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Economic Prosperity and Housing Affordability in the United States: Lessons from the Booming 1990s

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ABSTRACT

The United States is facing an acute shortage of reasonably priced housing with over 35% of households paying more than 30% of their income for housing costs in 2015. As the U.S. economy recovers from the Great Recession, will housing become less unaffordable as incomes rise and households could potentially pay a lower share of their income for housing costs? To see if this is likely, I examined the change in housing affordability in the 100 largest metropolitan statistical areas (MSAs) in the United States between 1990 and 2000, a period of exceptional economic prosperity. I used the percentage of housing cost-burdened households (those that pay more than 30% of their gross income on ownership or rental costs) as a measure of the availability of reasonably priced housing. I used discriminant analysis techniques to detect statistically significant differences in the percentage of cost-burdened households in the 100 MSAs based on a variety of factors. I found that despite the phenomenal economic prosperity of the 1990s, about 30% of households were cost-burdened both in 1990 and 2000. High MSA median income was correlated with a greater shortage of reasonably priced housing. Neither economic growth rate nor poverty rate nor population growth rate distinguished high-shortage MSAs from low-shortage ones. Large MSAs and MSAs in the West had greater shortages than other MSAs. Economic prosperity did not alleviate the problem of lack of reasonably priced housing in the past, and is not likely to do so in the near future. Planners and policy-makers need to enact new policies at local, regional, state, and federal levels to effectively address America's chronic affordable housing shortage.

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The 2014 State of the Nation's housing report painted a very dismal picture about the availability of reasonably priced housing in the United States. According to this report, nearly 41 million U.S. households were housing-cost burdened in 2012, 9 million more than in 2002 (Joint Center for Housing Studies of Harvard University, 2014). Renter households were found to be particularly disadvantaged—more than 50% were cost burdened and more than 25% paid over half their income toward rent. Much of the blame for this can be directed at the housing market collapse of 2007 and the Great Recession of 2007–2009. During these events, 9.6 million homeowners lost their homes, rents increased by 30%, and public and private investment in housing production decreased whereas households' incomes and wealth declined.

In 2016, 7 years after the Great Recession officially ended, the U.S. economy finally turned a corner. Unemployment rates decreased from 9.3% in 2009 to 4.9% in 2016 (U.S. Bureau of Labor Statistics, 2017). The annual real gross domestic product (GDP) growth rate increased from – 2.8% in 2009 to 1.5% in 2016 (U.S. Bureau of Economic Analysis, 2017). In the wake of the housing market collapse, many in the housing industry contended that the steep drop in housing prices and the low-interest-rate environment made housing more affordable (for example, a 2009 statement by Joseph Robson, Chairman of the National Association of Home Builders, cited in Christie, 2009; and a 2010 statement by Mark Zandi, Chief Economist, *Moody's Analytics*, cited in Gaffney, 2010). For individual households, as incomes rise housing-cost burdens decrease (Hanushek & Quigley, 1980); so, as the country recovers from the Great Recession more jobs and rising incomes could make housing more affordable (Best, 2016). *But will economic prosperity indeed make housing more affordable?* In this article, I explore the changes in housing affordability from 1990 to 2000 in the 100 largest metropolitan areas in the United States to answer this question.

The period 1990–2000 was characterized by exceptional economic prosperity in the United States. The economic expansion experienced then surpassed that of the previous four decades (Jargowsky, 2003; Simmons, 2001). This expansion lowered the unemployment rate from 5.7% in 1990 to 4.0% by 2000—the lowest since 1968—while increasing real personal incomes significantly. The expansion also manifested itself in significant gain in real incomes. Incomes of those at the 50th percentile of the wage distribution in the United States remained almost unchanged (adjusted for inflation) from 1980 to 1990 but increased 5.1% from 1990 to 2000 (Federal Reserve Bank of St. Louis, 2017), effectively a 5.7% increase from 1990 to 2000. Inflation-adjusted incomes of those at the 10th percentile increased even more significantly, by 11.7% from 1990 to 2000, after dropping by 13.1% from 1980 to 1990 (Federal Reserve Bank of St. Louis, 2017). Incomes of new entrants to the labor force—college graduates between the ages of 21 and 25—increased 12.4% from 1991 to 2000 (Mishel, Gould, & Bivens, 2015). And the number of people living in high-poverty neighborhoods declined dramatically, by more than 2.5 million (Jargowsky, 2003).

The economic prosperity of the 1990s had significant impacts on the nation's housing markets also. It caused a significant expansion in homeownership; with an estimated net increase of 10.8 million homeowners from 1990 to 2000, the total number of American homeowners increased to about 69.8 million by 2000 (Simmons, 2001). The homeownership rate increased from 64.2% in 1990 to 67.4% in 2000, the highest in the nation's history up to that point.¹ This homeownership boom was very significant because it reversed both a slowing trend in homeownership dating back to the 1960s (Simmons, 2001) and an actual decrease in the rate between 1980 and 1990 (Green and Malpezzi, 2003). Moreover, the boom extended from coast to coast, encompassing 49 of 50 states and all census divisions and regions, and included some of the nation's declining cities (Simmons, 2001). In the early 2000s, this trend in homeownership attracted considerable attention from popular media and academia. It was viewed positively and with nationalistic pride—*Yes, it is still possible to achieve the American Dream!* (Bostrom, 2002). Nevertheless, did the economic prosperity of the 1990s increase access to affordably priced housing for all? If it did, then one can expect that as recovery from the Great Recession continues, housing may become more affordable.

Methodology

Much of the existing literature on housing affordability examines house price trends. Changes in house prices are not an accurate measure of affordability changes because if incomes rise proportionate to house price increases, housing affordability will remain unchanged. A limited number of data sets (such as the Census Median and Average Price Indexes and the National Association of Realtors Affordability Index) provide housing affordability information with indices that use some combination of median house price and income, but these have an intrinsic limitation—at best they provide estimates, not accurate measures, of affordability.² To overcome these problems, I used housing-cost burden as the measure of housing affordability. Households that spend more than 30% of their income on housing for mortgages or rents are deemed to have unaffordable housing costs and, therefore, to be housing-cost burdened.³ Housing-cost burden data reveal what real households with real incomes really spend on housing.

