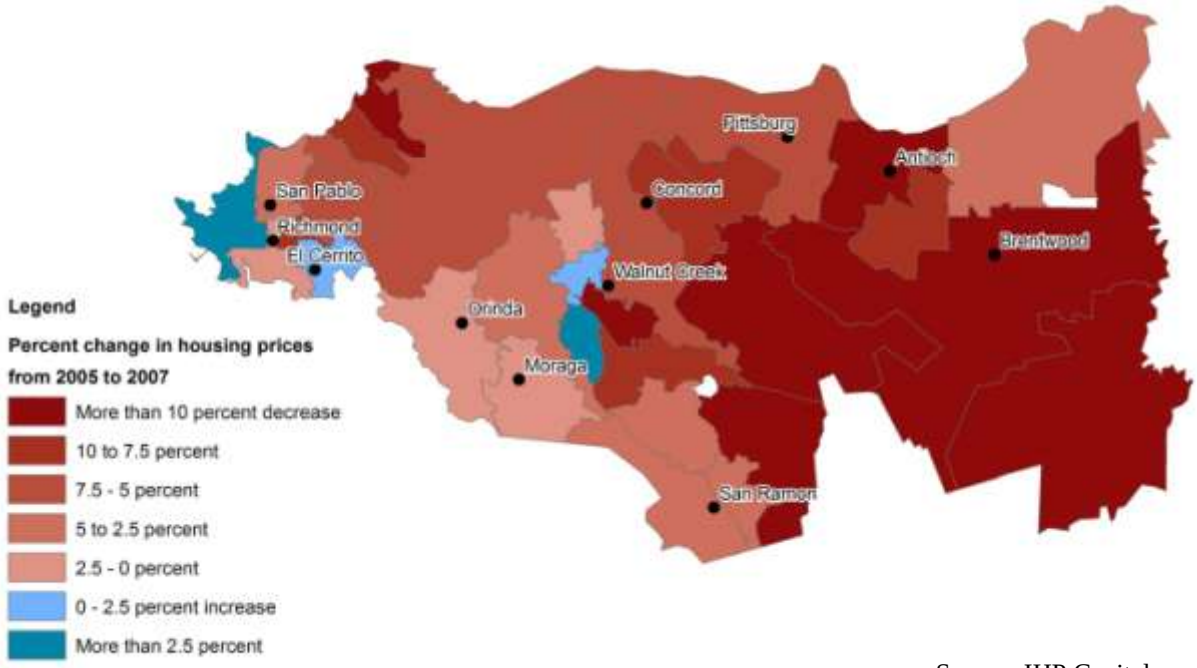
Associated with a Higher Foreclosure Rate	Associated with a Lower Foreclosure Rate
High Cost Lending (First or second lien loans with interest rates 3% and 5% above Treasury, respectively)	**Median Income**
Proportion Population Black	**Education**
Proportion Population Hispanic	
Households speaking Spanish	
Recent Immigrants (Foreign-born individuals that entered United States in previous five years)	
Single-Person Households (Householder living alone under Household Type)	
Unemployment Rate	
Poverty (Percent population below poverty level)	
Renter Burden (Median gross rent as a % of household income)	
Owner Burden (Median monthly expenses for units with a mortgage as a % of household income)	
House Price Index (Two indices: one measuring house price change from 2002 to 2005, the other from 2005 to 2007)	

Findings

Table 2 shows the summary statistics of the variables of interest in the dataset. The summary statistics demonstrate the diversity of neighborhoods in Contra Costa County. Racially, the County remains quite segregated. Some tracts have very few Black and Hispanic residents while in other tracts minorities make up two-thirds of the population. This diversity is also demonstrated by the proportion of homeowners who are Black in each neighborhood; throughout the county this ranges from zero to 81 percent. The share of households speaking Spanish, ranging from two percent to 66 percent, and the percent of the population that are recent immigrants, between zero and 44 percent, further show how Contra Costa County neighborhoods differ from each other. Education and median family income also have wide ranges. In the least educated tract only two percent of adults over age 25 have a college degree compared to 91 percent in the most educated tract. Median family income ranges from $28,000 to over $200,000, and the poverty rate is between half a percent and 34 percent. Likewise, housing cost burden for both renters and owners differs widely across the county, with renters spending between 19 and 46 percent, and owners spending between 22 and 54 percent of their income on housing.