Lack of housing affordability is also a good indicator of the broader problem of housing insecurity. Cost-burdened renter households move more frequently than those that are not, either to keep their housing cost-to-income ratio within manageable levels or to lower it (Crowley, 2003). Highly cost-burdened owner households are more likely to become delinquent on their mortgage payments and to face foreclosure and eviction (Cannuscio et al., 2012; Eggum, Porter, & Twomey, 2008). Data on renter housing-cost distress (such as how many moves a renter household makes) are not easily available for a large number of cities. Data on delinquency and foreclosure are publicly available, but only a portion of housing cost-distressed homeowners progress to that extreme. Thus, by using the proportion of cost-burdened households, one can get a sense of the housing-cost distress in cities and how that changed.

I examined housing affordability in the 100 most populous metropolitan statistical areas (MSA) in the United States. I focused on these for three reasons. First, over four fifths of American households live in MSA. In 2000, 233 million people (or 82.8% of the total population) lived in metro areas⁴ and the 100 largest MSA⁵ accounted for 192 million people (82.4% of total metro population). (Key characteristics of these 100 metro areas are given in the Appendix.) Second, MSA account for a significant share of national productivity—in 2012, they accounted for 90.7% of real GDP (U.S. Conference of Mayors, 2012). Therefore, the lack of affordable housing in MSA could have very significant negative economic effects. Finally, regionalism has considerable saliency in current policy debates. Since MSA are regions by definition, they are well positioned to implement regional housing initiatives; indeed, some studies indicate that regional housing strategies have quite effectively produced affordable housing (Bollens, 2003).

I used housing-cost burden and other data from the 1990 and 2000 decennial censuses. About 3% of the households surveyed in these censuses did not report their housing expenses; they were excluded from this analysis.⁶ Households that owned homes outright and those that had home mortgage loans were both considered homeowners. Many households owned more than one home; only the expenses pertaining to the primary residence were used. The decennial censuses report household expenses in dollar amounts and as a percentage of household income; the latter data were used to assess cost-burdened households. Households that receive housing assistance from federal, state, or local sources (such as those living in public housing and Section 8 housing) usually pay 30% or less of their household income toward housing costs; such households are, therefore, not housing-cost burdened.⁷

This study is the first to examine housing affordability using the percentage of cost-burdened households as a measure for a large number of MSA. The sample size, comprehensiveness, and geographic coverage possible using the 1990 and 2000 decennial U.S. Census Bureau data cannot be matched using other data sources. For example, the National Association of Realtors data are derived from transactions listed on area Multiple Listing Services (thereby excluding transactions that are not listed on them) and provide information on ownership housing only. The American Housing Survey has affordability information for 1990 and 2000 but only for 40 MSA, with no more than 3,000 observations from any one MSA. Therefore, the comparative assessment presented here is a significant addition to the existing literature with implications for federal, state, regional, and local housing policies.

Changes in Housing Affordability, 1990–2000

In 1990, 29.9% of all households in the 100 largest MSA were housing-cost burdened; in 2000, after the economic boom, this number climbed marginally upward to 30.1%. So, after a period of exceptional economic expansion, housing not only did not become more affordable, it became marginally more unaffordable! Indeed, 3.5 million new cost-burdened households were created in these 100 MSA in the 1990s, boosting their numbers from 15.1 million in 1990 to 18.62 million in 2000 (see Figure 1).

Of the 100 MSA, Miami, Florida, had the highest proportion of cost-burdened households in 2000 (see Appendix)—about 41% of its 1.16 million households. Lack of affordable rental housing in Miami was particularly acute: In 2000, about half of all renter households were cost burdened. Los Angeles and San Diego, California, had the second and third highest proportions of cost-burdened households, respectively. In 1990 also, these three areas had the highest proportions of cost-burdened households.

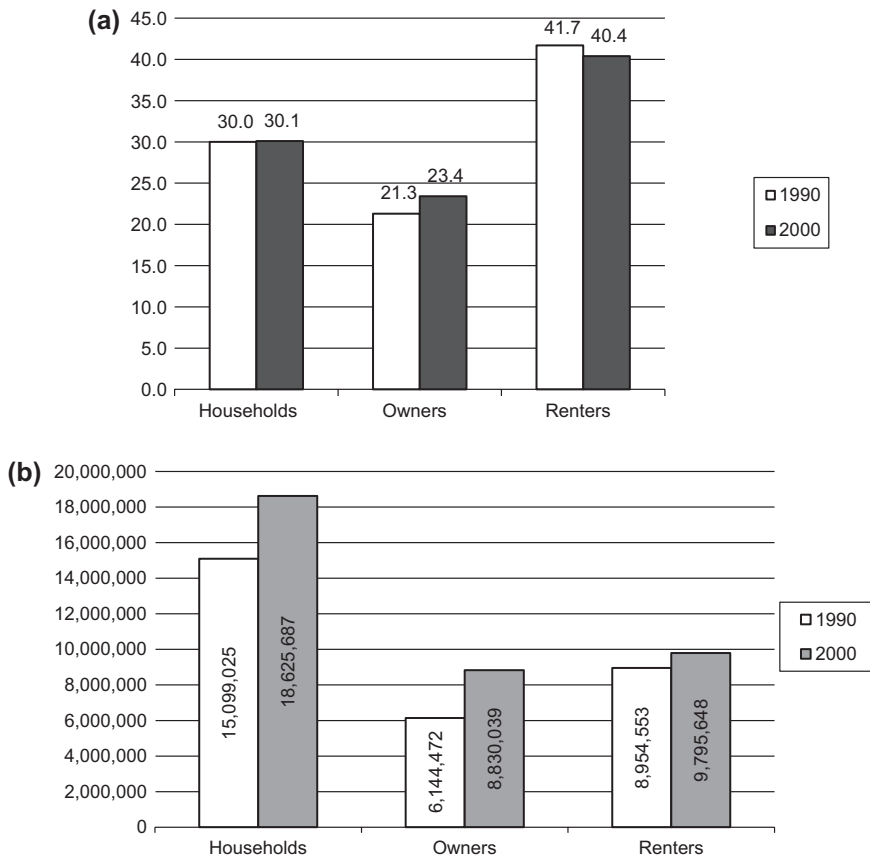


Figure 1. (a) Percentage of cost-burdened households, 1990 and 2000. (b) Number of cost-burdened households, 1990 and 2000.

Thus, Miami, Los Angeles, and San Diego hold the dubious distinction of having been the most unaffordable urban areas in the nation in 1990 and 2000.

Between 1990 and 2000, on a percentage-point basis, the proportion of cost-burdened households increased in 65 of the 100 MSA. In Lansing, Michigan, and Youngtown, Ohio, the proportions did not change at all, whereas in the remaining 33 MSA they decreased. The highest increase (6.0 percentage points) among all MSA occurred in Portland, Oregon, whereas the greatest decrease (3.3 percentage points) happened in Austin, Texas.