Despite these differences, the entire region saw rapid house price appreciation and rising housing unaffordability in the first part of the decade. The first house price index variable indicates that all tracts experienced at least a 39 percent increase in house prices between 2002 and 2005; house prices appreciated by at least 50 percent in 144 tracts, while in seven tracts prices appreciated over 100 percent. The second index variable measuring change in house prices between 2005 and 2007 shows that the average tract had only an eight percent increase, and in 28 tracts house prices decreased. Figure 4 shows that large areas of Contra Costa County saw significant house price declines between 2005 and 2007.

Figure 4: Change in Housing Prices by Zip Code in Contra Costa County



Source: IHP Capital

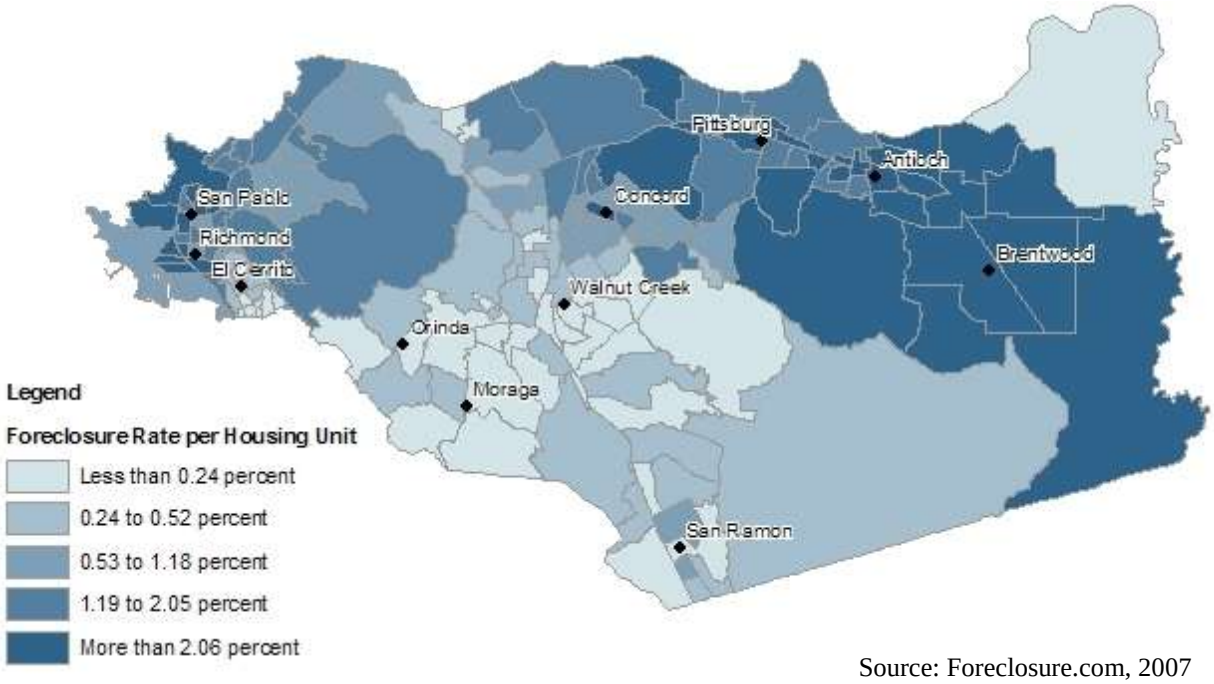
Table 2. Summary Statistics of Contra Costa County Census Tracts

	Minimum	Maximum	Mean	Std. Deviation
Foreclosure Rate (per housing unit)	0%	5.65%	1.18%	1.1%
Number of Foreclosures	0	318	29	39
Loans High Cost	0.00%	56.51%	23.14%	13.8%
Percent Black	0%	68%	9.54%	13.1%
Percent Hispanic	1%	64%	16.87%	14.1%
Households speaking Spanish	1.62%	66.29%	16.27%	13.1%
Recent Immigrants	0%	44.6%	17.17%	9.5%
Percent Single-Person Households	1.22%	47.41%	8.97%	6.3%
Percent Homeowners who are Black	0%	81.4%	8.4%	14.6%
Unemployment Rate	0.3%	17.1%	5.15%	3.3%
College Graduates	1.9%	91.42%	36.69%	21.6%
Poverty Rate	0.56%	34.13%	8.68%	7.2%
Median Family Income (2007$)	28,328	212,895	91,785	36,819
Renter Burden (% income spent on housing)	19%	46%	33%	4%
Owner Burden	22%	54%	34%	5%
House Price Index 2002-2005	1.39	1.99	1.63	0.13
House Price Index 2005-2007	0.85	1.30	1.08	0.09
Median Year Built (foreclosed units)	1918	2001	1966	18
Median Year Built (all units)	1945	1995	1969	12
N = 168				