Race and affordability. For much of the nation's history, White persons have had greater access to homeownership opportunities than other races have. This is well documented and reflected in the gap in the homeownership rates between Whites (71.1% and 71.0% in 2000 and 2010, respectively) and, say, Blacks (47.2% and 45.4% in 2000 and 2010, respectively; Center for Community Change, 2001; U.S. Census Bureau, 2014). Lower median incomes, fewer educational attainments, lower net wealth, racial prejudices in the housing market, and discriminatory public policies are frequently cited causes of this gap (Massey & Denton, 1993). These same factors could, on the one hand, result in higher housing-cost burdens for persons who are not White. On the other hand, many researchers have contended that non-White households, especially Black households, may well have lower homeownership rates but, nevertheless, pay less than Whites for both renter- and owner-occupied housing (see, e.g., Follain & Malpezzi, 1981, and Malpezzi, Ozanne, & Thibodeau, 1980).

I found that Whites had the lowest proportions of cost-burdened owner, renter, and total households (see Figure 2); Blacks and Hispanics had significantly higher proportions. Only among renters did a minority group (Asian Americans) have a proportion of cost-burdened households as low as Whites.

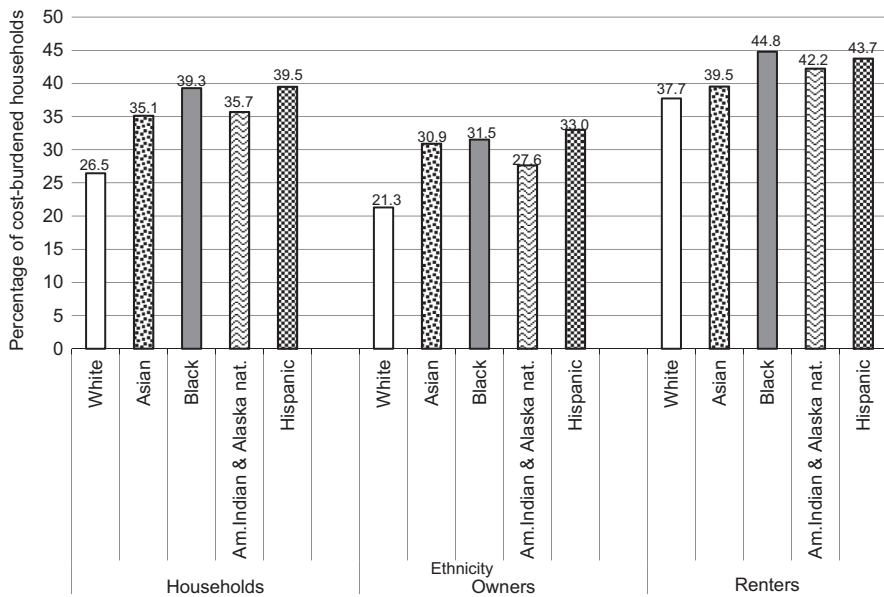


Figure 2. Percentage of cost-burdened households by ethnicity, 2000.

Therefore, whereas non-Whites may well be paying lesser dollar amounts than Whites for housing, as a proportion of income non-Whites pay more.

Among the 100 MSA, Honolulu, Hawai'i, and Fort Wayne, Indiana, had the highest and lowest proportions of cost-burdened Whites, respectively. The least and most affordable MSA for Black households were Bakersfield, California, and McAllen, Texas, respectively. In 2000, in the 10 least affordable MSA for Blacks, about half of all Black households were cost burdened. The least and most affordable MSA for Hispanics were Rochester, New York, and Fort Wayne. For all non-White populations, Rochester, Miami, and Los Angeles were among the least affordable MSA in 2000, whereas Kansas City, Missouri, and Fort Wayne were two of the most affordable areas. In 99 MSA, a higher proportion of Blacks were cost burdened than Whites (McAllen being the only exception). In 84 MSA, a higher proportion of Blacks than Hispanics were cost burdened. Therefore, whereas Blacks and Hispanics both had housing that was less affordable than what Whites had, Hispanics seem to have had better access to affordable housing than Blacks did.

Regardless of the reasons for the disparities in housing affordability between Whites and non-Whites in 2000, over three decades after the landmark Civil Rights Acts and after a decade of significant economic expansion, the playing fields in America's housing markets were evidently still not level.

Renters versus owners. Rents often keep pace with the rate of inflation, whereas mortgage payments (for fixed-rate mortgages) do not increase. This means that even if homeowners' incomes just kept pace with inflation over time, the percentage of their incomes devoted to housing costs would decrease. Renters' incomes would have to outpace rent increases to decrease the percentage share of their incomes devoted to housing.⁸ Since this is usually not the case, it is reasonable to expect renters to be spending a larger share of their income for housing than owners are.

As expected, a higher proportion of renter households than of owner households was cost burdened. In 2000, almost 40% of renter households were cost burdened, whereas only 23% of owners were cost burdened (see Figure 1(a)). This is not a significant change from 1990, when 42% of renter and 21% of owner households were cost burdened. Note, however, that there is a clear and persistent gap between the proportions of cost-burdened renter and owner households. Between 1990 and 2000 this gap decreased considerably—from a 21-percentage point difference in 1990 to a 17-percentage

point difference in 2000. What caused this shift? Perhaps the permissive mortgage origination environment of the late 1990s made homeownership possible for many renters; many who thus bought homes may have been cost-burdened renters, and if their housing costs did not decline upon becoming owners, they added to the numbers of cost-burdened owners. Plus, there was an increased supply of new rental units in the late 1990s (Joint Center for Housing Studies of Harvard University, 2004) that checked inflationary pressures on rents, potentially reducing the proportions of cost-burdened renters.

In any case, from 1990 to 2000, in the 100 MSA the absolute number of cost-burdened owners increased dramatically—from 6.15 million in 1990 to 8.83 million in 2000, a 43.7% increase (see Figure 1(b)). These additional cost-burdened owner households accounted for about 80% of all new cost-burdened households formed in the 1990s. On the other hand, the number of cost-burdened renters increased less dramatically—by 0.81 million, a 9.4% increase. This suggests that increases in the proportions of cost-burdened owners (and not renters) drove up proportions of cost-burdened households. The case of the Portland MSA supports this notion. Here, in 1990 about 26% of 510,000 households were cost-burdened—51,035 owner and 79,355 renter households. By 2000, Portland's population had increased to about 770,000 households whereas the proportion of cost-burdened households had increased to 32%. The 6-percentage-point increase in the proportion of cost-burdened households between 1990 and 2000 was caused by a 124% increase in the number of cost-burdened homeowners (from 51,035 to 118,408).

In summary, then, even after a decade of prosperity there was no significant difference between the proportions of cost-burdened households (owners and renters combined) in 1990 and 2000. Moreover, the rising tide of homeownership from 1990 to 2000 masked an astounding growth in the proportion of cost-burdened owners. In turn, this indicates that the seeds of the devastating foreclosure crisis of the mid-2000s were planted during the economic boom of the 1990s.

MSA Characteristics and Housing Affordability

I used two broad research questions to examine the effects of place-based factors on affordability:

- (1) Do certain housing market conditions correlate with housing affordability?
- (2) Do certain MSA characteristics affect the proportion of cost-burdened households?

To answer the first question, I explored variations in affordability based on five housing market characteristics:

- (a) Economic status of an MSA (measured by median MSA income);
- (b) Economic growth rate of an MSA (measured by 1990–2000 change in median MSA income);
- (c) Level of poverty within MSA (measured by percentage of the population below federal poverty levels);
- (d) Population growth rate (percentage change in population, 1990–2000); and
- (e) Net rate of supply of housing (measured by the percentage-point difference in the number of housing units built from 1990 to 2000 and the population change from 1990 to 2000).

Economic status, economic growth rate, and poverty level are commonly accepted indicators of the economic conditions of places. In economically depressed MSA demand for housing may not be very strong, resulting in more affordable markets (Joint Center for Housing Studies of Harvard University, 2014). Also, in more prosperous MSA higher housing demand may raise prices and decrease affordability. Are these expectations matched? In areas experiencing rapid population growth, housing supply can lag well behind population growth, driving up prices and decreasing affordability. However, in areas where the supply clearly exceeds population growth, housing prices may be driven down, making housing more affordable. Did this happen?

To answer the second broad research question, I explored the effects of two MSA characteristics—MSA population and region of the country—on the proportion of cost-burdened households. More

populous MSA tend to have well-developed housing supply mechanisms, and a wide range of housing options that may facilitate easier availability of affordable housing. However, such areas also face problems of dilapidating stock and declining neighborhoods if they are economically stagnant, or restrictive land use policies and higher land and construction costs if they are economically vibrant—all of which may decrease the availability of affordable housing (Burchell & Listokin, 1995). So which of these sets of opposing factors had a greater impact? Housing production and consumption in the four regions of the country (Midwest, Northeast, South, and West) have some well-recognized differences (Burchell & Listokin, 1995; Joint Center for Housing Studies of Harvard University, 2014). For example, housing units in the South and West regions are typically larger and newer than those in the Midwest. Were these differences significant enough to affect affordability?

I used discriminant analysis techniques to answer these questions. I chose this method of analysis for the following reasons. Whereas theories on the household-level sociodemographic factors that affect housing prices, wages, and income are well developed, theories on the factors affecting housing affordability are scarce. Scarcer still are theories on spatial variations in affordability. Thus, it would be almost impossible to build a theory-based predictive model of place-based factors affecting housing affordability. Discriminant analysis is ideally suited for such situations, because it helps determine which variables most effectively distinguish or discriminate between two or more groups of observations (Harris, 1985). In this study, for example, it can help identify whether large MSA have a statistically lower proportion of cost-burdened households than the norm. Moreover, nonnormal distributions of data are not fatal in discriminant analysis.

Findings of the discriminant analysis are presented in Tables 1 and 2. Cells that are not shaded in these tables indicate statistically insignificant results. Dark shading indicates higher proportions that are statistically significant at the 0.05 level, whereas crosshatching signifies lower proportions at the same level of statistical significance. Thus, for example, in Table 1 in the set of rows titled *Poverty rate in 2000* the dark-shaded cell indicates that in 2000, MSA that had high poverty rates had a statistically significant higher proportion of cost-burdened renter households than all other MSA combined (i.e., low-poverty MSA, low-to-moderate-poverty MSA, and moderate-to-high-poverty MSA) after controlling for all other factors in the discriminant function (these factors are: median MSA income in 2000, change in median MSA income 1990–2000, population growth rate 1990–2000, and housing supply rate 1990–2000). And, in the same set of rows, the crosshatching indicates that MSA that had a low to moderate level of poverty had a statistically significant lower proportion of cost-burdened renters than all other MSA combined (i.e., low-poverty MSA, low-to-moderate-poverty MSA, and moderate-to-high-poverty MSA) after controlling for all other factors in the discriminant function (the same factors as in the first example).

Economic status of MSA. If the lack of affordable housing in urban areas is attributable to the absence of economic growth and opportunity, then more-prosperous MSA (i.e., those with higher median incomes) should have lower proportions of cost-burdened households. However, the opposite holds true: areas with higher median incomes had a statistically significant higher proportion of cost-burdened households (see Table 1). Data on specific MSA support this finding: In San Francisco, California, for example, with a median income of \$62,000, about 35% of the households were cost burdened, whereas Washington, DC, Minneapolis, Minnesota, and Boston, Massachusetts, with lower median incomes had lower percentages of cost-burdened households. Why do higher income areas have a greater proportion of cost-burdened households? According to Reich (1991), high-income areas often have great income disparities. In such areas, if high-income households bid up the prices and rents of houses, housing could become less affordable for large segments of the population.

Economic growth rate. Economic growth rate does not seem to have a statistically significant effect on the proportions of cost-burdened households (see Table 1). In expanding economies, development pressures may inflate land and housing prices, decreasing housing affordability. Indeed, Portland, Oregon, and Seattle, Washington, saw their median income increase by 48% and 45%, respectively; simultaneously, the proportions of cost-burdened households in each of those MSA increased by about 6%. Conversely, economic expansion could increase incomes that could make housing more affordable; also, in expanding economies governments may have more resources to address affordable housing

Table 1. Significant variations in housing affordability based on housing market factors.

	All households		Owners		Renters	
	In 2000	Change 1990–2000	In 2000	Change 1990–2000	In 2000	Change 1990–2000
Median MSA income in 2000						
Low						
Low to moderate						
Moderate to high						
High	■					
Change in median MSA income, 1990–2000						
Low						
Low to moderate	▨					
Moderate to high						
High						
Poverty rate in 2000						
Low					▨	
Low to moderate						
Moderate to high						
High					■	
Population growth rate, 1990–2000						
Low		▨		▨		
Low to moderate		▨		▨		
Moderate to high						
High	■	■		■		
Housing supply rate, 1990–2000						
Low	■	■	■	■	■	■
Low to moderate						
Moderate to high	▨	▨				▨
High	▨		▨		▨	

Note. MSAs were classified as low, low to moderate, moderate to high, and high by quartiles.