Source: www.foreclosures.com (2007), HMDA (2006), U.S. Census (2000), SVP Market Research at IHP Capital Partners (2007)

In Figure 5, I map the distribution of foreclosures across the county. All but two of Contra Costa County's 168 census tracts had at least one foreclosure in 2007. Yet again, significant geographic variation exists. The tracts with the highest foreclosure rates are concentrated in the lower income and higher minority areas of western Contra Costa County (Richmond and San Pablo) and the new growth areas of eastern Contra Costa County (Antioch, Pittsburg, Brentwood and Oakley). In contrast, the tracts with the lowest foreclosure rate are concentrated in the central area of Contra Costa County, in Moraga, Orinda and Walnut Creek. El Cerrito, in Western Contra Costa County, is home to three of the lowest foreclosure rate tracts. These cities have relatively high median incomes and include some of the more established and expensive neighborhoods and homes.

Figure 5: Foreclosure Rate per Housing Unit in Contra Costa County



Source: Foreclosure.com, 2007

To explore these relationships further, I compared the 10 tracts with the lowest foreclosure rate (measured as foreclosure per housing unit) to the 10 tracts with the highest foreclosure rate. Table 3 shows the results of a difference in means test of the demographic and socioeconomic variables in the 10 tracts with the lowest rates of foreclosure versus the 10 tracts with the highest rates of foreclosure. [4]

[4] With the exception of the 2005-2007 house price index, all of the neighborhood characteristics significantly different in the 10 low-rate tracts and 10 high-rate tracts are also significantly different in the 84 census tracts with rates above the median foreclosure rate versus the 84 tracts with rates below the median, though the values are

Table 3. Differences between Tracts with Low and High Rates of Foreclosure

	Low Foreclosure Rate, Means	High Foreclosure Rate, Means	Difference in Means
Foreclosure Rate	0.0007	0.0399	-0.0391 (0.003)***
Number of Foreclosures	1.1	104.3	-103.2 (19.717)***
Loans High Cost (%)	0.0487	0.4210	-0.3724 (0.034)***
Percent Black	0.0321	0.2501	-0.2179 (0.071)***
Percent Hispanic	0.0582	0.2980	-0.2399 (0.048)***
Households speaking Spanish (%)	0.0679	0.2736	-0.2056 (0.046)***
Recent Immigrants (% hhs)	0.1576	0.1923	-0.0347 (0.051)
Percent Single-Person Households	0.1467	0.0456	0.1012 (0.043)**
Percent Black Homeowners	0.0136	0.2851	-0.2714 (0.094)***
Unemployment Rate	0.0581	0.0809	-0.0227 (0.023)
College Graduates (%)	0.6610	0.1667	0.4943 (0.055)***
Poverty Rate	0.0460	0.1624	-0.1165 (0.038) ***
Median Family Income (2007)	115,123	64,726	50,396 (14,954) ***
Renter Burden	0.3100	0.3606	-0.0505 (0.017)***
Owner Burden	0.3204	0.3917	-0.0713 (0.030)**
House Price Index 2002-2005	1.4813	1.6457	-0.1644 (0.037)***
House Price Index 2005-2007	1.1727	1.0774	0.0953 (0.052)*
Median Year Built (foreclosed units)	1961	1971	-10 (10.4)
Median Year Built (all)	1963	1975	-12 (6.2)*

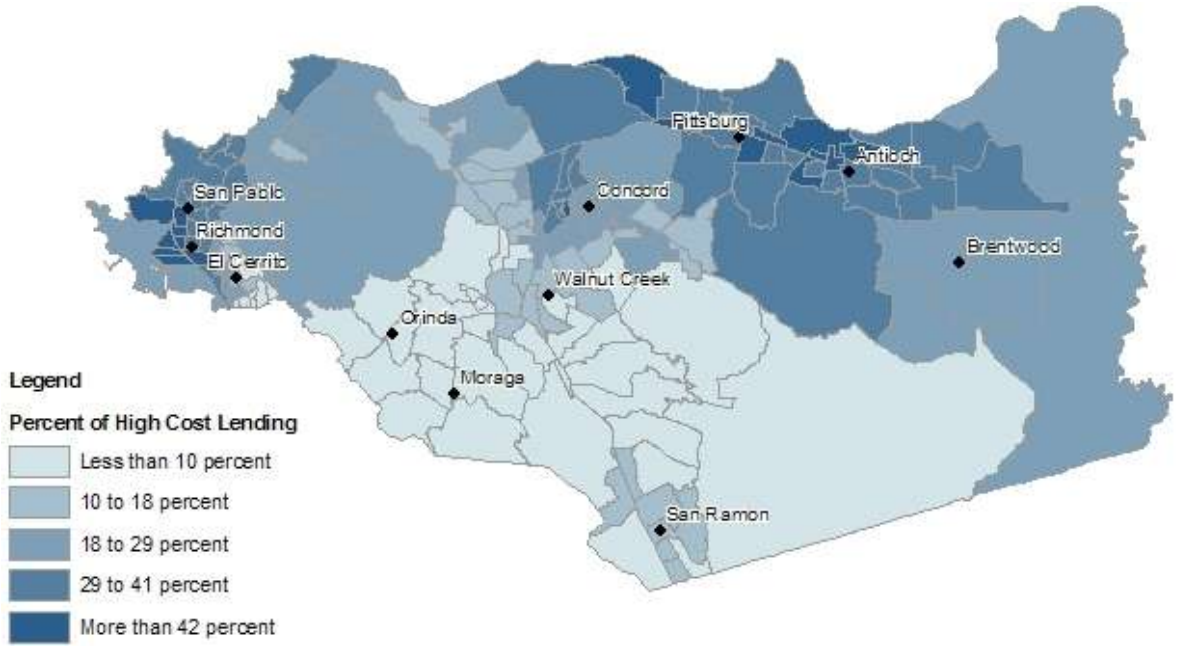
Standard errors are in parentheses
*** Statistically significant at the 1 percent level of confidence
** Statistically significant at the 5 percent level of confidence
* Statistically significant at the 10 percent level of confidence

First, the incidence of higher-priced lending is strongly associated with foreclosures. In tracts with high rates of foreclosure, the incidence of higher-priced lending was 37 percentage points higher than in tracts with low rates of foreclosure, supporting Newman and Wyly's (2004) finding that the spatial pattern of subprime lending is similar to the pattern of foreclosure in

slightly different. Two variables, recent immigrants and unemployment rate, are significant in the median-split model, but not the 10/10 model. The median-split model results are reported in Appendix A.

Newark. Figure 6 shows the share of high cost lending in Contra Costa County. A comparison of Figure 6 to Figure 5 supports the strong positive association between rate of foreclosure and high cost lending. Nearly 80 percent of tracts with low rates of high cost lending have low rates of foreclosure (defined here as under 0.34 percent). In over 80 percent of tracts with over 30 percent high cost loans the rates of foreclosure were over 1.5 percent.[5]