- Indicates a statistically significant greater proportion of cost-burdened households in that category than in all other categories of that variable. Thus, for example, in 2000, MSAs with a high poverty rate had a statistically significant higher proportion of cost-burdened renter households than MSAs with low, low to moderate, and moderate to high poverty rates.
- ▨ Indicates a statistically significant lower proportion of cost-burdened households in that category than in all other categories of that variable. Thus, for example, in 2000, MSAs with a low poverty rate had a statistically significant lower proportion of cost-burdened renter households than MSAs with low to moderate, moderate to high and high poverty rates.
- Indicates the absence of a statistically significant relationship.

shortages. For example, the median income in Austin increased by 72% from 1990 to 2000, whereas the proportion of cost-burdened households decreased by 3 percentage points over the same period. The findings suggest that the countervailing influences of economic expansion on housing affordability balance each other out.

Poverty rate. The findings do not show a statistically significant correlation between high poverty rates and high housing cost burdens. On the one hand, high-poverty MSA may have higher proportions of cost-burdened households since many households may have to pay over 30% of their incomes for

mortgages or rents. On the other hand, housing markets in high-poverty MSA could adjust to this situation and supply housing at prices lower than in more prosperous areas. From the findings here, it seems that only the proportion of cost-burdened renter households is affected by poverty rates: high-poverty areas seem to have high proportions of cost-burdened renters (see Table 1). The lack of a strong correlation between the poverty rate and the proportion of cost-burdened households is illustrated by conditions in McAllen, and Hartford, Connecticut—the former an economically depressed place with about 36% of its population below poverty, whereas the latter had only 8% of its population in this situation. However, in both places in 2000, 27% of the households were cost burdened. Green & Malpezzi (2003) have found that MSA poverty rates do not explain the incidence of homelessness; the findings here show that poverty rates do not seem to explain the lack of affordable housing more broadly.












Population change. Since housing supply usually lags behind demand, it is reasonable to expect areas with higher population increases to have larger increases in the proportions of cost-burdened households. Indeed, as Table 1 shows, MSA with low or low-to-moderate population growth rates from 1990 to 2000 experienced changes in the proportions of cost-burdened households that were significantly lower than the norm. Conversely, areas with high population growth rates witnessed statistically significant increases in cost-burdened owner and total households.

Net rate of supply of housing units, 1990–2000. If housing is supplied at rates higher than population growth rates, unit prices and rents could come down and possibly increase housing affordability. The findings show that areas with low net supply rates had significantly higher proportions of cost-burdened households in 2000 than areas with high net supply rates did (see Table 1); such areas also experienced significantly higher changes in the proportion of cost-burdened households from 1990 to 2000. Conversely, areas with high supply rates had significantly lower proportions of cost-burdened households in 2000; they also experienced significantly lower changes in the number of cost-burdened households between 1990 and 2000. Similar trends hold for owner and renter households separately. In 79 of the 100 MSA, the number of housing units grew at a faster rate than the population did. The average percentage-point difference between the rates of housing supply and population growth was 3.16. The highest net supply rate occurred in Charleston, South Carolina—here the housing supply rate was 9.41 percentage points higher than the population growth rate. Austin had the lowest net supply rate—here housing supply lagged about 8 percentage points below the population growth rate. Thus, consistent with what one would intuitively expect, increases in housing supply at rates higher than population growth result in more affordable housing.




MSA population. Large MSA contain the majority of the national total of cost-burdened households and had a significantly higher proportion of cost-burdened households in 2000 than all other MSA did (see Table 2). In 2000, 14 MSA with populations over 3 million each (or mega MSA) accounted for 57% of the total cost-burdened households in the 100 MSA.⁹ Mega MSA also had significantly higher percentages of cost-burdened owner households. In fact, about 32.4% of households in the mega MSA were cost burdened compared with 27% in other MSA. Small MSA (population less than 0.5 million) witnessed an interesting phenomenon: although they experienced a statistically significant increase in the number of cost-burdened owner households from 1990 to 2000, in 2000 they still had a significantly lower proportion of cost-burdened owner households than other MSA did.

A factor that possibly affects housing affordability in mega MSA is immigration. Over half of the nation's immigrants are concentrated in 10 *gateway* mega-MSA: Miami, Los Angeles, New York, San Francisco, Houston, Washington, DC, Chicago, Boston, Dallas, and Atlanta (Joint Center for Housing Studies of Harvard University, 2004). Each of these mega MSA had a significant proportion of foreign-born people, ranging from 9% in Atlanta to 61% in Miami. Immigrants take time to establish themselves economically, and may face discrimination in housing markets. Therefore, homeownership rates among noncitizens and naturalized citizens are lower than those among native-born residents (Joint Center for Housing Studies of Harvard University, 2004); likewise, immigrants may also have higher proportions of cost-burdened households. The presence of a significant number of foreign-born people may partly explain the higher proportion of cost-burdened households in mega MSA.

Table 2. Significant variations in housing affordability based on MSA characteristics.

	All households		Owners		Renters	
	In 2000	Change 1990–2000	In 2000	Change 1990–2000	In 2000	Change 1990–2000
MSA population in 2000 (millions)						
Mega (> 3.0)						
Large (1.0–3.0)						
Medium (0.5–1.0)						
Small (< 0.5)						
Census region						
Northeast						
Midwest						
South						
West						

Note.

-  Indicates a statistically significant greater proportion of cost-burdened households in that category than in all other categories of that variable. Thus, for example, MSAs with a population over 3 million in 2000 had a statistically significant higher proportion of cost-burdened owner households in 2000 than MSAs of all other sizes.
-  Indicates a statistically significant lower proportion of cost-burdened households in that category than in all other categories of that variable. Thus, for example, in 2000, MSAs in the Midwest had a statistically significant lower proportion of cost-burdened owner households than MSAs located anywhere else in the country.
-  Indicates the absence of a statistically significant relationship.