Figure 6: Percent of High Cost Lending in Contra Costa County

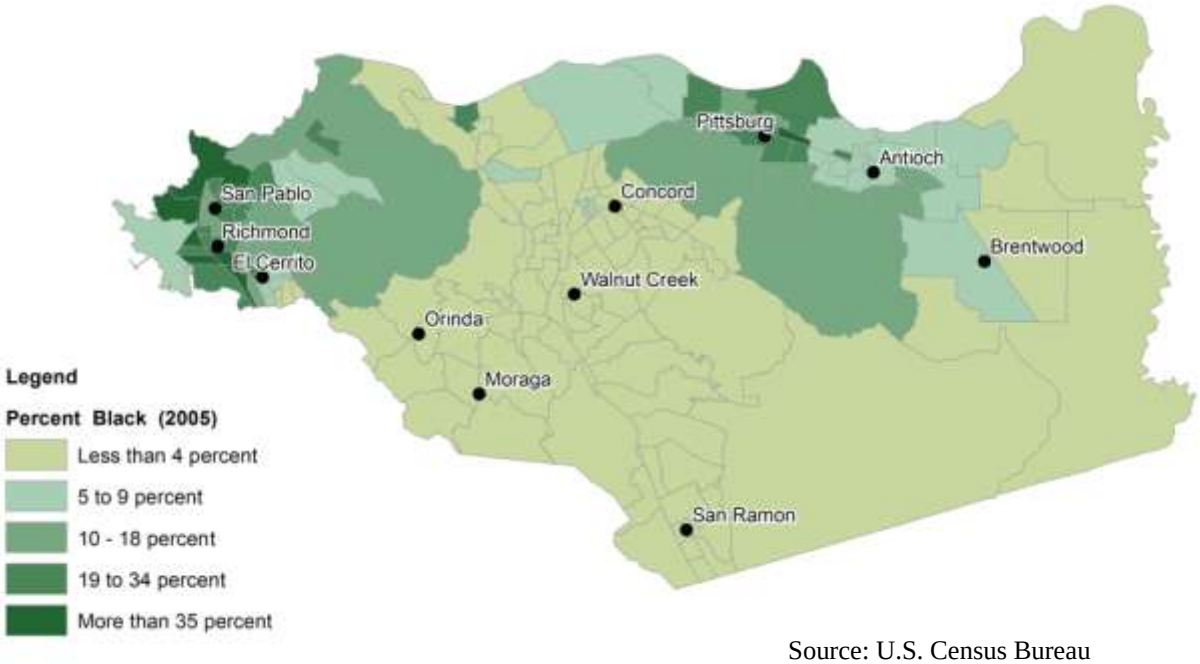


Source: Home Mortgage Disclosure Act Data, 2006

Second, race also matters. There are over 20 percent more Black and Latino residents (and Spanish speaking households) in Contra Costa County's high foreclosure rate tracts than in low tracts. In addition, tracts with low rates of foreclosure have 27 percentage points fewer Black homeowners than tracts with high rates. Figure 7 illustrates the strong positive association between percent of population that is Black and foreclosure rate.

[5] Foreclosure rate is classified as follows: low – under 0.34 percent, medium – between 0.34 percent and 1.5 percent, high – above 1.5 percent. Thus the "high" rate is not exceptionally high, but represents the top 33 percent of tracts in the county.

Figure 7: Percent of Black Residents in Contra Costa County



Source: U.S. Census Bureau

Table 3 also shows that lower-income neighborhoods are more vulnerable to foreclosures than higher-income areas. In Contra Costa County, the poverty rate in high foreclosure tracts is nearly four times the rate in low foreclosure tracts. Overall earnings are higher in low foreclosure rate tracts as well. Families living in low foreclosure rate tracts earned $115,000 in 2007, on average, while their counterparts in high foreclosure rate tracts earned just under $65,000. There is a large and highly significant difference in the proportion of adults over age 25 with at least a college degree in low rate tracts versus high rate tracts. Over 66 percent of adults have completed post-secondary education in tracts with low foreclosure rates, compared to only 17 percent in tracts with high rates.

Contrary to my hypothesis, single-person households are more common in low foreclosure rate tracts. Low rate tracts have, on average, 10 percentage points more single-person households than high rate tracts. This does not support the hypothesis that single-person households in Contra Costa County are stretching to buy homes that they cannot afford on one income. What it might suggest, however, is that neighborhoods with many single-person households were not as vulnerable to foreclosure as neighborhoods with larger, single-family homes. Neighborhoods with more single-person households may be those with more modest, smaller homes, unlike the new neighborhoods in eastern Contra Costa County where newer, large homes for families were built. The single-person households variable does not account for housing tenure (i.e., the single-person households could be owners or renters), so it is possible that neighborhoods with more single-person households may have more renter households, too, and therefore be less vulnerable to high rates of foreclosure.

Finally, there is also an association between house prices, housing affordability, and the incidence of foreclosures. The final relationship tested was the association between housing price change, measured with two indices of median house sales prices (the first between 2002 and 2005 and the second between 2005 and 2007), and foreclosure rate. As suggested by Immergluck (2008), tracts with rapidly increasing housing prices were also more likely to have higher rates of foreclosure. Half of tracts with a low house price index (HPI) had low rates of foreclosure.[6] No tract with a low foreclosure rate experienced a house price increase of more than 60 percent. Ninety percent of tracts with high rates of foreclosure had price increases of over 60 percent between 2002 and 2005. In contrast, between 2005 and 2007 house prices appreciated less than four percent in half of tracts with high foreclosure rates, while in tracts with low foreclosure rates house appreciation continued: half of these tracts experienced house price increases of at least 15 percent.

All three of the housing price and burden indicators have the expected relationship to foreclosure: tracts with high rates of foreclosure have higher renter cost burdens and owner cost burdens than tracts with low rates. Renters in high rate tracts spend 36 percent of their income on housing compared to 31 percent in low rate tracts (both averages are over the accepted affordability standard of 30 percent). Owners in high rate tracts spend nearly 40 percent of their income on housing while owners in low rate tracts dedicate 32 percent to housing-related expenses.

Overall, the differences between census tracts with low and high rates of foreclosure, and the association between neighborhood characteristics and foreclosure rates, support findings from previous research that foreclosure is associated with subprime lending and that both foreclosure and subprime lending are common in neighborhoods with high proportions of minority residents, lower-income households, and less educated households. Though many aspects of Contra Costa County are unique, it is possible to tentatively extend these findings to the broader San Francisco Bay Area, especially its more suburban areas, and possibly even to other areas in California and the United States struggling with foreclosure. The next section reviews policies to address the crisis and poses questions about the possible implications of foreclosure in specific neighborhoods.

Policy responses and implications

Federal, state and local government agencies are reacting to the foreclosure crisis and attempting to quickly develop policies that will both mitigate the negative effects of foreclosures on communities as well as prevent future loans from entering foreclosure. The mortgage industry, along with broader financial networks, and local community-based organizations (CBOs) are also addressing the foreclosure crisis, but in very different ways. This section reviews policy responses and connects these responses to the populations and neighborhoods affected by foreclosure. The first column in Table 4 presents policy recommendations made by government

[6] A low HPI is under 1.5; all tracts had an HPI of at least 1.39 and the highest was 1.99.

agencies, housing advocates and industry officials, from both the popular press and academic research. The middle column draws on the literature reviewed for this paper to describe the population likely affected by the policy mechanisms. The last column suggests areas in Contra Costa County that are most likely to be affected by the proposed policy recommendations.

Table 4. Populations and Neighborhoods Affected by Foreclosure Prevention and Neighborhood Stabilization Policies

Foreclosure Prevention Policy	Population Affected	Neighborhood Affected
Require income verification and confirmation of ability to pay	All	All
Regulate predatory sales tactics of brokers (implement disclosure requirements and/or nationwide licensing system)	Elderly, low-income minority neighborhoods, rural areas	Central and Western region- Moraga, Walnut Creek, El Cerrito (elderly); Richmond, Pittsburg, Bay Point (low-income); Richmond and Pittsburg (Black); Richmond, Concord, Brentwood, Pittsburg (Latino)
Restrict subprime lending	Low income, African - American homeowners	Richmond, Pittsburg, Bay Point (low-income); Richmond (Black homeowners)
Restrict alternative mortgage products	Moderate- to middle-income borrowers, minority households	Richmond and Pittsburg (Black); Richmond, Concord, Brentwood, Pittsburg (Latino); Hercules, Concord, Walnut Creek (middle income)
Lower Interest Rates	Minorities, low-income households, women, borrowers whose loans haven't yet reset, first time homebuyers	Richmond and Pittsburg (Black); Richmond, Concord, Brentwood, Pittsburg (Latino)
Relax restrictions for FHA, Fannie Mae and Freddie Mac	Recent borrowers anticipating rate reset, borrowers with low downpayments	Antioch, East Contra Costa, where housing prices higher and jumbo loans common
Mortgage counseling, outreach to distressed borrowers	Borrowers prone to aggressive subprime lending tactics, African-Americans and Latinos more likely to receive subprime loans	Richmond and Pittsburg (Black); Richmond, Concord, Brentwood, Pittsburg (Latino)