MSA location by census region. In all MSA in each census region, at least one in four households was cost burdened in 2000. MSA in the West collectively had the highest proportion of total cost-burdened households (34.1%), and cost-burdened owner and renter households (40.2% and 28.7%, respectively) among the four census regions. The differences in proportions between MSA in the West and the rest were statistically significant (see Table 2). Affordable housing was more likely to be available in the Midwest: In 2000, the Midwest had the lowest proportions of cost-burdened households—only 19.3% of owners and 37.2% of renters. From 1990 to 2000, in each census division the proportion of cost-burdened owners increased, whereas that of cost-burdened renter households decreased. MSA in the West witnessed greater affordability decreases than the rest, whereas those in the Northeast witnessed significantly lower affordability decreases.

Policy Interventions

Housing is both a necessity and a commodity that has a significant impact on many aspects of people’s lives. High housing costs are a significant public policy concern because they lower the quality of life and access to opportunities for households that are cost burdened. Moreover, they undermine community development efforts and prevent many renters from acquiring a home, the most valuable financial asset of the average American household. Also, the events of the period 2006–2010 have demonstrated that problems in the housing sector can have significant consequences for national, state, and local economies.

My findings show that although the decade of the 1990s was a decade of glittering economic prosperity that even elevated the homeownership rate, it did not alleviate the nation’s affordable housing crisis. It has always been assumed that hard work and more income would help achieve the American Dream of safe, affordable housing. This assumption may no longer be valid. In 1982, President Reagan’s Commission on Housing contended that the genius of the market economy would solve the nation’s

housing problem (DiPasquale & Keyes, 1990). The findings here clearly show that the market economy was not effective at all in addressing the acute shortage of reasonably priced housing during the extremely favorable economic conditions of the 1990s. In turn, this provides a justification for strategic expansion of public policies at federal, state, and local levels, and for greater involvement of employers and nonprofit entities to alleviate America's severe and well-entrenched affordable housing crisis.

So what policy efforts should be encouraged? Since affordability is determined by factors that affect supply prices and incomes, ideally future policy efforts should help reduce price-inflationary pressures while simultaneously increasing incomes. Prospects for relief from the income side are not very promising. Many of the jobs being created in the U.S. economy are low-wage jobs (Ehrenreich, 2001; Lowery, 2014; National Low Income Housing Coalition, 2014) that do not pay enough for a household to afford "even a one-bedroom rental anywhere in the country" (Joint Center for Housing Studies of Harvard University, 2004, p. 4). Since 2011, however, across the nation there have been concerted campaigns to raise the minimum wage. In March 2015, 29 states had state-mandated minimum wages that were higher than the federal minimum; so did several cities (most notably Seattle). However, even the increased wages are well below housing wages (wages at which a person working 40 hours a week can afford a home, paying less than 30% of income). Moreover, higher wages could translate to higher rents or housing prices, unless well-targeted increases in the supply of rental and ownership housing units occur concomitantly. This means that new policy thrusts to address the nation's housing affordability problems would have to focus on increasing supply of and access to lower-priced units.

Increase funding for existing federal low-income rental housing programs. Since a larger proportion of renters than owners are cost burdened, increasing the availability of affordable rental options would reduce the number of cost-burdened renters. Over the past 50 years, several federally sponsored public policy initiatives have attempted to increase affordable renting opportunities. Of these, three programs that have proven to be more effective than others in making affordable rental units available are: (a) the Housing Choice Voucher program (formerly known as the Section 8 Program) administered by the U.S. Department of Housing and Urban Development (HUD); (b) the Community Development Block Grant (CDBG) and HOME block grant programs that are federally funded but locally controlled; and (c) the Low Income Housing Tax Credit program that is federally funded but state controlled (McClure, 2000; Orlebeke, 2000). Had these programs not supported the amount of housing for low-income populations that they did, the number (and proportions) of cost-burdened households in the 100 MSA would have been higher. However, funding for some of these programs has fallen below their 1990 levels even as the number of income-qualified households that could benefit from these programs has increased significantly (Farmer, 2004). Recent federal outlays suggest a continuing financial retrenchment (National Low Income Housing Coalition, 2009, 2014). These funding trends need to be reversed, and more funding needs to be directed to those markets that have well-documented rental housing supply shortages.

Reduce market-distorting inequities in federal housing subsidies. The federal income tax code allows homeowners who itemize deductions to deduct mortgage interest and property tax payments from taxable income. The revenue lost from these deductions is substantial. In 1993, the amount of federal revenue forgone because of the mortgage interest and property tax deductions was about \$53 billion, whereas the total HUD budget for all low-income housing programs was about \$13 billion (Schwartz, 2010). Another tax code provision allows tax-free capital gains of up to \$250,000 for individuals (\$500,000 for couples) from sale of principal residence.¹⁰ In 2008, total subsidies for homeownership through mortgage interest, property tax deductions, and exclusion of capital gains from home sales amounted to about \$171 billion (Schwartz, 2010). That same year, direct federal housing assistance across all programs (such as public housing, Housing Choice Voucher, CDBG, and HOME) totaled \$40.2 billion (Schwartz, 2010). In effect, then, the income tax code provides housing subsidies that primarily benefit rich homeowners (Dolbeare, 1986). Many researchers contend that these subsidies are "large and very regressive" (Quigley, 1998, p. 581).¹¹ In contrast, direct housing assistance helps low- and moderate-income households with incomes below 80% of area median income. Moreover, the ratio of

expenditures on housing subsidies versus housing assistance has not changed much over time: it was about 4:1 in 1993 (\$53 billion:\$13 billion), and 4.23:1 in 2008 (\$171 billion:\$40 billion).

The homeownership subsidies of the tax code are clearly inequitable and need to be modified. These tax code provisions are mistakenly assumed to be for encouraging homeownership and hence worthy of protection. In fact, these provisions were originally a part of the Civil War emergency income tax program, designed to reduce individual tax burdens; the deductions were carried over into the federal tax code when the general individual income tax program was set up in 1913 (Dolbeare, 1986). So they were not directed at increasing homeownership, nor is there evidence to show that they increase homeownership. Several countries (Spain and Denmark, for example) have achieved higher homeownership rates without such provisions. Canada and Australia, two countries with economies very similar to that of the United States, have much lower tax subsidies for homeownership but have homeownership rates similar to those of the United States (Bourassa & Grigsby, 2000). Some researchers contend that the preferential tax treatment of homeownership increases homeownership rates at best by only a couple of percentage points (Quigley, 1998; Rosen, 1989). Also, several studies show that homeowner subsidies get capitalized into house prices, inflating them and making ownership less affordable (Quigley, 1998).

Since the 1980s the federal government, citing fiscal prudence, has steadily reduced the budget for low-income housing programs—both as a percentage of the federal budget and in real terms. The federal government could collect more revenue by rolling back tax subsidies for homeowners, and then use this additional revenue to increase funding for federal housing programs. Rolling back these subsidies may seem politically infeasible; some fear that such moves could disrupt the economy (Cisneros, Kemp, Colton, & Retsinas, 2004). However, it can be done—as Britain did over a 12-year period (1985–1997) without any adverse effects on either its housing markets or its national economy.

In the last 10 years, several tax reform panels have advocated either eliminating the tax deductions for homeowners or modifying them to reduce their regressiveness and inequity. The 2005 report of the President Bush Advisory Panel on Federal Tax Reform, the 2010 report of the Domenici–Rivlin Bipartisan Tax Reform Commission, and the 2010 Bowles–Simpson report of the bipartisan National Commission on Fiscal Responsibility and Reform all recommended restructuring (and significantly reducing) these deductions (Fischer & Huang, 2013). Several recent biennial reports of the Congressional Budget Office have recommended a phased elimination of the mortgage interest deduction, and in 2013, President Obama proposed limiting itemized deductions (including mortgage interest and property tax deductions) to 28 cents on the dollar. Given all this, significant reform limiting mortgage and property tax deductions seems imminent. If a good portion of the increased federal revenues from these reforms is directed toward housing assistance for low- and moderate-income households, it will be a significant step in addressing the nation's affordable housing crisis.

Continue reasonable support for homeownership. Since the percentage of cost-burdened owners increased in the 1990s along with homeownership rates, a legitimate question that arises is whether future housing policy efforts should support homeownership—especially in the wake of the housing market collapse of 2007 that some believe was fueled by an unsustainable expansion of homeownership. The answer is yes: for several reasons, policy support for homeownership should continue. First, although many owners are cost-burdened now, if they continue to own their homes, and their incomes increase while mortgage payments remain unchanged, their housing cost burdens will decrease over time. Second, even as cost-burdened owners they are building equity and wealth, and have housing stability. Indeed, data on household wealth show that despite the housing market collapse, home equity is the cornerstone of household wealth (Joint Center for Housing Studies of Harvard University, 2009). Finally, many cost-burdened owners may well have been cost-burdened renters before they bought a home; so whether owner or renter, they were cost-burdened, but as owners they build equity. That said, policies to encourage homeownership should not encourage irresponsible market behavior on either the demand side or the supply side. Housing consumers need to be better educated on the perils of homeownership before and after they buy a house. Simultaneously, financial institutions active in the primary and secondary mortgage markets need to be better regulated to minimize the prevalence of unscrupulous practices that triggered the housing market collapse.

Institute new area-specific federal and state housing policies. Since the bulk of the nation's cost-burdened households reside in the largest MSA, new interventions specific to these MSA should be considered. Some of these MSA—such as Miami, Los Angeles, and San Diego—have had extraordinarily large numbers of cost-burdened households for a very long time. When the number of cost-burdened households is large, and the affordability problem has persisted for a long time, local efforts in these areas likely need to be supplemented by MSA-specific state and federal programs. Therefore, housing programs, similar to other location-specific programs such as the brownfields and enterprise zone programs, should perhaps be considered for large MSA. Some of the current federal programs, such as the CDBG and HOME programs, account for legacy housing needs in funds distribution formulae, but much more needs to be done.

Increase state and local responsibility for affordable housing. Many states and local governments have instituted and funded innovative and effective affordable housing programs. Boston's efforts to address its affordable housing problems are instructive. In the mid-1980s Boston, then the seventh most populous MSA, had one of the highest housing prices in the nation. Concomitantly, homelessness in Boston was on the rise, tenant evictions were common, homeownership rates were stagnant, and many middle-class residents could not afford to buy homes. In response to this situation, a powerful, broad-based coalition for affordable housing emerged; this coalition managed to place the housing crisis in local political debates and spurred the city of Boston to initiate a slew of progressive housing policies. These included: (a) a public depository program that placed city funds in only those banks that invested in low-income neighborhoods; (b) funds for local community development corporations to build new and renovate old affordable housing units; (c) a linkage program that required downtown developers to contribute toward an affordable housing trust fund; and (d) a city jobs policy that helped residents find employment (Drier, 1997). These programs were effective; although Boston experienced a 39.5% population increase from 1990 to 2000, cost-burdened households declined from 32.6% in 1990 to 29.5% in 2000. Boston's experience, although dramatic, is not unique (see Berenyi, 1989 and Schwartz, 1999), and points to the benefits of active local government involvement in affordable housing production (Drier, 1997).

The strategies adopted by Boston are by no means the only ones that local governments could employ. Inclusionary housing programs in some cities require developers to make available a certain percentage of housing units at affordable prices and rents in new developments, thereby increasing the supply of affordable housing. Other cities seek to lower the production costs of new housing. One way to facilitate this is by permitting higher density development that lowers the land price component of total house price (Burchell et al., 1998; Shiller, 2003). Local and state governments could revise zoning codes to include minimum-density criteria for development (rather than the current norm of maximum-density criteria), thereby spurring higher density development.

Another mechanism that gained much popularity in the 1990s is a housing trust fund. Housing trust funds source money from dedicated sources (typically, a surcharge on title recording fees) and use it exclusively for housing programs. Having a dedicated source usually insulates funds from annual budgetary battles, and because the monies are locally raised, localities have considerable freedom to use them for the most appropriate local housing programs (Brooks, 1997; Connerly, 1993). The housing market collapse of the 2000s drastically reduced funds for housing trust funds across the nation. When the housing market recovers, funding levels of existing trust funds will increase, as will the possibilities for setting up and funding new local and state housing trust funds.

The Housing & Economic Recovery Act of 2008 authorized the creation of a National Housing Trust Fund (NHTF) that provides grant money to states for addressing the needs of very low-income households. States were given considerable leeway in the use of these funds, provided all money was directed at low-income households (under 50% of area median income), at least 75% of the funds were directed at extremely low-income (under 30% of area median income) households, and at least 80% of the funds were directed at renters (National Council for State Housing Finance Agencies, 2014). The NHTF was supposed to be capitalized by a share of Fannie Mae and Freddie Mac's profits. Both Fannie Mae and Freddie Mac were placed under government receivership in 2008, and surplus revenue was used

to repay federal Treasury loans provided to Fannie Mae and Freddie Mac to keep them afloat in the aftermath of the housing market collapse. So the NHTF has been unfunded for much of its existence. But the Treasury loans have now been fully repaid, and in December 2014 the Federal Housing Finance Agency directed Fannie Mae and Freddie Mac to start capitalizing the NHTF. The NHTF is expected to grant \$300–500 million in the first year, with each state expected to get a minimum of \$3 million (National Council for State Housing Finance Agencies, 2014).