Shared appreciation mortgages	Lower-income households; areas with high housing price appreciation	Richmond, Pittsburg, Bay Point (low-income); Pittsburg, Antioch, Brentwood, Oakley (high appreciation)
Freeze teaser rates on ARMs, place moratorium on foreclosures	All borrowers, especially lower-income and minority households	All areas; Richmond and Pittsburg (Black); Richmond, Concord, Brentwood, Pittsburg (Latino); Richmond, Pittsburg, Bay Point (low-income)

Neighborhood Stabilization Policy	**Population Affected**	**Neighborhood Affected**
Increase housing finance agency bond allocation	Lower-income borrowers and neighborhoods	Richmond, Pittsburg, Bay Point (low-income)
Eviction protection for renters	Renters in one- or two-family homes at risk of foreclosure	All areas
Allow delinquent homeowners to stay as renters	Lower-income neighborhoods (reducing blight, opportunity for vandalism)	Richmond, Pittsburg, Bay Point (low-income)
Create/extend moratoria on foreclosures	All neighborhoods, especially those with concentrated foreclosures	All areas; Antioch, Brentwood, Pittsburg, Richmond, in particular
Increased code enforcement, correcting violations	All neighborhoods, especially those with concentrated foreclosures	All areas; Antioch, Brentwood, Pittsburg, Richmond, in particular
Resell REO as affordable homeownership or rental units	All neighborhoods, especially those with concentrated foreclosures	All areas; Antioch, Brentwood, Pittsburg, Richmond, in particular

Sources (Policies): Elmendorf 2008, Andrews 2008

Many of these foreclosure prevention policy responses will affect most borrowers, but some could be targeted to specific populations. Requiring income verification, lowering interest rates, and freezing teaser interest rates on adjustable rate mortgages will be helpful to all borrowers, and all neighborhoods in Contra Costa County. Restricting subprime lending, regulating predatory lending and encouraging mortgage counseling could be especially helpful to low-income and minority borrowers seeking mortgages, populations shown to be more vulnerable to these risky loans. In Contra Costa County, these policies would have notable influence in Richmond, Pittsburg and Bay Point, communities that on average have lower incomes and higher shares of minority residents. Increasing the bond allocations of housing

finance agencies might also benefit these communities, since the new funding would enable these agencies to purchase foreclosed units and redevelop them into affordable housing units, or provide "bridge loans" to households facing foreclosure.

Other proposals, such as shared appreciation mortgages, will likely help lower-income borrowers and neighborhoods the most, and may provide the foundation for more sustainable homeownership going forward. Shared appreciation mortgages allow lenders to gain from increases in housing value, but also force lenders to take on some of the risk, providing access to homeownership similar to a limited equity cooperative or community land trust. Shared appreciation mortgages could also be useful in areas of high housing appreciation, such as in eastern Contra Costa County, where homeownership was 'out of reach' for many households.

The second set of policy responses could be implemented to help stabilize neighborhoods affected by concentrated foreclosures. Eviction protection for renters, allowing borrowers to stay in their homes as renters, and foreclosure moratoria could all mitigate neighborhood distress, especially in the form of vacant and blighted units in lower-income neighborhoods. Once foreclosures have occurred, vacant and abandoned properties should be targeted by comprehensive code enforcement policies that not only record violations but actively seek resolutions. Public agencies could also work with local nonprofits and lenders to acquire REO properties, rehabilitate if necessary, and resell or rent units as affordable housing. These responses would be useful in all Contra Costa County neighborhoods, but may be especially effective at neighborhood stabilization in those areas with the highest rate of foreclosure, such as Antioch, Brentwood, Oakley, Pittsburg in eastern Contra Costa County and Richmond in western Contra Costa County.

Former Federal Reserve Governor Edward Gramlich (2007) provided yet another way to think about policy responses to what he presciently saw as the risks of subprime lending. He argued that providing an adequate supply of rental housing for individuals and households not ready or not interested in becoming homeowners (so that these households are not pushed into homeownership) is a critical piece of a sensible housing policy that does not overly promote homeownership for all families. This is a basic, yet counterintuitive suggestion since all of the focus of the subprime debate has been directed towards how the country can fix its homeownership market. It is not surprising that there has been little discussion about the role of rental housing because in the past few decades, the federal government has devoted many more resources to subsidizing homeownership than to rental housing. Not only would it be prudent to provide rental housing for individuals and households who need or want to remain renters, in addition, the households that will lose their homes and equity to foreclosure will likely end up in the rental market and will need adequate shelter.