Improve access to affordable housing for minorities. A disturbing finding of this study is the disparity in access to affordable housing between different ethnic groups. Whereas financial factors undoubtedly caused some of this, it is likely that race-based activities such as redlining and steering also played a part. Programs that combat race-based practices may need to be better funded, and enforcement of laws that proscribe racially discriminatory practices may need to be increased.

Directions for Future Research

This study did not explore the impact of two important sociodemographic factors on affordability—age of the head of household and family structure. Households with young adults may be either willing or forced to spend a larger share of their incomes on housing (Burchell & Listokin, 1995). On the opposite side of the age spectrum, older households should be spending a lower share of their income on housing costs. Family structure could also have significant implications for housing affordability. Because two-parent households may have higher incomes, households headed by a single person may be more cost burdened than others. Moreover, the number of households headed by single persons (especially women) has increased dramatically (Joint Center for Housing Studies of Harvard University, 2004, 2009). We also need to better understand why several decades after federal fair housing laws were enacted minority populations continue to have lesser access to affordable housing than Whites. Future research should also examine sustainable housing cost-burden levels at different income levels (e.g., is a 30% housing-cost burden standard equally appropriate for households with incomes of, say, \$30,000 and \$130,000?). This is because if middle-income households are cost burdened they are probably choosing to be so, and have enough residual income after paying for housing costs for all other essential expenses; such households do not need policy attention for their housing cost situations. So using the same measure for housing affordability across all income levels is not appropriate.

The relative magnitude of impacts of many place-based factors was also not explored in this study. For example, does a rapid growth of population have a greater impact on housing affordability than does a change in median income? Would a location in the West decrease affordability more than high median income would? Future research, perhaps using qualitative research methods, should explore such questions.

Conclusion

The 1990s was a period of outstanding economic prosperity. Although we intuitively expected such prosperity to alleviate the nation's housing crisis, clearly this did not happen. Findings of this study show that economic prosperity by itself cannot increase the availability of affordably priced housing. The 2014 State of the Nation's Housing report noted that the number of housing cost-burdened households in the United States is near record high levels. New, innovative federal, state, and local policies are required to make a significant impact on the nation's chronic and acute affordable housing crisis. If not, the American Dream of a safe, affordable home will continue to be more elusive today than it was in 1990.

Notes

1. The homeownership rate reached its peak of 69.2% in the first quarter of 2005. Since then it has steadily fallen and was at 65.0% in the first quarter of 2014.

2. For example, Green and Malpezzi (2003) show that a household at the 25th percentile income level would have to spend much more than 30% of its income on a house priced at the 25th percentile even when the median household did not have to pay more than 30% of its income for the median priced home.
3. Households that spend over 30% of their gross income on housing costs are deemed housing-cost burdened by federal housing programs and by most state and local housing programs. This standard is based on the notion that households that spend a higher proportion than this are compromising on other essential expenditure items, such as childcare, food, healthcare, transportation, specialized training and education. The standard was first formulated in the mid-1960s to set rents in public housing. It became more widely used with the creation and expansion of the Section 8 program (first as a certificate program, then as a voucher program, and now as the Housing Choice Voucher program); this benchmark was used to set the rents paid by renters participating in the Section 8 program. The 1969 Brooke Amendment to the 1968 Housing and Urban Development Act set this ratio at 25% of household income, but the ratio was raised to 30% in 1981, and has not been changed since then. Also, this benchmark was commonly used by financial institutions in the United States in loan underwriting criteria for home-mortgage loans, where this ratio is often known as the front-end ratio. Prior to 2002, most financial institutions set a 30% maximum limit for the front-end ratio. From 2002 to 2008, many banks started originating home mortgage loans with higher front-end ratios—as high as 70%, a practice that, in some measure, precipitated the housing market collapse of 2007–2009. The 2010 Dodd–Frank Act (otherwise known as the Wall Street Reform and Consumer Financial Protection Act) accords privileged status to *qualified mortgages* and *qualified residential mortgages* and has thus revived the use of the 30% benchmark in the mortgage industry.
4. In 2010, metropolitan areas accounted for 258 million people (or 83.7% of the total U.S. population).
5. Whereas larger metropolitan areas are often classified as consolidated metropolitan statistical areas (CMSA) that consist of one primary metropolitan statistical area (PMSA) and several MSA, in this study CMSA were regarded as MSA.
6. However, among low-income and renter households the percentage of cases that did not report housing expenses was higher.
7. Households that live in properties supported by the Low Income Housing Tax Credit program may pay over 30% of their income toward rent. These households are cost burdened and are included in this analysis.
8. Consider two households A and B, each with a household income of \$100,000 in Year 1. Household A buys a house in Year 1 with a fixed-rate, self-amortizing mortgage, paying \$20,000 in mortgage payments, property taxes, and utilities over 12 months. Household B starts renting a house in Year 1, paying \$20,000 in rent and utilities for it over 12 months. Both households have a housing-cost burden of 20%. By Year 11, assume the income of each household increases at the rate of inflation (say about 2% per year), to \$122,000. Household A, the owner household, has annual housing payments of \$20,000 so its cost burden now is 16.4%. Assuming that rent rose at the rate of inflation, Household B would be paying \$24,400 in housing costs in Year 11, for a housing-cost burden of 20%. But rents usually rise faster than inflation; therefore, Household B's housing-cost burden in Year 11 would be greater than 20%.
9. In 1990, there were 11 MSA with more than 3 million people—Miami; Houston, Texas; Dallas, Texas; Washington DC; Boston; Detroit, Michigan; Philadelphia, Pennsylvania; San Francisco; Chicago, Illinois; Los Angeles; and New York, New York—and collectively they had 76.4 million people and 7 million cost-burdened households. In 2000, there were 14 mega MSA—Phoenix, Arizona; Seattle; and Atlanta, Georgia, joined the mega category—with 103 million people and 10.5 million cost-burdened households.
10. Provided the property was owner occupied for at least 2 years in a 5-year period prior to the sale date.
11. Changes to the tax code from the mid-1980s onward have raised standard deductions and lowered benefits of itemizing deductions, thereby negating the advantages from these deductions for most households below 120% of area median income (Capone, 1994; U.S. Department of Housing & Urban Development, 1997). Thus, these deductions now benefit the rich more clearly than they did, say, in the 1980s.

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