Conclusion

As the foreclosure crisis mushrooms and house values continue to decline, government agencies, researchers, and housing advocates are actively and creatively suggesting policy responses to prevent future foreclosures and stabilize neighborhoods affected by foreclosure. What we should also consider is how foreclosure may be counteracting investment in specific neighborhoods. As noted at the beginning of this paper, government policies that encouraged homeownership among minorities and lower-income households, including the Community Reinvestment Act (CRA), contributed to the recent historically high homeownership rate, and other programs such as the Low Income Housing Tax Credit (LIHTC) and New Markets Tax Credit (NMTC) helped revitalize distressed neighborhoods. Neighborhoods in Contra Costa County with higher proportions of minority and low-income residents, the same targets of government policies, are those that are experiencing higher rates of foreclosure. Are foreclosures putting the gains these neighborhoods may have made at risk? If so, neighborhood stabilization and foreclosure prevention programs should target these neighborhoods specifically to prevent them from reversing any progress they may have made.

In addition, the current crisis should not be seen as an excuse to abandon the goal of affordable and sustainable homeownership. Homeownership is one of, if not the, most important determinants of a family's wealth and the intergenerational transfer of wealth. Designing policies to increase minority and low-income homeownership could positively affect household wealth and the financial well-being of children and future generations, if done responsibly. Particularly troubling is the effect the current foreclosure crisis may be having on the wealth gap between white and minority households. Given that this paper has shown that both higher cost lending, as well as foreclosures, have been concentrated in low-income and minority neighborhoods, it is possible that the wealth gap will grow substantially, with negative implications for future generations as well.

As we begin to understand more about the scale of the foreclosure crisis and its negative impacts on families and communities, it becomes clear that federal, state and local governments must act quickly to prevent additional foreclosures and stabilize neighborhoods affected. The scale of the crisis demands a multi-pronged approach. Cities and CBOs are reacting to the foreclosure crisis locally and implementing recovery measures, but they do not have the capacity to prevent future foreclosures on a wide scale. It is the responsibility of federal and state governments to aid local governments in implementing policies that will prevent or limit future foreclosures and stabilize neighborhoods affected by foreclosure. Without quick and thoughtful action by the federal government, we run the risk of reversing the gains of more than twenty years of community development investments in minority and low-income neighborhoods.

Appendix A

Differences between Tracts with Low and High Rates of Foreclosures

Variables	Tracts Below Median (N=84)	Tracts Above Median (N=84)	Difference in Means
Foreclosure Rate	0.0033	0.0202	-0.0169 (0.001) ***
Number of Foreclosures	7.59	50.19	-42.59 (5.13)***
Loans High Cost (%)	0.1221	0.3408	-0.2187 (0.013)***
Percent Black	0.0290	0.1618	-0.1328 (0.017)***
Percent Hispanic	0.0765	0.2610	-0.1844 (0.017)***
Households speaking Spanish (%)	0.0852	0.2403	-0.1551 (0.016)***
Recent Immigrants (% hhs)	0.1578	0.1855	-0.0277 (0.015)*
Percent Single Households	0.1064	0.0731	0.0333 (0.009)***
Percent Black Homeowners	0.0210	0.1471	-0.1261 (0.020)***
Unemployment Rate	0.0356	0.0673	-0.0317 (0.005)***
College Graduates (%)	0.5268	0.2070	0.3198 (0.022)***
Poverty Rate	0.0520	0.1216	-0.0696 (0.010)***
Median Family Income (2007)	114,442	68,128	45,314 (4,483)***
Renter Burden	0.3171	0.3408	-0.0237 (0.006)***
Owner Burden	0.3183	0.3586	-0.0403 (0.007)***
House Price Index 2002-2005	1.5780	1.6783	-0.1003 (0.018)***
House Price Index 2005-2007	1.0829	1.0784	0.0045 (0.014)
Median Year Built (foreclosed units)	1965	1966	-1 (2.8)
Median Year Built (all)	1967	1970	-2 (1.8)

Standard errors are in parentheses
*** Statistically significant at the 1 percent level of confidence
** Statistically significant at the 5 percent level of confidence
* Statistically significant at the 10 percent level of confidence

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